*ANNEX XVII*

**RESTRICTIONS ON THE MANUFACTURE, PLACING ON THE MARKET AND USE OF CERTAIN DANGEROUS SUBSTANCES, PREPARATIONS AND ARTICLES**

| Designation of the substance, of the groups of substances or of the preparation | Conditions of restriction |
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| 1. Polychlorinated terphenyls (PCTs)<br>— Preparations, including waste oils, with a PCT content higher than 0,005 % by weight. | 1. Shall not be used. However, the following use of equipment, installations and fluids which were in service on 30 June 1986 shall continue to be permitted until they are disposed of or reach the end of their service life:<br>(a) closed-system electrical equipment transformers, resistors and inductors;<br>(b) large condensers (≥ 1 kg total weight);<br>(c) small condensers;<br>(d) heat-transmitting fluids in closed-circuit heat-transfer installations;<br>(e) hydraulic fluids for underground mining equipment.<br>2. The Member State may, for reasons of protection of human health and the environment, prohibit the use of equipment, installations and fluids covered by paragraph 1 before they are disposed of or reach the end of their service life.<br>3. The placing on the second-hand market of equipment, plant and fluids covered by paragraph 1 which are not intended for disposal shall be prohibited.<br>4. Where the Member State considers that it is not possible for technical reasons to use substitute articles, it may permit the use of PCTs and preparations thereof where the latter are solely intended, in the normal conditions of maintenance of equipment, to supplement the level of liquids containing PCTs in properly functioning existing installations purchased before 1 October 1985.<br>5. The Member State may, provided prior notification stating the reasons is sent to the Commission, grant derogations from the ban on the placing on the market and use of primary and intermediate substances or preparations, in so far as they consider that these derogations have no deleterious effects on human health and the environment.<br>6. Without prejudice to the implementation of other Community provisions relating to the labelling of dangerous substances and preparations, equipment and installations containing PCTs must also display instructions concerning the disposal of PCTs and the maintenance and use of equipment and installations containing them. These instructions must be capable of being read horizontally when the object containing the PCTs is installed in the normal way. The inscription must stand out clearly from its background and shall be in a language which is understood in the territory where it is being used. |

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| 2. Chloro-1-ethylene (monomer vinyl chloride)<br>CAS No 75-01-4<br>EINECS No 200-831-0 | Shall not be used as aerosol propellant for any use. |
| 3. Liquid substances or preparations, which are regarded as dangerous according to the definitions in Council Directive 67/548/EEC and Directive 1999/45/EC. | 1. Shall not be used in:<br>— ornamental objects, intended to produce light or colour effects by means of different phases, for example in ornamental lamps and ashtrays,<br>— tricks and jokes,<br>— games for one or more participants, or any object intended to be used as such, even with ornamental aspects.<br>2. Without prejudice to paragraph 1, substances and preparations which:<br>— present an aspiration hazard and are labelled with R65, and<br>— can be used as fuel in decorative lamps, and<br>— are placed on the market in packaging of a capacity of 15 litres or less,<br>shall not contain a colouring agent, unless required for fiscal reasons, or perfume or both.<br>3. Without prejudice to the implementation of other Community provisions relating to the classification, packaging and labelling of dangerous substances and preparations, the packaging of substances and preparations covered by paragraph 2, where intended for use in lamps, must be marked legibly and indelibly as follows:<br>'Keep lamps filled with this liquid out of the reach of children'. |
| 4. Tris (2,3 dibromopropyl) phosphate<br>CAS No 126-72-7 | Shall not be used in textile articles, such as garments, undergarments and linen, intended to come into contact with the skin. |
| 5. Benzene<br>CAS No 71-43-2<br>EINECS No 200-753-785 | 1. Not permitted in toys or parts of toys as placed on the market where the concentration of benzene in the free state is in excess of 5 mg/kg of the weight of the toy or part of toy.<br>2. Shall not be used in concentrations equal to, or greater than, 0,1 % by mass in substances or preparations placed on the market.<br>3. However, paragraph 2 shall not apply to:<br>(a) motor fuels which are covered by Directive 98/70/EC;<br>(b) substances and preparations for use in industrial processes not allowing for the emission of benzene in quantities in excess of those laid down in existing legislation;<br>(c) waste covered by Council Directive 91/689/EEC of 12 December 1991 on hazardous waste [1] and Directive 2006/12/EC. |

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| 6. Asbestos fibres<br>(a) Crocidolite<br>CAS No 12001-28-4<br>(b) Amosite<br>CAS No 12172-73-5<br>(c) Anthophyllite<br>CAS No 77536-67-5<br>(d) Actinolite<br>CAS No 77536-66-4<br>(e) Tremolite<br>CAS No 77536-68-6<br>(f) Chrysotile [2]<br>CAS No 12001-29-5<br>CAS No 132207-32-0 | 1. The placing on the market and use of these fibres and of articles containing these fibres added intentionally shall be prohibited.<br><br>However, Member States may except the placing on the market and use of diaphragms containing chrysotile (point (f)) for existing electrolysis installations until they reach the end of their service life, or until suitable asbestos-free substitutes become available, whichever is the sooner. The Commission will review this derogation before 1 January 2008.<br><br>2. The use of articles containing asbestos fibres referred to in paragraph 1 which were already installed and/or in service before 1 January 2005 shall continue to be permitted until they are disposed of or reach the end of their service life. However, Member States may, for reasons of protection of human health, prohibit the use of such articles before they are disposed of or reach the end of their service life.<br><br>Member States shall not permit the introduction of new applications for chrysotile asbestos on their territories.<br><br>3. Without prejudice to the application of other Community provisions on the classification, packaging and labelling of dangerous substances and preparations, the placing on the market and use of these fibres and of articles containing these fibres, as permitted according to the preceding derogations, shall be permitted only if the articles bear a label in accordance with the provisions of Appendix 7 to this Annex. |
| 7. Tris(aziridinyl)phosphinoxide<br>CAS No 5455-55-1 | Shall not be used in textile articles, such as garments, undergarments and linen, intended to come into contact with the skin. |
| 8. Polybromobiphenyls; Polybrominatedbiphenyls (PBB)<br>CAS No 59536-65-1 | |
| 9. Soap bark powder *(Quillaja saponaria)* and its derivatives containing saponines<br><br>Powder of the roots of *Helleborus viridis* and *Helleborus niger*<br>Powder of the roots of *Veratrum album* and *Veratrum nigrum*<br>Benzidine and/or its derivatives<br>CAS No 92-87-5<br>EINECS No 202-199-1<br>*o*-Nitrobenzaldehyde<br>CAS No 552-89-6<br>Wood powder | 1. Shall not be used in jokes and hoaxes or in objects intended to be used as such, for instance as a constituent of sneezing powder and stink bombs.<br><br>2. However, paragraph 1 does not apply to stink bombs containing not more than 1,5 ml of liquid. |
| 10. Ammonium sulphide<br>CAS No 12135-76-1<br>Ammonium hydrogen sulphide<br>CAS No 12124-99-1<br>Ammonium polysulphide<br>CAS No 9080-17-5<br>EINECS No 232-989-1 | |

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| 11. Volatile esters of bromoacetic acids:<br>Methyl bromoacetate<br>CAS No 96-32-2<br>EINECS No 202-499-2<br>Ethyl bromoacetate<br>CAS No 105-36-2<br>EINECS No 203-290-9<br>Propyl bromoacetate<br>CAS No 35223-80-4<br>Butyl bromoacetate | |
| 12. 2-Naphthylamine<br>CAS No 91-59-8<br>EINECS No 202-080-4<br>and its salts<br>13. Benzidine<br>CAS No 92-87-5<br>EINECS No 202-199-1<br>and its salts<br>14. 4-Nitrobiphenyl<br>CAS No 92-93-3<br>EINECS No 202-204-7<br>15. 4-Aminobiphenyl xenylamine<br>CAS No 92-67-1<br>EINECS No 202-177-1<br>and its salts | 1. Shall not be used in concentrations equal to or greater than 0,1 % by weight in substances and preparations placed on the market.<br>However, this provision shall not apply to waste containing one or more of these substances and covered by Directives 91/689/EEC and 2006/12/EC.<br>2. Such substances and preparations shall not be sold to the general public.<br>3 Without prejudice to the application of other Community provisions on the classification, packaging and labelling of dangerous substances and preparations, the packaging of such preparations shall be legible and indelibly marked as follows:<br>'Restricted to professional users'. |
| 16. Lead carbons:<br>(a) Neutral anhydrous carbonate ($PbCO_3$)<br>CAS No 598-63-0<br>EINECS No 209-943-4<br>(b) Trilead-bis(carbonate)-dihydroxide 2 Pb $CO_3$-Pb $(OH)_2$<br>CAS No 1319-46-6<br>EINECS No 215-290-6 | Shall not be used as substances and a constituent of preparations intended for use as paints, except for the restoration and maintenance of works of art and historic buildings and their interiors, where Member States wish to permit this on their territory, in accordance with the provisions of ILO Convention 13 on the use of white lead and sulphates of lead in paint. |
| 17. Lead sulphates<br>(a) $PbSO_4$ (1:1)<br>CAS No 7446-14-2<br>EINECS No 231-198-9<br>(b) $Pb_x$ $SO_4$<br>CAS No 15739-80-7<br>EINECS No 239-831-0 | |

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| 18. Mercury compounds | 1. Shall not be used as substances and constituents of preparations intended for use:<br>(a) to prevent the fouling by micro-organisms, plants or animals of:<br>— the hulls of boats,<br>— cages, floats, nets and any other appliances or equipment used for fish or shellfish farming,<br>— any totally or partly submerged appliances or equipment;<br>(b) in the preservation of wood;<br>(c) in the impregnation of heavy-duty industrial textiles and yarn intended for their manufacture;<br>(d) in the treatment of industrial waters, irrespective of their use.<br><br>2. The placing on the market of batteries and accumulators, containing more than 0,0005 % of mercury by weight, including in those cases where these batteries and accumulators are incorporated into appliances shall be prohibited. Button cells and batteries composed of button cells with a mercury content of no more than 2 % by weight shall be exempted from this prohibition. |
| 19. Arsenic compounds | 1. Shall not be used as substances and constituents of preparations intended for use:<br>(a) to prevent the fouling by micro-organisms, plants or animals of:<br>— the hulls of boats,<br>— cages, floats, nets and any other appliances or equipment used for fish or shellfish farming,<br>— any totally or partly submerged appliances or equipment;<br>(b) in the preservation of wood. Furthermore, wood so treated shall not be placed on the market;<br>(c) however, by way of derogation:<br>(i) Relating to the substances and preparations in the preservation of wood: these may only be used in industrial installations using vacuum or pressure to impregnate wood if they are solutions of inorganic compounds of the copper, chromium, arsenic (CCA) type C. Wood so treated shall not be placed on the market before fixation of the preservative is completed.<br>(ii) Relating to wood treated with CCA solutions in industrial installations according to point (i): this may be placed on the market for professional and industrial use provided that the structural integrity of the wood is required for human or livestock safety and skin contact by the general public during its service life is unlikely: |

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| | — as structural timber in public and agricultural buildings, office buildings, and industrial premises,<br><br>— in bridges and bridgework,<br><br>— as constructional timber in freshwater areas and brackish waters e.g. jetties and bridges,<br><br>— as noise barriers,<br><br>— in avalanche control,<br><br>— in highway safety fencing and barriers,<br><br>— as debarked round conifer livestock fence posts,<br><br>— in earth retaining structures,<br><br>— as electric power transmission and telecommunications poles,<br><br>— as underground railway sleepers.<br><br>Without prejudice to the application of other Community provisions on the classification, packaging and labelling of dangerous substances and preparations, all treated wood placed on the market shall be individually labelled 'For professional and industrial installation and use only, contains arsenic'. In addition, all wood placed on the market in packs shall also bear a label stating 'Wear gloves when handling this wood. Wear a dust mask and eye protection when cutting or otherwise crafting this wood. Waste from this wood shall be treated as hazardous by an authorised undertaking'.<br><br>(iii) Treated wood referred to under points (i) and (ii) shall not be used:<br><br>— in residential or domestic constructions, whatever the purpose,<br><br>— in any application where there is a risk of repeated skin contact,<br><br>— in marine waters,<br><br>— for agricultural purposes other than for livestock fence posts and structural uses in accordance with point (ii),<br><br>— in any application where the treated wood may come into contact with intermediate or finished products intended for human and/or animal consumption.<br><br>2. Shall not be used as substances and constituents of preparations intended for use in the treatment of industrial waters, irrespective of their use. |

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| 20. Organostannic compounds | 1. Shall not be placed on the market for use as substances and constituents of preparations when acting as biocides in free association paint.<br><br>2. Shall not be placed on the market or used as substances and constituents of preparations which act as biocides to prevent the fouling by micro-organisms, plants or animals of:<br><br>(a) all craft irrespective of their length intended for use in marine, coastal, estuarine and inland waterways and lakes;<br><br>(b) cages, floats, nets and any other appliances or equipment used for fish or shellfish farming;<br><br>(c) any totally or partly submerged appliance or equipment.<br><br>3. Shall not be used as substances and constituents of preparations intended for use in the treatment of industrial waters. |
| 21. Di-μ-oxo-di-n-butylstanniohydroxyborane dibutyltin hydrogen borate $C_8H_{19}BO_3S_n$ (DBB)<br>CAS No 75113-37-0<br>ELINCS No 401-040-5 | Shall be prohibited in a concentration equal to or greater than 0,1 % in substances and constituents of preparations placed on the market. However, this provision shall not apply to this substance (DBB) or preparations containing it if these are intended solely for conversion into finished articles, among which this substance will no longer feature in a concentration equal to or greater than 0,1 %. |
| 22. Pentachlorophenol<br>CAS No 87-86-5<br>EINECS No 201-778-6<br>and its salts and esters | 1. Shall not be used in a concentration equal to or greater than 0,1 % by mass in substances or preparations placed on the market.<br><br>2. Transitional provisions:<br><br>By way of derogation until 31 December 2008 France, Ireland, Portugal, Spain and the United Kingdom may chose not to apply this provision to substances and preparations intended for use in industrial installations not permitting the emission and/or discharge of pentachlorophenol (PCP) in quantities greater than those prescribed by existing legislation:<br>(a) in the treatment of wood.<br><br>However, treated wood shall not be used:<br><br>— inside buildings whether for decorative purposes or not, whatever their purpose (residence, employment, leisure),<br><br>— for the manufacture and re-treatment of:<br><br>(i) containers intended for growing purposes;<br><br>(ii) packaging that may come into contact with raw materials, intermediate or finished products destined for human and/or animal consumption;<br><br>(iii) other materials that may contaminate the products mentioned in (i) and (ii); |

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| | (b) in the impregnation of fibres and heavy-duty textiles not intended in any case for clothing or for decorative furnishings;<br><br>(c) by way of special exception, Member States may on a case-by-case basis, permit on their territory specialised professionals to carry out *in situ* and for buildings of cultural, artistic and historical interest, or in emergencies, a remedial treatment of timber and masonry infected by dry rot fungus *(Serpula lacrymans)* and cubic rot fungi.<br><br>In any case:<br><br>(a) Pentachlorophenol used alone or as a component of preparations employed within the framework of the above exceptions must have a total hexachlorodibenzo-paradioxin (HCDD) content of not more than two parts per million (ppm);<br><br>(b) these substances and preparations shall not:<br><br>— be placed on the market except in packages of 20 litres or more;<br><br>— be sold to the general public.<br><br>3. Without prejudice to the implementation of other Community provisions concerning the classification, packaging and labelling of dangerous substances and preparations, the packaging of substances and preparations covered by paragraphs 1 and 2 shall be marked clearly and indelibly:<br><br>'Reserved for industrial and professional use'.<br>This provision shall not apply to waste covered by Directives 91/689/EEC and 2006/12/EC. |
| 23. Cadmium<br>CAS No 7440-43-9<br>EINECS No 231-152-8<br>and its compounds | 1. Shall not be used to give colour to finished articles manufactured from the substances and preparations listed below:<br><br>(a) — polyvinyl chloride (PVC) [3904 10] [3904 21] [3904 22] (3),<br>— polyurethane (PUR) [3909 50] (3),<br>— low-density polyethylene (ld PE), with the exception of low-density polyethylene used for the production of coloured masterbatch [3901 10] (3),<br>— cellulose acetate (CA) [3912 11] [3912 12] (3),<br>— cellulose acetate butyrate (CAB) [3912 11] [3912 12] (3),<br>— epoxy resins [3907 30] (3),<br>— melamine — formaldehyde (MF) resins [3909 20] (3),<br>— urea — formaldehyde (UF) resins [3909 10] (3),<br>— unsaturated polyesters (UP) [3907 91] (3),<br>— polyethylene terephthalate (PET) [3907 60] (3),<br>— polybutylene terephthalate (PBT) (3),<br>— transparent/general-purpose polystyrene [3903 11] [3903 19] (3),<br>— acrylonitrile methylmethacrylate (AMMA) (3),<br>— cross-linked polyethylene (VPE) (3),<br>— high-impact polystyrene (3),<br>— polypropylene (PP) [3902 10] (3); |

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| | (b) paints [3208] [3209] (3).<br><br>However, if the paints have a high zinc content, their residual concentration of cadmium shall be as low as possible and shall at all events not exceed 0,1 % by mass.<br><br>In any case, whatever their use or intended final purpose, finished articles or components of articles manufactured from the substances and preparations listed above coloured with cadmium shall not be placed on the market if their cadmium content (expressed as Cd metal) exceeds 0,01 % by mass of the plastic material.<br><br>2. However, paragraph 1 does not apply to articles to be coloured for safety reasons.<br><br>3. Shall not be used to stabilise the finished articles listed below manufactured from polymers or copolymers of vinyl chloride:<br><br>— packaging materials (bags, containers, bottles, lids) [3923 29 10] [3920 41] [3920 42] (3),<br><br>— office or school supplies [3926 10] (3),<br><br>— fittings for furniture, coachwork or the like [3926 30] (3),<br><br>— articles of apparel and clothing accessories (including gloves) [3926 20] (3),<br><br>— floor and wall coverings [3918 10] (3),<br><br>— impregnated, coated, covered or laminated textile fabrics [5903 10] (3),<br><br>— imitation leather [4202] (3),<br><br>— gramophone records [8524 10] (3),<br><br>— tubes and pipes and their fittings [3917 23] (3),<br><br>— swing doors (3),<br><br>— vehicles for road transport (interior, exterior, underbody) (3),<br><br>— coating of steel sheet used in construction or in industry (3),<br><br>— insulation for electrical wiring (3).<br><br>In any case, whatever their use or intended final purpose, the placing on the market of the above finished articles or components of articles manufactured from polymers or copolymers of vinyl chloride, stabilised by substances containing cadmium shall be prohibited, if their cadmium content (expressed as Cd metal) exceeds 0,01 % by mass of the polymer.<br><br>4. However, paragraph 3 does not apply to finished articles using cadmium-based stabilisers for safety reasons. |

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| | 5. Within the meaning of this Regulation, 'cadmium plating' means any deposit or coating of metallic cadmium on a metallic surface.<br><br>Shall not be used for cadmium plating metallic articles or components of the articles used in the sectors/applications listed below:<br><br>(a) equipment and machinery for:<br>— food production [8210] [8417 20] [8419 81] [8421 11] [8421 22] [8422] [8435] [8437] [8438] [8476 11] (3),<br>— agriculture [8419 31] [8424 81] [8432] [8433] [8434] [8436] (3),<br>— cooling and freezing [8418] (3),<br>— printing and book-binding [8440] [8442] [8443] (3);<br><br>(b) equipment and machinery for the production of:<br>— household goods [7321] [8421 12] [8450] [8509] [8516] (3),<br>— furniture [8465] [8466] [9401] [9402] [9403] [9404] (3),<br>— sanitary ware [7324] (3),<br>— central heating and air conditioning plant [7322] [8403] [8404] [8415] (3).<br><br>In any case, whatever their use or intended final purpose, the placing on the market of cadmium-plated articles or components of such articles used in the sectors/applications listed in points (a) and (b) above and of articles manufactured in the sectors listed in point (b) above shall be prohibited.<br><br>6. The provisions referred to in paragraph 5 are also applicable to cadmium-plated articles or components of such articles when used in the sectors/applications listed in points (a) and (b) below and to articles manufactured in the sectors listed in (b) below:<br><br>(a) equipment and machinery for the production of:<br>— paper and board [8419 32] [8439] [8441] (3),<br>— textiles and clothing [8444] [8445] [8447] [8448] [8449] [8451] [8452] (3);<br><br>(b) equipment and machinery for the production of:<br>— industrial handling equipment and machinery [8425] [8426] [8427] [8428] [8429] [8430] [8431] (3),<br>— road and agricultural vehicles [chapter 87] (3),<br>— rolling stock [chapter 86] (3),<br>— vessels [chapter 89] (3). |

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| | 7. However, the restrictions in paragraphs 5 and 6 do not apply to:<br>— articles and components of the articles used in the aeronautical, aerospace, mining, offshore and nuclear sectors whose applications require high safety standards and in safety devices in road and agricultural vehicles, rolling stock and vessels,<br>— electrical contacts in any sector of use, on account of the reliability required of the apparatus on which they are installed.<br>Owing to the development of knowledge and techniques in respect of substitutes less dangerous than cadmium and its compounds, the Commission shall, in consultation with the Member States, assess the situation at regular intervals in accordance with the procedure laid down in Article 133(3) of this Regulation. |
| 24. Monomethyl — tetrachlorodiphenyl methane<br>Trade name: Ugilec 141<br>CAS No 76253-60-6 | 1. The placing on the market and use of this substance and of preparations and articles containing it shall be prohibited.<br>2. By way of exception paragraph 1 shall not apply:<br>(a) in the case of plant and machinery already in service on 18 June 1994 until such plant and machinery is disposed of.<br>However, Member States may, on grounds of human health protection and environmental protection, prohibit within their territory the use of such plant or machinery before it is disposed of;<br>(b) in the case of the maintenance of plant and machinery already in service within a Member State on 18 June 1994.<br>3. The placing on the second-hand market of this substance, preparations containing this substance and plant/machinery containing this substance, shall be prohibited. |
| 25. Monomethyl-dichloro-diphenyl methane<br>Trade name: Ugilec 121, Ugilec 21;<br>CAS No — unknown | The placing on the market and use of this substance and of preparations and articles containing it shall be prohibited. |
| 26. Monomethyl-dibromo-diphenyl methane bromobenzylbromotoluene, mixture of isomers<br>Trade name: DBBT<br>CAS No 99688-47-8 | The placing on the market and use of this substance and of preparations and articles containing it shall be prohibited. |
| 27. Nickel<br>CAS No 7440-02-0<br>EINECS No 231-111-4<br>and its compounds | 1. Shall not be used:<br>(a) in all post assemblies which are inserted into pierced ears and other pierced parts of the human body unless the rate of nickel release from such post assemblies is less than 0,2 μg/cm²/week (migration limit);<br>(b) in articles intended to come into direct and prolonged contact with the skin such as:<br>— earrings,<br>— necklaces, bracelets and chains, anklets, finger rings, |

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| | — wrist-watch cases, watch straps and tighteners,<br>— rivet buttons, tighteners, rivets, zippers and metal marks, when these are used in garments,<br>— if the rate of nickel release from the parts of these articles coming into direct and prolonged contact with the skin is greater than 0,5 μg/cm²/week;<br>(c) in articles such as those listed in point (b) where these have a non-nickel coating unless such coating is sufficient to ensure that the rate of nickel release from those parts of such articles coming into direct and prolonged contact with the skin will not exceed 0,5 μg/cm²/week for a period of at least two years of normal use of the article.<br><br>2. Articles which are the subject of paragraph 1, shall not be placed on the market unless they conform to the requirements set out in those points.<br><br>3. The standards adopted by the European Committee for Standardisation (CEN) shall be used as the test methods for demonstrating the conformity of articles to paragraphs 1 and 2. |
| 28. Substances which appear in Annex I to Directive 67/548/EEC classified as carcinogen category 1 or carcinogen category 2 and labelled at least as 'Toxic (T)' with risk phrase R 45: 'May cause cancer' or risk phrase R49: 'May cause cancer by inhalation', and listed as follows:<br>Carcinogen category 1 listed in Appendix 1.<br>Carcinogen category 2 listed in Appendix 2. | Without prejudice to the other parts of this Annex the following shall apply to entries 28 to 30:<br><br>1. Shall not be used in substances and preparations placed on the market for sale to the general public in individual concentration equal to or greater than:<br>— either the relevant concentration specified in Annex I to Directive 67/548/EEC, or<br>— the relevant concentration specified in Directive 1999/45/EC. |
| 29. Substances which appear in Annex I to Directive 67/548/EEC classified as mutagen category 1 or mutagen category 2 and labelled with risk phrase R46: 'May cause heritable genetic damage', and listed as follows:<br>Mutagen category 1 listed in Appendix 3.<br>Mutagen category 2 listed in Appendix 4. | Without prejudice to the implementation of other Community provisions relating to the classification, packaging and labelling of dangerous substances and preparations, the packaging of such substances and preparations must be marked legibly and indelibly as follows:<br>'Restricted to professional users'. |
| 30. Substances which appear in Annex I to Directive 67/548/EEC classified as toxic to reproduction category 1 or toxic to reproduction category 2 and labelled with risk phrase R60: 'May impair fertility' and/or R61: 'May cause harm to the unborn child', and listed as follows:<br>Toxic to reproduction category 1 listed in Appendix 5.<br>Toxic to reproduction category 2 listed in Appendix 6. | 2. By way of derogation, paragraph 1 shall not apply to:<br>(a) medicinal or veterinary products as defined by Directive 2001/82/EC and Directive 2001/83/EC;<br>(b) cosmetic products as defined by Council Directive 76/768/EEC;<br>(c) — motor fuels which are covered by Directive 98/70/EC,<br>— mineral oil products intended for use as fuel in mobile or fixed combustion plants,<br>— fuels sold in closed systems (e.g. liquid gas bottles);<br>(d) artists' paints covered by Directive 1999/45/EC. |

| Designation of the substance, of the groups of substances or of the preparation | Conditions of restriction |
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| 31. (a) creosote; wash oil<br>CAS No 8001-58-9<br>EINECS No 232-287-5<br>(b) creosote oil; wash oil<br>CAS No 61789-28-4<br>EINECS No 263-047-8<br>(c) distillates (coal tar), naphthalene oils; naphthalene oil<br>CAS No 84650-04-4<br>EINECS No 283-484-8<br>(d) creosote oil, acenaphthene fraction; wash oil<br>CAS No 90640-84-9<br>EINECS No 292-605-3<br>(e) distillates (coal tar), upper; heavy anthracene oil<br>CAS No 65996-91-0<br>EINECS No 266-026-1<br>(f) anthracene oil<br>CAS No 90640-80-5<br>EINECS No 292-602-7<br>(g) tar acids, coal, crude; crude phenols<br>CAS No 65996-85-2<br>EINECS No 266-019-3<br>(h) creosote, wood<br>CAS No 8021-39-4<br>EINECS No 232-419-1<br>(i) low temperature tar oil, alkaline; extract residues (coal), low temperature coal tar alkaline<br>CAS No 122384-78-5<br>EINECS No 310-191-5 | 1. Shall not be used as substances or in preparations in the treatment of wood. Furthermore, wood so treated shall not be placed on the market.<br><br>2. However by way of derogation:<br><br>(a) relating to the substances and preparations: these may be used for wood treatment in industrial installations or by professionals covered by Community legislation on the protection of workers for *in situ* retreatment only if they contain:<br><br>(i) benzo[a]pyrene at a concentration of less than 0,005 % by mass;<br><br>(ii) and water extractable phenols at a concentration of less than 3 % by mass.<br><br>Such substances and preparations for use in wood treatment in industrial installations or by professionals:<br><br>— may be placed on the market only in packaging of a capacity equal to or greater than 20 litres,<br><br>— shall not be sold to consumers.<br><br>Without prejudice to the application of other Community provisions on the classification, packaging and labelling of dangerous substances and preparations, the packaging of such substances and preparations shall be legibly and indelibly marked as follows:<br><br>'For use in industrial installations or professional treatment only'.<br><br>(b) relating to wood treated in industrial installations or by professionals according to point (a) which is placed on the market for the first time or retreated *in situ*: this is permitted for professional and industrial use only, e. g. on railways, in electric power transmission and telecommunications, for fencing, for agricultural purposes (e.g. stakes for tree support) and in harbours and waterways;<br><br>(c) the prohibition in paragraph 1 on the placing on the market shall not apply to wood which has been treated with substances listed in entry 31(a) to (i) before 31 December 2002 and is placed on the second-hand market for re-use.<br><br>3. However, treated wood referred to under paragraph 2 (b) and (c) shall not be used:<br><br>— inside buildings, whatever their purpose,<br><br>— in toys, |

| Designation of the substance, of the groups of substances or of the preparation | Conditions of restriction |
|---|---|
| | — in playgrounds,<br>— in parks, gardens, and outdoor recreational and leisure facilities where there is a risk of frequent skin contact,<br>— in the manufacture of garden furniture such as picnic tables,<br>— for the manufacture and use and any re-treatment of:<br>— containers intended for growing purposes,<br>— packaging that may come into contact with raw materials, intermediate or finished products destined for human and/or animal consumption,<br>— other materials which may contaminate the articles mentioned above. |
| 32. Chloroform<br>CAS No 67-66-3<br>EINECS No 200-663-8<br>33. Carbon tetrachloride-tetrachloromethane<br>CAS No 56-23-5<br>EINECS No 200-262-8<br>34. 1,1,2 Trichloroethane<br>CAS No 79-00-5<br>EINECS No 201-166-9<br>35. 1,1,2,2 Tetrachloroethane<br>CAS No 79-34-5<br>EINECS No 201-197-8<br>36. 1,1,1,2 Tetrachloroethane<br>CAS No 630-20-6<br>37. Pentachloroethane<br>CAS No 76-01-7<br>EINECS No 200-925-1<br>38. 1,1 Dichloroethylene<br>CAS No 75-35-4<br>EINECS No 200-864-0<br>39. 1,1,1 Trichloroethane, methyl chloroform<br>CAS No 71-55-6<br>EINECS No 200-756-3 | 1. Shall not be used in concentrations equal to or greater than 0,1 % by weight in substances and preparations placed on the market for sale to the general public and/or in diffusive applications such as in surface cleaning and cleaning of fabrics.<br>2. Without prejudice to the application of other Community provisions on the classification, packaging and labelling of dangerous substances and preparations, the packaging of such substances and preparations containing them in concentrations equal to or greater than 0,1 % shall be legible and indelibly marked as follows:<br>'For use in industrial installations only'.<br>By way of derogation this provision shall not apply to:<br>(a) medicinal or veterinary products as defined by Directive 2001/82/EC and Directive 2001/83/EC;<br>(b) cosmetic products as defined by Directive 76/768/EEC. |
| 40. Substances meeting the criteria of flammability in Directive 67/548/EEC and classified as flammable, highly flammable or extremely flammable regardless of whether they appear in Annex I to that Directive or not. | 1 Shall not be used on their own or in the form of preparations in aerosol generators that are placed on the market for the general public for entertainment and decorative purposes such as the following:<br>— metallic glitter intended mainly for decoration,<br>— artificial snow and frost,<br>— 'whoopee' cushions,<br>— silly string aerosols, |

| Designation of the substance, of the groups of substances or of the preparation | Conditions of restriction |
|---|---|
| | — imitation excrement,<br>— horn for parties,<br>— decorative flakes and foams,<br>— artificial cobwebs,<br>— stink bombs,<br>— etc.<br><br>2. Without prejudice to the application of other Community provisions on the classification, packaging and labelling of dangerous substances, the following words must appear legibly and indelibly on the packaging of aerosol generators referred to above:<br><br>'For professional users only'.<br><br>3. By way of derogation, paragraphs 1 and 2 shall not apply to the aerosol generators referred to in Article 9a of Council Directive 75/324/EEC of 20 May 1975 on the approximation of the laws of the Member States relating to aerosol dispensers [4].<br><br>4. The articles referred to in paragraphs 1 and 2 shall not be placed on the market unless they conform to the requirements indicated. |
| 41. Hexachloroethane<br>CAS No 67-72-1<br>EINECS No 200-6664 | Shall not be used in the manufacturing or processing of non-ferrous metals. |
| 42. Alkanes, $C_{10}$-$C_{13}$, chloro (short-chain chlorinated paraffins) (SCCPs)<br>EINECS No 287-476-5 | Shall not be placed on the market for use as substances or as constituents of other substances or preparations in concentrations higher than 1 %:<br><br>— in metalworking,<br>— for fat liquoring of leather. |
| 43. Azocolourants | 1. Azodyes which, by reductive cleavage of one or more azo groups, may release one or more of the aromatic amines listed in Appendix 8, in detectable concentrations, i. e. above 30 ppm in the finished articles or in the dyed parts thereof, according to the testing methods listed in Appendix 10, shall not be used in textile and leather articles which may come into direct and prolonged contact with the human skin or oral cavity, such as:<br><br>— clothing, bedding, towels, hairpieces, wigs, hats, nappies and other sanitary items, sleeping bags,<br><br>— footwear, gloves, wristwatch straps, handbags, purses/wallets, briefcases, chair covers, purses worn round the neck,<br><br>— textile or leather toys and toys which include textile or leather garments, |

| Designation of the substance, of the groups of substances or of the preparation | Conditions of restriction |
|---|---|
| | — yarn and fabrics intended for use by the final consumer.<br><br>2. Furthermore, the textile and leather articles referred to in paragraph 1 above shall not be placed on the market unless they conform to the requirements set out in that paragraph.<br><br>3. Azodyes, which are contained in Appendix 9, 'List of azodyes', shall not be placed on the market or used for colouring textile and leather articles as a substance or constituent of preparations in concentrations higher than 0,1 % by mass.<br><br>4. The Commission shall, in the light of new scientific knowledge, review the provisions on azocolourants. |
| 44. Diphenylether, pentabromo derivative $C_{12}H_5Br_5O$ | 1. Shall not be placed on the market or used as a substance or as a constituent of preparations in concentrations higher than 0,1 % by mass.<br>2. Articles may not be placed on the market if they, or flame-retarded parts thereof, contain this substance in concentrations higher than 0,1 % by mass. |
| 45. Diphenylether, octabromo derivative $C_{12}H_2Br_8O$ | 1. Shall not be placed on the market or used as a substance or as a constituent of substances or of preparations in concentrations higher than 0,1 % by mass.<br>2. Articles may not be placed on the market if they, or flame-retardant parts thereof, contain this substance in concentrations higher than 0,1 % by mass. |
| 46. (a) Nonylphenol $C_6H_4(OH)C_9H_{19}$<br>(b) Nonylphenol ethoxylate $(C_2H_4O)_nC_{15}H_{24}O$ | Shall not be placed on the market or used as a substance or constituent of preparations in concentrations equal or higher than 0,1 % by mass for the following purposes:<br>(1) industrial and institutional cleaning except:<br>— controlled closed dry cleaning systems where the washing liquid is recycled or incinerated,<br>— cleaning systems with special treatment where the washing liquid is recycled or incinerated;<br>(2) domestic cleaning;<br>(3) textiles and leather processing except:<br>— processing with no release into waste water,<br>— systems with special treatment where the process water is pre-treated to remove the organic fraction completely prior to biological waste water treatment (degreasing of sheepskin);<br>(4) emulsifier in agricultural teat dips;<br>(5) metal working except:<br>— uses in controlled closed systems where the washing liquid is recycled or incinerated;<br>(6) manufacturing of pulp and paper;<br>(7) cosmetic products;<br>(8) other personal care products except:<br>— spermicides;<br>(9) co-formulants in pesticides and biocides. |

| Designation of the substance, of the groups of substances or of the preparation | Conditions of restriction |
|---|---|
| 47. Cement | 1. Cement and cement-containing preparations shall not be used or placed on the market, if they contain, when hydrated, more than 0,0002 % soluble chromium VI of the total dry weight of the cement.<br>2. If reducing agents are used, then without prejudice to the application of other Community provisions on the classification, packaging and labelling of dangerous substances and preparations, the packaging of cement or cement-containing preparations shall be legibly and indelibly marked with information on the packing date, as well as on the storage conditions and the storage period appropriate to maintaining the activity of the reducing agent and to keeping the content of soluble chromium VI below the limit indicated in paragraph 1.<br>3. By way of derogation, paragraphs 1 and 2 shall not apply to the placing on the market for, and use in, controlled closed and totally automated processes in which cement and cement-containing preparations are handled solely by machines and in which there is no possibility of contact with the skin. |
| 48. Toluene<br>CAS No 108-88-3 | Shall not be placed on the market or used as a substance or constituent of preparations in a concentration equal to or higher than 0,1 % by mass in adhesives and spray paints intended for sale to the general public.<br>Member States shall apply these measures from 15 June 2007. |
| 49. Trichlorobenzene<br>CAS No 120-82-1 | Shall not be placed on the market or used as a substance or constituent of preparations in a concentration equal to or higher than 0,1 % by mass for all uses except:<br>— as an intermediate of synthesis, or<br>— as a process solvent in closed chemical applications for chlorination reactions, or<br>— in the manufacture of 1,3,5 — trinitro — 2,4,6 — triaminobenzene (TATB).<br>Member States shall apply these measures from 15 June 2007. |
| 50. Polycyclic-aromatic hydrocarbons (PAH)<br>1. Benzo(a)pyrene (BaP)<br>CAS No 50-32-8<br>2. Benzo(e)pyrene (BeP)<br>CAS No 192-97-2<br>3. Benzo(a)anthracene (BaA)<br>CAS No 56-55-3<br>4. Chrysen (CHR)<br>CAS No 218-01-9<br>5. Benzo(b)fluoranthene (BbFA)<br>CAS No 205-99-2<br>6. Benzo(j)fluoranthene (BjFA)<br>CAS No 205-82-3<br>7. Benzo(k)fluoranthene (BkFA)<br>CAS No 207-08-9<br>8. Dibenzo(a, h)anthracene (DBAhA)<br>CAS No 53-70-3 | 1. Extender oils shall not be placed on the market and used for the production of tyres or parts of tyres, if they contain:<br>— more than 1 mg/kg BaP, or<br>— more than 10 mg/kg of the sum of all listed PAHs.<br>These limits are regarded as kept, if the polycyclic aromatics (PCA) extract is less than 3 % by mass, as measured by the Institute of Petroleum standard IP346: 1998 (Determination of PCA in unused lubricating base oils and asphaltene free petroleum fractions — Dimethyl sulphoxide extraction refractive index method), provided that compliance with the limit values of BaP and of the listed PAHs, as well as the correlation of the measured values with the PCA extract, is controlled by the manufacturer or importer every six months or after each major operational change, whichever is earlier. |

| Designation of the substance, of the groups of substances or of the preparation | Conditions of restriction |
|---|---|
| | 2. Furthermore, the tyres and treads for retreading manufactured after 1 January 2010 may not be placed on the market if they contain extender oils exceeding the limits indicated in paragraph 1.<br><br>These limits are regarded as kept, if the vulcanised rubber compounds do not exceed the limit of 0,35 % Bay protons as measured and calculated by ISO 21461 (Rubber vulcanised — Determination of aromaticity of oil in vulcanised rubber compounds).<br>3. By way of derogation, paragraph 2 shall not apply to retreaded tyres if their tread does not contain extender oils exceeding the limits referred to in paragraph 1.<br>4. Member States shall apply these measures from 1 January 2010. |
| 51. The following phthalates (or other CAS- and EINECS numbers covering the substance):<br>bis (2-ethylhexyl) phthalate (DEHP)<br>CAS No 117-81-7<br>Einecs No 204-211-0<br>dibutyl phthalate (DBP)<br>CAS No 84-74-2<br>Einecs No 201-557-4<br>benzyl butyl phthalate (BBP)<br>CAS No 85-68-7<br>Einecs No 201-622-7 | Shall not be used as substances or as constituents of preparations, at concentrations higher than 0,1 % by mass of the plasticised material, in toys and childcare articles ([5]).<br><br>Toys and childcare articles containing these phthalates in a concentration higher than 0,1 % by mass of the plasticised material shall not be placed on the market.<br><br>The Commission shall re-evaluate, by 16 January 2010, the measures provided for in relation to this point in the light of new scientific information on such substances and their substitutes, and if justified, these measures shall be modified accordingly. |
| 52. The following phthalates (or other CAS- and EINECS numbers covering the substance):<br>di-'isononyl' phthalate (DINP)<br>CAS No 28553-12-0 and 68515-48-0<br>Einecs No 249-079-5 and 271-090-9<br>di-'isodecyl' phthalate (DIDP)<br>CAS No 26761-40-0 and 68515-49-1<br>Einecs No 247-977-1 and 271-091-4<br>di-n-octyl phthalate (DNOP)<br>CAS No 117-84-0<br>Einecs No 204-214-7 | Shall not be used as substances or as constituents of preparations, at concentrations higher than 0,1 % by mass of the plasticised material, in toys and childcare articles ([5]) which can be placed in the mouth by children.<br><br>Toys and childcare articles containing these phthalates in a concentration higher than 0,1 % by mass of the plasticised material shall not be placed on the market.<br><br>The Commission shall re-evaluate, by 16 January 2010, the measures provided for in relation to this point in the light of new scientific information on such substances and their substitutes, and if justified, these measures shall be modified accordingly. |

([1]) OJ L 377, 31.12.1991, p. 20. Directive as last amended by Regulation (EC) No 166/2006 of the European Parliament and of the Council (OJ L 33, 4.2.2006, p. 1).
([2]) Chrysotile has two CAS Nos, confirmed by ECB.
([3]) Council Regulation (EEC) No 2658/87 of 23 July 1987 on the tariff and statistical nomenclature and on the Common Customs Tariff (OJ L 256, 7.9.1987). Regulation as last amended by Regulation (EC) No 426/2006 (OJ L 79, 16.3.2006, p. 1).
([4]) OJ L 147, 9.6.1975, p. 40. Directive as last amended by Regulation (EC) No 807/2003 (OJ L 122, 16.5.2003, p. 36).
([5]) For the purposes of this point 'childcare article' shall mean any product intended to facilitate sleep, relaxation, hygiene, the feeding of children or sucking on the part of children.

*Appendices 1 to 6*

FOREWORD

**Explanations of column headings**

*Substances:*

The name is the same as that used for the substance in Annex I to Directive 67/548/EEC. Whenever possible dangerous substances are designated by their EINECS (European Inventory of Existing Commercial Chemical Substances) or ELINCS (European List of Notified Chemical Substances) names. These are referred to as EC numbers in the table. Other entries not listed in EINECS or ELINCS are designated using an internationally recognised chemical name (e.g. ISO, IUPAC). An additional common name is included in some cases.

*Index number:*

The index number is the identification code given to the substance in Annex I of Directive 67/548/EEC. Substances are listed in the Appendix according to this index number.

*EINECS number:*

For each substance listed in the EINECS there is an identification code. The code starts at 200-001 8.

*ELINCS number*

For each new substance notified under the Directive 67/548/EEC an identification code has been defined and published in the ELINCS. The code starts at 400-010-9.

*CAS number:*

Chemical Abstracts Service (CAS) numbers have been defined for substances to help in their identification.

*Notes:*

The full text of the notes can be found in the Foreword of Annex I to Directive 67/548/EEC.

The notes to be taken into account for the purposes of this Regulation are the following:

*Note A:*

The name of the substance must appear on the label in the form of one of the designations given in Annex I to Directive 67/548/EEC (see Article 23(2)(a) of that Directive).

In Annex I to Directive 67/548/EEC, use is sometimes made of a general description such as '… compounds' or '… salts'. In this case, the manufacturer or any other person who places such a substance on the market is required to state on the label the correct name, due account being taken of the Chapter entitled 'Nomenclature' of the Foreword to that Annex.

Directive 67/548/EEC also requires that the symbols, indications of danger, R- and S-phrases to be used for each substance shall be those shown in Annex I to that Directive (Article 23(2)(c), (d) and (e) of that Directive).

For substances belonging to one particular group of substances included in Annex I to Directive 67/548/EEC, the symbols, indications of danger, R- and S-phrases to be used for each substance shall be those shown in the appropriate entry in that Annex.

For substances belonging to more than one group of substances included in Annex I to Directive 67/548/EEC, the symbols, indications of danger, R- and S-phrases to be used for each substance shall be those shown in both the appropriate entries given in that Annex. In cases where two different classifications are given in the two entries for the same hazard, the classification reflecting the more severe hazard classification shall be used.

*Note C:*

Some organic substances may be marketed either in a specific isomeric form or as a mixture of several isomers.

*Note D:*

Certain substances which are susceptible to spontaneous polymerisation or decomposition are generally placed on the market in a stabilised form. It is in this form that they are listed in Annex I to Directive 67/548/EEC.

However, such substances are sometimes placed on the market in a non-stabilised form. In this case, the manufacturer or any person who places such a substance on the market must state on the label the name of the substance followed by the words 'non-stabilised'.

*Note E:*

Substances with specific effects on human health (see chapter 4 of Annex VI of Directive 67/548/EEC) that are classified as carcinogenic, mutagenic and/or toxic for reproduction in categories 1 or 2 are ascribed Note E if they are also classified as very toxic (T+), toxic (T) or harmful (Xn). For these substances, the risk phrases R20, R21, R22, R23, R24, R25, R26, R27, R28, R39, R68 (harmful), R48 and R65 and all combinations of these risk phrases shall be preceded by the word 'Also'.

*Note H:*

The classification and label shown for this substance applies to the dangerous property(ies) indicated by the risk phrase(s) in combination with the category(ies) of danger shown. The requirements of Article 6 of Directive 67/548/EEC on manufacturers, distributors, and importers of this substance apply to all other aspects of classification and labelling. The final label shall follow the requirements of section 7 of Annex VI to Directive 67/548/EEC.

This note applies to certain coal- and oil-derived substances and to certain entries for groups of substances in Annex I to Directive 67/548/EEC.

*Note J:*

The classification as a carcinogen need not apply if it can be shown that the substance contains less than 0,1 % w/w benzene (EINECS No 200-753-7).

*Note K:*

The classification as a carcinogen or mutagen need not apply if it can be shown that the substance contains less than 0,1 % w/w 1,3-butadiene (EINECS No 203-450-8). If the substance is not classified as a carcinogen or mutagen, at least the S-phrases (2-)9-16 should apply. This note applies to certain complex oil-derived substances in Annex I to Directive 67/548/EC

*Note L:*

The classification as a carcinogen need not apply if it can be shown that the substance contains less than 3 % DMSO extract as measured by IP 346.

*Note M:*

The classification as a carcinogen need not apply if it can be shown that the substance contains less than 0,005 % w/w benzo[a]-pyrene (EINECS No 200-028-5).

*Note N:*

The classification as a carcinogen need not apply if the full refining history is known and it can be shown that the substance from which it is produced is not a carcinogen.

*Note P:*

The classification as a carcinogen need not apply if it can be shown that the substance contains less than 0,1 % w/w benzene (EINECS No 200-753-7).

*Note R:*

The classification as a carcinogen need not apply to fibres with a length weighted geometric mean diameter, less two standard errors, greater than 6μm.

*Note S:*

This substance may not require a label according to Article 23 of Directive 67/548/EEC (see section 8 of Annex VI of that Directive).

*Appendix 1*

**Point 28 — Carcinogens: category 1**

| Substances | Index No | EC No | CAS No | Notes |
|---|---|---|---|---|
| Chromium (VI) trioxide | 024-001-00-0 | 215-607-8 | 1333-82-0 | E |
| Zinc chromates including zinc potassium chromate | 024-007-00-3 | | | |
| Nickel monoxide | 028-003-00-2 | 215-215-7 | 1313-99-1 | |
| Nickel dioxide | 028-004-00-8 | 234-823-3 | 12035-36-8 | |
| Dinickel trioxide | 028-005-00-3 | 215-217-8 | 1314-06-3 | |
| Nickel sulphide | 028-006-00-9 | 240-841-2 | 16812-54-7 | |
| Nickel subsulphide | 028-007-00-4 | 234-829-6 | 12035-72-2 | |
| Diarsenic trioxide; arsenic trioxide | 033-003-00-0 | 215-481-4 | 1327-53-3 | |
| Arsenic pentoxide; arsenic oxide | 033-004-00-6 | 215-116-9 | 1303-28-2 | |
| Arsenic acid and its salts | 033-005-00-1 | | | |
| Lead hydrogen arsenate | 082-011-00-0 | 232-064-2 | 7784-40-9 | |
| Butane [containing ≥ 0,1 % Butadiene (203-450-8)] [1] | 601-004-01-8 | 203-448-7 [1] | 106-97-8 [1] | C, S |
| Isobutane [containing ≥ 0,1 % Butadiene (203-450-8)] [2] | | 200-857-2 [2] | 75-28-5 [2] | |
| 1,3-Butadiene; buta-1,3-diene | 601-013-00-X | 203-450-8 | 106-99-0 | D |
| Benzene | 601-020-00-8 | 200-753-7 | 71-43-2 | E |
| Triethyl arsenate | 601-067-00-4 | 427-700-2 | 15606-95-8 | |
| Vinyl chloride; chloroethylene | 602-023-00-7 | 200-831-0 | 75-01-4 | |
| Bis (chloromethyl) ether | 603-046-00-5 | 208-832-8 | 542-88-1 | |
| Chloromethyl methyl ether; chlorodimethyl ether | 603-075-00-3 | 203-480-1 | 107-30-2 | |
| 2-Naphthylamine; beta-naphthylamine | 612-022-00-3 | 202-080-4 | 91-59-8 | E |
| Benzidine; 4,4′-diaminobiphenyl; biphenyl-4,4′-ylenediamine | 612-042-00-2 | 202-199-1 | 92-87-5 | E |
| Salts of benzidine | 612-070-00-5 | | | |
| Salts of 2-naphthylamine | 612-071-00-0 | 209-030-0[1]<br>210-313-6[2] | 553-00-4[1]<br>612-52-2[2] | |
| Biphenyl-4-ylamine; xenylamine; 4-aminobiphenyl | 612-072-00-6 | 202-177-1 | 92-67-1 | |
| Salts of biphenyl-4-ylamine; salts of xenylamine; salts of 4-aminobiphenyl | 612-073-00-1 | | | |
| Tar, coal; Coal tar<br>(The by-product from the destructive distillation of coal. Almost black semisolid. A complex combination of aromatic hydro-carbons, phenolic compounds, nitrogen bases and thiophene.) | 648-081-00-7 | 232-361-7 | 8007-45-2 | |

| Substances | Index No | EC No | CAS No | Notes |
|---|---|---|---|---|
| Tar, coal, high-temperature; Coal tar<br>(The condensation product obtained by cooling, to approximately ambient temperature, the gas evolved in the high temperature (greater than 700 °C) destructive distillation of coal. A black viscous liquid denser than water. Composed primarily of a complex mixture of condensed ring aromatic hydrocarbons. May contain minor amounts of phenolic compounds and aromatic nitrogen bases.) | 648-082-00-2 | 266-024-0 | 65996-89-6 | |
| Tar, coal, low-temperature; Coal oil<br>(The condensation product obtained by cooling, to approximately ambient temperature, the gas evolved in low temperature (less than 700 °C) destructive distillation of coal. A black viscous liquid denser than water. Composed primarily of condensed ring aromatic hydrocarbons, phenolic compounds, aromatic nitrogen bases, and their alkyl derivatives.) | 648-083-00-8 | 266-025-6 | 65996-90-9 | |
| Tar brown-coal;<br>(An oil distilled from brown-coal tar. Composed primarily of aliphatic, naphthenic and one- to three-ring aromatic hydrocarbons, their alkyl derivates, heteroaromatics and one- and two-ring phenols boiling in the range of approximately 150 °C to 360 °C.) | 648-145-00-4 | 309-885-0 | 101316-83-0 | |
| Tar, brown-coal, low temperature;<br>(A tar obtained from low temperature carbonisation and low temperature gasification of brown coal. Composed primarily of aliphatic, naphthenic and cyclic aromatic hydrocarbons, heteroaromatic hydrocarbons and cyclic phenols.) | 648-146-00-X | 309-886-6 | 101316-84-1 | |
| Distillates (petroleum), light paraffinic; Unrefined or mildly refined base oil<br>(A complex combination of hydrocarbons produced by vacuum distillation of the residuum from atmospheric distillation of crude oil. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_{15}$ through $C_{30}$ and produces a finished oil with a viscosity of less than 19 $10^{-6}$ $m^2.s^{-1}$ at 40 °C. It contains a relatively large proportion of saturated aliphatic hydrocarbons normally present in this distillation range of crude oil.) | 649-050-00-0 | 265-051-5 | 64741-50-0 | |
| Distillates (petroleum), heavy paraffinic; Unrefined or mildly refined base oil<br>(A complex combination of hydrocarbons produced by vacuum distillation of the residuum from atmospheric distillation of crude oil. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_{20}$ through $C_{50}$, and produces a finished oil with a viscosity of at least 19 $10^{-6}$ $m^2.s^{-1}$ at 40 °C. It contains a relatively large proportion of saturated aliphatic hydrocarbons.) | 649-051-00-6 | 265-052-0 | 64741-51-1 | |
| Distillates (petroleum), light naphthenic; Unrefined or mildly refined base oil<br>(A complex combination of hydrocarbons produced by vacuum distillation of the residuum from atmospheric distillation of crude oil. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_{15}$ through $C_{30}$, and produces a finished oil with a viscosity of less than 19 $10^{-6}$ $m^2.s^{-1}$ at 40 °C. It contains relatively few normal paraffins.) | 649-052-00-1 | 265-053-6 | 64741-52-2 | |

| Substances | Index No | EC No | CAS No | Notes |
|---|---|---|---|---|
| Distillates (petroleum), heavy naphthenic; Unrefined or mildly refined base oil<br>(A complex combination of hydrocarbons produced by vacuum distillation of the residuum from atmospheric distillation of crude oil. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_{20}$ through $C_{50}$, and produces a finished oil with a viscosity of at least 19 $10^{-6}$ $m^2.s^{-1}$ at 40 °C. It contains relatively few normal paraffins.) | 649-053-00-7 | 265-054-1 | 64741-53-3 | |
| Distillates (petroleum), acid-treated heavy naphthenic; Unrefined or mildly refined base oil<br>(A complex combination of hydrocarbons obtained as a raffinate from a sulfuric acid treating process. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_{20}$ through $C_{50}$, and produces a finished oil with a viscosity of at least 19 $10^{-6}$ $m^2.s^{-1}$ at 40 °C. It contains relatively few normal paraffins.) | 649-054-00-2 | 265-117-3 | 64742-18-3 | |
| Distillates (petroleum), acid-treated light naphthenic; Unrefined or mildly refined base oil<br>(A complex combination of hydrocarbons obtained as a raffinate from a sulfuric acid treating process. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_{15}$ through $C_{30}$, and produces a finished oil with a viscosity of less than 19 $10^{-6}$ $m^2.s^{-1}$ at 40 °C. It contains relatively few normal paraffins.) | 649-055-00-8 | 265-118-9 | 64742-19-4 | |
| Distillates (petroleum), acid-treated heavy paraffinic; Unrefined or mildly refined base oil<br>(A complex combination of hydrocarbons obtained as a raffinate from a sulfuric acid process. It consists predominantly of saturated hydrocarbons having carbon numbers predominantly in the range of $C_{20}$ through $C_{50}$, and produces a finished oil with a viscosity of at least 19 $10^{-6}$ $m^2.s^{-1}$ at 40 °C.) | 649-056-00-3 | 265-119-4 | 64742-20-7 | |
| Distillates (petroleum), acid-treated light paraffinic; Unrefined or mildly refined base oil<br>(A complex combination of hydrocarbons obtained as a raffinate from a sulfuric acid treating process. It consists predominantly of saturated hydrocarbons having carbon numbers predominantly in the range of $C_{15}$ through $C_{30}$ and produces a finished oil having a viscosity of less than 19 $10^{-6}$ $m^2.s^{-1}$ at 40 °C.) | 649-057-00-9 | 265-121-5 | 64742-21-8 | |
| Distillates (petroleum), chemically neutralised heavy paraffinic; Unrefined or mildly refined base oil<br>(A complex combination of hydrocarbons obtained from a treating process to remove acidic materials. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of $C_{20}$ through $C_{50}$, and produces a finished oil with a viscosity of at least 19 $10^{-6}$ $m^2.s^{-1}$ at 40 °C. It contains a relatively large proportion of aliphatic hydrocarbons.) | 649-058-00-4 | 265-127-8 | 64742-27-4 | |
| Distillates (petroleum), chemically neutralised light paraffinic; Unrefined or mildly refined base oil<br>(A complex combination of hydrocarbons produced by a treating process to remove acidic materials. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_{15}$ through $C_{30}$, and produces a finished oil with a viscosity of less than 19 $10^{-6}$ $m^2.s^{-1}$ at 40 °C.) | 649-059-00-X | 265-128-3 | 64742-28-5 | |

| Substances | Index No | EC No | CAS No | Notes |
|---|---|---|---|---|
| Distillates (petroleum), chemically neutralised heavy naphthenic; Unrefined or mildly refined base oil<br>(A complex combination of hydrocarbons produced by a treating process to remove acidic materials. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_{20}$ through $C_{50}$, and produces a finished oil with a viscosity of at least 19 $10^{-6}$ $m^2.s^{-1}$ at 40 °C. It contains relatively few normal paraffins.) | 649-060-00-5 | 265-135-1 | 64742-34-3 | |
| Distillates (petroleum), chemically neutralised light naphthenic; Unrefined or mildly refined base oil<br>(A complex combination of hydrocarbons produced by a treating process to remove acidic materials. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_{15}$ through $C_{30}$, and produces a finished oil with a viscosity of less than 19 $10^{-6}$ $m^2.s^{-1}$ at 40 °C. It contains relatively few normal paraffins.) | 649-061-00-0 | 265-136-7 | 64742-35-4 | |
| Gases (petroleum), catalytic cracked naphtha depropaniser overhead, $C_3$-rich acid-free; Petroleum gas<br>(A complex combination of hydrocarbons obtained from fractionation of catalytic cracked hydrocarbons and treated to remove acidic impurities. It consists of hydrocarbons having carbon numbers in the range of $C_2$ through $C_4$, predominantly $C_3$.) | 649-062-00-6 | 270-755-0 | 68477-73-6 | H, K |
| Gases (petroleum), catalytic cracker; Petroleum gas<br>(A complex combination of hydrocarbons produced by the distillation of the products from a catalytic cracking process. It consists predominantly of aliphatic hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_6$.) | 649-063-00-1 | 270-756-6 | 68477-74-7 | H, K |
| Gases (petroleum), catalytic cracker, $C_{1-5}$-rich; Petroleum gas<br>(A complex combination of hydrocarbons produced by the distillation of products from a catalytic cracking process. It consists of aliphatic hydrocarbons having carbon numbers in the range of $C_1$ through $C_6$, predominantly $C_1$ through $C_5$.) | 649-064-00-7 | 270-757-1 | 68477-75-8 | H, K |
| Gases (petroleum), catalytic polymd. naphtha stabiliser overhead, $C_{2-4}$-rich; Petroleum gas<br>(A complex combination of hydrocarbons obtained from the fractionation stabilisation of catalytic polymerised naphtha. It consists of aliphatic hydrocarbons having carbon numbers in the range of $C_2$ through $C_6$, predominantly $C_2$ through $C_4$.) | 649-065-00-2 | 270-758-7 | 68477-76-9 | H, K |
| Gases (petroleum), catalytic reformer, $C_{1-4}$-rich; Petroleum gas<br>(A complex combination of hydrocarbons produced by distillation of products from a catalytic reforming process. It consists of hydrocarbons having carbon numbers in the range of $C_1$ through $C_6$, predominantly $C_1$ through $C_4$.) | 649-066-00-8 | 270-760-8 | 68477-79-2 | H, K |

| Substances | Index No | EC No | CAS No | Notes |
|---|---|---|---|---|
| Gases (petroleum), $C_{3-5}$ olefinic-paraffinic alkylation feed; Petroleum gas<br>(A complex combination of olefinic and paraffinic hydrocarbons having carbon numbers in the range of $C_3$ through $C_5$ which are used as alkylation feed. Ambient temperatures normally exceed the critical temperature of these combinations.) | 649-067-00-3 | 270-765-5 | 68477-83-8 | H, K |
| Gases (petroleum), $C_4$-rich; Petroleum gas<br>(A complex combination of hydrocarbons produced by distillation of products from a catalytic fractionation process. It consists of aliphatic hydrocarbons having carbon numbers in the range of $C_3$ through $C_5$, predominantly $C_4$.) | 649-068-00-9 | 270-767-6 | 68477-85-0 | H, K |
| Gases (petroleum), deethaniser overheads; Petroleum gas<br>(A complex combination of hydrocarbons produced from distillation of the gas and gasoline fractions from the catalytic cracking process. It contains predominantly ethane and ethylene.) | 649-069-00-4 | 270-768-1 | 68477-86-1 | H, K |
| Gases (petroleum), deisobutaniser tower overheads; Petroleum gas<br>(A complex combination of hydrocarbons produced by the atmospheric distillation of a butane-butylene stream. It consists of aliphatic hydrocarbons having carbon numbers predominantly in the range of $C_3$ through $C_4$.) | 649-070-00-X | 270-769-7 | 68477-87-2 | H, K |
| Gases (petroleum), depropaniser dry, propene-rich; Petroleum gas<br>(A complex combination of hydrocarbons produced by the distillation of products from the gas and gasoline fractions of a catalytic cracking process. It consists predominantly of propylene with some ethane and propane.) | 649-071-00-5 | 270-772-3 | 68477-90-7 | H, K |
| Gases (petroleum), depropaniser overheads; Petroleum gas<br>(A complex combination of hydrocarbons produced by distillation of products from the gas and gasoline fractions of a catalytic cracking process. It consists of aliphatic hydrocarbons having carbon numbers predominantly in the range of $C_2$ through $C_4$.) | 649-072-00-0 | 270-773-9 | 68477-91-8 | H, K |
| Gases (petroleum), gas recovery plant depropaniser overheads; Petroleum gas<br>(A complex combination of hydrocarbons obtained by fractionation of miscellaneous hydrocarbon streams. It consists predominantly of hydrocarbons having carbon numbers in the range of $C_1$ through $C_4$, predominantly propane.) | 649-073-00-6 | 270-777-0 | 68477-94-1 | H, K |

| Substances | Index No | EC No | CAS No | Notes |
|---|---|---|---|---|
| Gases (petroleum), Girbatol unit feed; Petroleum gas<br>(A complex combination of hydrocarbons that is used as the feed into the Girbatol unit to remove hydrogen sulfide. It consists of aliphatic hydrocarbons having carbon numbers predominantly in the range of $C_2$ through $C_4$.) | 649-074-00-1 | 270-778-6 | 68477-95-2 | H, K |
| Gases (petroleum), isomerised naphtha fractionator, $C_4$-rich, hydrogen sulfide-free; Petroleum gas | 649-075-00-7 | 270-782-8 | 68477-99-6 | H, K |
| Tail gas (petroleum), catalytic cracked clarified oil and thermal cracked vacuum residue fractionation reflux drum; Petroleum gas<br>(A complex combination of hydrocarbons obtained from fractionation of catalytic cracked clarified oil and thermal cracked vacuum residue. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_6$.) | 649-076-00-2 | 270-802-5 | 68478-21-7 | H, K |
| Tail gas (petroleum), catalytic cracked naphtha stabilisation absorber; Petroleum gas<br>(A complex combination of hydrocarbons obtained from the stabilisation of catalytic cracked naphtha. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_6$.) | 649-077-00-8 | 270-803-0 | 68478-22-8 | H, K |
| Tail gas (petroleum), catalytic cracker, catalytic reformer and hydrodesulphuriser combined fractionater; Petroleum gas<br>(A complex combination of hydrocarbons obtained from the fractionation of products from catalytic cracking, catalytic reforming and hydrodesulphurising processes treated to remove acidic impurities. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_5$.) | 649-078-00-3 | 270-804-6 | 68478-24-0 | H, K |
| Tail gas (petroleum), catalytic reformed naphtha fractionation stabiliser; Petroleum gas<br>(A complex combination of hydrocarbons obtained from the fractionation stabilisation of catalytic reformed naphtha. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_4$.) | 649-079-00-9 | 270-806-7 | 68478-26-2 | H, K |
| Tail gas (petroleum), saturate gas plant mixed stream, $C_4$-rich; Petroleum gas<br>(A complex combination of hydrocarbons obtained from the fractionation stabilisation of straight-run naphtha, distillation tail gas and catalytic reformed naphtha stabiliser tail gas. It consists of hydrocarbons having carbon numbers in the range of $C_3$ through $C_6$, predominantly butane and isobutane.) | 649-080-00-4 | 270-813-5 | 68478-32-0 | H, K |
| Tail gas (petroleum), saturate gas recovery plant, $C_{1-2}$-rich; Petroleum gas<br>(A complex combination of hydrocarbons obtained from fractionation of distillate tail gas, straight-run naphtha, catalytic reformed naphtha stabiliser tail gas. It consists predominantly of hydrocarbons having carbon numbers in the range of $C_1$ through $C_5$, predominantly methane and ethane.) | 649-081-00-X | 270-814-0 | 68478-33-1 | H, K |

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|---|---|---|---|---|
| Tail gas (petroleum), vacuum residues thermal cracker; Petroleum gas<br>(A complex combination of hydrocarbons obtained from the thermal cracking of vacuum residues. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_5$.) | 649-082-00-5 | 270-815-6 | 68478-34-2 | H, K |
| Hydrocarbons, $C_{3-4}$-rich, petroleum distillate; Petroleum gas<br>(A complex combination of hydrocarbons produced by distillation and condensation of crude oil. It consists of hydrocarbons having carbon numbers in the range of $C_3$ through $C_5$, predominantly $C_3$ through $C_4$.) | 649-083-00-0 | 270-990-9 | 68512-91-4 | H, K |
| Gases (petroleum), full-range straight-run naphtha dehexaniser off; Petroleum gas<br>(A complex combination of hydrocarbons obtained by the fractionation of the full-range straight-run naphtha. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_2$ through $C_6$.) | 649-084-00-6 | 271-000-8 | 68513-15-5 | H, K |
| Gases (petroleum), hydrocracking depropaniser off, hydrocarbon-rich; Petroleum gas<br>(A complex combination of hydrocarbon produced by the distillation of products from a hydrocracking process. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_4$. It may also contain small amounts of hydrogen and hydrogen sulfide.) | 649-085-00-1 | 271-001-3 | 68513-16-6 | H, K |
| Gases (petroleum), light straight-run naphtha stabiliser off; Petroleum gas<br>(A complex combination of hydrocarbons obtained by the stabilisation of light straight-run naphtha. It consists of saturated aliphatic hydrocarbons having carbon numbers predominantly in the range of $C_2$ through $C_6$.) | 649-086-00-7 | 271-002-9 | 68513-17-7 | H, K |
| Residues (petroleum), alkylation splitter, $C_4$-rich; Petroleum gas<br>(A complex residuum from the distillation of streams from various refinery operations. It consists of hydrocarbons having carbon numbers in the range of $C_4$ through $C_5$, predominantly butane, and boiling in the range of approximately -11,7 °C to 27,8 °C.) | 649-087-00-2 | 271-010-2 | 68513-66-6 | H, K |
| Hydrocarbons, $C_{1-4;}$ Petroleum gas<br>(A complex combination of hydrocarbons provided by thermal cracking and absorber operations and by distillation of crude oil. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_4$ and boiling in the range of approximately - 164 °C to - 0,5 ° C.) | 649-088-00-8 | 271-032-2 | 68514-31-8 | H, K |
| Hydrocarbons, $C_{1-4}$, sweetened; Petroleum gas<br>(A complex combination of hydrocarbons obtained by subjecting hydrocarbon gases to a sweetening process to convert mercaptans or to remove acidic impurities. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_4$ and boiling in the range of approximately - 164 °C to - 0,5 °C.) | 649-089-00-3 | 271-038-5 | 68514-36-3 | H, K |

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|---|---|---|---|---|
| Hydrocarbons, $C_{1-3}$; Petroleum gas<br>(A complex combination of hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_3$ and boiling in the range of approximately - 164 °C to - 42 °C.) | 649-090-00-9 | 271-259-7 | 68527-16-2 | H, K |
| Hydrocarbons, $C_{1-4}$, debutaniser fraction; Petroleum gas | 649-091-00-4 | 271-261-8 | 68527-19-5 | H, K |
| Gases (petroleum), $C_{1-5}$, wet; Petroleum gas<br>(A complex combination of hydrocarbons produced by the distillation of crude oil and/or the cracking of tower gas oil. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_5$.) | 649-092-00-X | 271-624-0 | 68602-83-5 | H, K |
| Hydrocarbons, $C_{2-4}$; Petroleum gas | 649-093-00-5 | 271-734-9 | 68606-25-7 | H, K |
| Hydrocarbons, $C_3$; Petroleum gas | 649-094-00-0 | 271-735-4 | 68606-26-8 | H, K |
| Gases (petroleum), alkylation feed; Petroleum gas<br>(A complex combination of hydrocarbons produced by the catalytic cracking of gas oil. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_3$ through $C_4$.) | 649-095-00-6 | 271-737-5 | 68606-27-9 | H, K |
| Gases (petroleum), depropaniser bottoms fractionation off; Petroleum gas<br>(A complex combination of hydrocarbons obtained from the fractionation of depropaniser bottoms. It consists predominantly of butane, isobutane and butadiene.) | 649-096-00-1 | 271-742-2 | 68606-34-8 | H, K |
| Gases (petroleum), refinery blend; Petroleum gas<br>(A complex combination obtained from various processes. It consists of hydrogen, hydrogen sulfide and hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_5$.) | 649-097-00-7 | 272-183-7 | 68783-07-3 | H, K |
| Gases (petroleum), catalytic cracking; Petroleum gas<br>(A complex combination of hydrocarbons produced by the distillation of the products from a catalytic cracking process. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of $C_3$ through $C_5$.) | 649-098-00-2 | 272-203-4 | 68783-64-2 | H, K |
| Gases (petroleum), $C_{2-4}$, sweetened; Petroleum gas<br>(A complex combination of hydrocarbons obtained by subjecting a petroleum distillate to a sweetening process to convert mercaptans or to remove acidic impurities. It consists predominantly of saturated and unsaturated hydrocarbons having carbon numbers predominantly in the range of $C_2$ through $C_4$ and boiling in the range of approximately - 51 °C to - 34 °C.) | 649-099-00-8 | 272-205-5 | 68783-65-3 | H, K |

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|---|---|---|---|---|
| Gases (petroleum), crude oil fractionation off; Petroleum gas<br>(A complex combination of hydrocarbons produced by the fractionation of crude oil. It consists of saturated aliphatic hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_5$.) | 649-100-00-1 | 272-871-7 | 68918-99-0 | H, K |
| Gases (petroleum), dehexaniser off; Petroleum gas<br>(A complex combination of hydrocarbons obtained by the fractionation of combined naphtha streams. It consists of saturated aliphatic hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_5$.) | 649-101-00-7 | 272-872-2 | 68919-00-6 | H, K |
| Gases (petroleum), light straight run gasoline fractionation stabiliser off; Petroleum gas<br>(A complex combination of hydrocarbons obtained by the fractionation of light straight-run gasoline. It consists of saturated aliphatic hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_5$.) | 649-102-00-2 | 272-878-5 | 68919-05-1 | H, K |
| Gases (petroleum), naphtha unifiner desulphurisation stripper off; Petroleum gas<br>(A complex combination of hydrocarbons produced by a naphtha unifiner desulphurisation process and stripped from the naphtha product. It consists of saturated aliphatic hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_4$.) | 649-103-00-8 | 272-879-0 | 68919-06-2 | H, K |
| Gases (petroleum), straight-run naphtha catalytic reforming off; Petroleum gas<br>(A complex combination of hydrocarbons obtained by the catalytic reforming of straight-run naphtha and fractionation of the total effluent. It consists of methane, ethane, and propane.) | 649-104-00-3 | 272-882-7 | 68919-09-5 | H, K |
| Gases (petroleum), fluidised catalytic cracker splitter overheads; Petroleum gas<br>(A complex combination of hydrocarbons produced by the fractionation of the charge to the $C_3$-$C_4$ splitter. It consists predominantly of $C_3$ hydrocarbons.) | 649-105-00-9 | 272-893-7 | 68919-20-0 | H, K |
| Gases (petroleum), straight-run stabiliser off; Petroleum gas<br>(A complex combination of hydrocarbons obtained from the fractionation of the liquid from the first tower used in the distillation of crude oil. It consists of saturated aliphatic hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_4$.) | 649-106-00-4 | 272-883-2 | 68919-10-8 | H, K |
| Gases (petroleum), catalytic cracked naphtha debutaniser; Petroleum gas<br>(A complex combination of hydrocarbons obtained from fractionation of catalytic cracked naphtha. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_4$.) | 649-107-00-X | 273-169-3 | 68952-76-1 | H, K |

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|---|---|---|---|---|
| Tail gas (petroleum), catalytic cracked distillate and naphtha stabiliser; Petroleum gas<br>(A complex combination of hydrocarbons obtained by the fractionation of catalytic cracked naphtha and distillate. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_4$.) | 649-108-00-5 | 273-170-9 | 68952-77-2 | H, K |
| Tail gas (petroleum), thermal-cracked distillate, gas oil and naphtha absorber; Petroleum gas<br>(A complex combination of hydrocarbons obtained from the separation of thermal-cracked distillates, naphtha and gas oil. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_6$.) | 649-109-00-0 | 273-175-6 | 68952-81-8 | H, K |
| Tail gas (petroleum), thermal cracked hydrocarbon fractionation stabiliser, petroleum coking; Petroleum gas<br>(A complex combination of hydrocarbons obtained from the fractionation stabilisation of thermal cracked hydrocarbons from a petroleum coking process. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_6$.) | 649-110-00-6 | 273-176-1 | 68952-82-9 | H, K |
| Gases (petroleum, light steam-cracked, butadiene conc.; Petroleum gas<br>(A complex combination of hydrocarbons produced by the distillation of products from a thermal cracking process. It consists of hydrocarbons having a carbon number predominantly of $C_4$.) | 649-111-00-1 | 273-265-5 | 68955-28-2 | H, K |
| Gases (petroleum), straight-run naphtha catalytic reformer stabiliser overhead; Petroleum gas<br>(A complex combination of hydrocarbons obtained by the catalytic reforming of straight-run naphtha and the fractionation of the total effluent. It consists of saturated aliphatic hydrocarbons having carbon numbers predominantly in the range of $C_2$ through $C_4$.) | 649-112-00-7 | 273-270-2 | 68955-34-0 | H, K |
| Hydrocarbons, $C_4$; Petroleum gas | 649-113-00-2 | 289-339-5 | 27741-01-3 | H, K |
| Alkanes, $C_{1-4}$, $C_3$-rich; Petroleum gas | 649-114-00-8 | 292-456-4 | 90622-55-2 | H, K |
| Gases (petroleum), steam-cracker $C_3$-rich; Petroleum gas<br>(A complex combination of hydrocarbons produced by the distillation of products from a steam cracking process. It consists predominantly of propylene with some propane and boils in the range of approximately - 70 °C to 0 °C.) | 649-115-00-3 | 295-404-9 | 92045-22-2 | H, K |
| Hydrocarbons, $C_4$, steam-cracker distillate; Petroleum gas<br>(A complex combination of hydrocarbons produced by the distillation of the products of a steam cracking process. It consists predominantly of hydrocarbons having a carbon number of $C_4$, predominantly 1-butene and 2-butene, containing also butane and isobutene and boiling in the range of approximately - 12 °C to 5 °C.) | 649-116-00-9 | 295-405-4 | 92045-23-3 | H, K |

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|---|---|---|---|---|
| Petroleum gases, liquefied, sweetened, $C_4$ fraction; Petroleum gas<br>(A complex combination of hydrocarbons obtained by subjecting a liquified petroleum gas mix to a sweetening process to oxidise mercaptans or to remove acidic impurities. It consists predominantly of $C_4$ saturated and unsaturated hydrocarbons.) | 649-117-00-4 | 295-463-0 | 92045-80-2 | H, K |
| Raffinates (petroleum), steam-cracked $C_4$ fraction cuprous ammonium acetate extraction, $C_{3-5}$ and $C_{3-5}$ unsaturated, butadiene-free; Petroleum gas | 649-119-00-5 | 307-769-4 | 97722-19-5 | H, K |
| Gases (petroleum), amine system feed; Refinery gas<br>(The feed gas to the amine system for removal of hydrogen sulphide. It consists primarily of hydrogen. Carbon monoxide, carbon dioxide, hydrogen sulfide and aliphatic hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_5$ may also be present.) | 649-120-00-0 | 270-746-1 | 68477-65-6 | H, K |
| Gases (petroleum), benzene unit hydrodesulphuriser off; Refinery gas<br>(Off gases produced by the benzene unit. It consists primarily of hydrogen. Carbon monoxide and hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_6$, including benzene, may also be present.) | 649-121-00-6 | 270-747-7 | 68477-66-7 | H, K |
| Gases (petroleum), benzene unit recycle, hydrogen-rich; Refinery gas<br>(A complex combination of hydrocarbons obtained by recycling the gases of the benzene unit. It consists primarily of hydrogen with various small amounts of carbon monoxide and hydrocarbons having carbon numbers in the range of $C_1$ through $C_6$.) | 649-122-00-1 | 270-748-2 | 68477-67-8 | H, K |
| Gases (petroleum), blend oil, hydrogen-nitrogen-rich; Refinery gas<br>(A complex combination of hydrocarbons obtained by distillation of a blend oil. It consists primarily of hydrogen and nitrogen with various small amounts of carbon monoxide, carbon dioxide, and aliphatic hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_5$.) | 649-123-00-7 | 270-749-8 | 68477-68-9 | H, K |
| Gases (petroleum), catalytic reformed naphtha stripper overheads; Refinery gas<br>(A complex combination of hydrocarbons obtained from stabilisation of catalytic reformed naphtha. It consists of hydrogen and saturated hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_4$.) | 649-124-00-2 | 270-759-2 | 68477-77-0 | H, K |

| Substances | Index No | EC No | CAS No | Notes |
|---|---|---|---|---|
| Gases (petroleum), $C_{6-8}$ catalytic reformer recycle; Refinery gas<br>(A complex combination of hydrocarbons produced by distillation of products from catalytic reforming of $C_6$-$C_8$ feed and recycled to conserve hydrogen. It consists primarily of hydrogen. It may also contain various small amounts of carbon monoxide, carbon dioxide, nitrogen, and hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_6$.) | 649-125-00-8 | 270-760-3 | 68477-80-5 | H, K |
| Gases (petroleum), $C_{6-8}$ catalytic reformer; Refinery gas<br>(A complex combination of hydrocarbons produced by distillation of products from catalytic reforming of $C_6$-$C_8$ feed. It consists of hydrocarbons having carbon numbers in the range of $C_1$ through $C_5$ and hydrogen.) | 649-126-00-3 | 270-762-9 | 68477-81-6 | H, K |
| Gases (petroleum), $C_{6-8}$ catalytic reformer recycle, hydrogen-rich; Refinery gas | 649-127-00-9 | 270-763-4 | 68477-82-7 | H, K |
| Gases (petroleum), $C_2$-return stream; Refinery gas<br>(A complex combination of hydrocarbons obtained by the extraction of hydrogen from a gas stream which consists primarily of hydrogen with small amounts of nitrogen, carbon monoxide, methane, ethane, and ethylene. It contains predominantly hydrocarbons such as methane, ethane, and ethylene with small amounts of hydrogen, nitrogen and carbon monoxide.) | 649-128-00-4 | 270-766-0 | 68477-84-9 | H, K |
| Gases (petroleum), dry sour, gas-concentration-unit-off; Refinery gas<br>(The complex combination of dry gases from a gas concentration unit. It consists of hydrogen, hydrogen sulphide and hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_3$.) | 649-129-00-X | 270-774-4 | 68477-92-9 | H, K |
| Gases (petroleum), gas concentration reabsorber distillation; Refinery gas<br>(A complex combination of hydrocarbons produced by distillation of products from combined gas streams in a gas concentration reabsorber. It consists predominantly of hydrogen, carbon monoxide, carbon dioxide, nitrogen, hydrogen sulphide and hydrocarbons having carbon numbers in the range of $C_1$ through $C_3$.) | 649-130-00-5 | 270-776-5 | 68477-93-0 | H, K |
| Gases (petroleum), hydrogen absorber off; Refinery gas<br>(A complex combination obtained by absorbing hydrogen from a hydrogen rich stream. It consists of hydrogen, carbon monoxide, nitrogen, and methane with small amounts of $C_2$ hydrocarbons.) | 649-131-00-0 | 270-779-1 | 68477-96-3 | H, K |
| Gases (petroleum), hydrogen-rich; Refinery gas<br>(A complex combination separated as a gas from hydrocarbon gases by chilling. It consists primarily of hydrogen with various small amounts of carbon monoxide, nitrogen, methane, and $C_2$ hydrocarbons.) | 649-132-00-6 | 270-780-7 | 68477-97-4 | H, K |

| Substances | Index No | EC No | CAS No | Notes |
|---|---|---|---|---|
| Gases (petroleum), hydrotreater blend oil recycle, hydrogen-nitrogen-rich; Refinery gas<br>(A complex combination obtained from recycled hydrotreated blend oil. It consists primarily of hydrogen and nitrogen with various small amounts of carbon monoxide, carbon dioxide and hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_5$.) | 649-133-00-1 | 270-781-2 | 68477-98-5 | H, K |
| Gases (petroleum), recycle, hydrogen-rich; Refinery gas<br>(A complex combination obtained from recycled reactor gases. It consists primarily of hydrogen with various small amounts of carbon monoxide, carbon dioxide, nitrogen, hydrogen sulphide, and saturated aliphatic hydrocarbons having carbon numbers in the range of $C_1$ through $C_5$.) | 649-134-00-7 | 270-783-3 | 68478-00-2 | H, K |
| Gases (petroleum), reformer make-up, hydrogen-rich; Refinery gas<br>(A complex combination obtained from the reformers. It consists primarily of hydrogen with various small amounts of carbon monoxide and aliphatic hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_5$.) | 649-135-00-2 | 270-784-9 | 68478-01-3 | H, K |
| Gases (petroleum), reforming hydrotreater; Refinery gas<br>(A complex combination obtained from the reforming hydrotreating process. It consists primarily of hydrogen, methane, and ethane with various small amounts of hydrogen sulphide and aliphatic hydrocarbons having carbon numbers predominantly in the range $C_3$ through $C_5$.) | 649-136-00-8 | 270-785-4 | 68478-02-4 | H, K |
| Gases (petroleum), reforming hydrotreater, hydrogen-methane-rich; Refinery gas<br>(A complex combination obtained from the reforming hydrotreating process. It consists primarily of hydrogen and methane with various small amounts of carbon monoxide, carbon dioxide, nitrogen and saturated aliphatic hydrocarbons having carbon numbers predominantly in the range of $C_2$ through $C_5$.) | 649-137-00-3 | 270-787-5 | 68478-03-5 | H, K |
| Gases (petroleum), reforming hydrotreater make-up, hydrogen-rich; Refinery gas<br>(A complex combination obtained from the reforming hydrotreating process. It consists primarily of hydrogen with various small amounts of carbon monoxide and aliphatic hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_5$.) | 649-138-00-9 | 270-788-0 | 68478-04-6 | H, K |

| Substances | Index No | EC No | CAS No | Notes |
|---|---|---|---|---|
| Gases (petroleum), thermal cracking distillation; Refinery gas<br>(A complex combination produced by distillation of products from a thermal cracking process. It consists of hydrogen, hydrogen sulphide, carbon monoxide, carbon dioxide and hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_6$.) | 649-139-00-4 | 270-789-6 | 68478-05-7 | H, K |
| Tail gas (petroleum), catalytic cracker refractionation absorber; Refinery gas<br>(A complex combination of hydrocarbons obtained from refractionation of products from a catalytic cracking process. It consists of hydrogen and hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_3$.) | 649-140-00-X | 270-805-1 | 68478-25-1 | H, K |
| Tail gas (petroleum), catalytic reformed naphtha separator; Refinery gas<br>(A complex combination of hydrocarbons obtained from the catalytic reforming of straight-run naphtha. It consists of hydrogen and hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_6$.) | 649-141-00-5 | 270-807-2 | 68478-27-3 | H, K |
| Tail gas (petroleum), catalytic reformed naphtha stabiliser; Refinery gas<br>(A complex combination of hydrocarbons obtained from the stabilisation of catalytic reformed naphtha. It consists of hydrogen and hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_6$.) | 649-142-00-0 | 270-808-8 | 68478-28-4 | H, K |
| Tail gas (petroleum), cracked distillate hydrotreater separator; Refinery gas<br>(A complex combination of hydrocarbons obtained by treating cracked distillates with hydrogen in the presence of a catalyst. It consists of hydrogen and saturated aliphatic hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_5$.) | 649-143-00-6 | 270-809-3 | 68478-29-5 | H, K |
| Tail gas (petroleum), hydrodesulphurised straight-run naphtha separator; Refinery gas<br>(A complex combination of hydrocarbons obtained from hydrodesulphurisation of straight-run naphtha. It consists of hydrogen and saturated aliphatic hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_6$.) | 649-144-00-1 | 270-810-9 | 68478-30-8 | H, K |
| Gases (petroleum), catalytic reformed straight-run naphtha stabiliser overheads; Refinery gas<br>(A complex combination of hydrocarbons obtained from the catalytic reforming of straight-run naphtha followed by fractionation of the total effluent. It consists of hydrogen, methane, ethane and propane.) | 649-145-00-7 | 270-999-8 | 68513-14-4 | H, K |

| Substances | Index No | EC No | CAS No | Notes |
|---|---|---|---|---|
| Gases (petroleum), reformer effluent high-pressure flash drum off; Refinery gas<br>(A complex combination produced by the high-pressure flashing of the effluent from the reforming reactor. It consists primarily of hydrogen with various small amounts of methane, ethane, and propane.) | 649-146-00-2 | 271-003-4 | 68513-18-8 | H, K |
| Gases (petroleum), reformer effluent low-pressure flash drum off; Refinery gas<br>(A complex combination produced by low-pressure flashing of the effluent from the reforming reactor. It consists primarily of hydrogen with various small amounts of methane, ethane, and propane.) | 649-147-00-8 | 271-005-5 | 68513-19-9 | H, K |
| Gases (petroleum), oil refinery gas distillation off; Refinery gas<br>(A complex combination separated by distillation of a gas stream containing hydrogen, carbon monoxide, carbon dioxide and hydrocarbons having carbon numbers in the range of $C_1$ through $C_6$ or obtained by cracking ethane and propane. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_2$, hydrogen, nitrogen, and carbon monoxide.) | 649-148-00-3 | 271-258-1 | 68527-15-1 | H, K |
| Gases (petroleum), benzene unit hydrotreater depentaniser overheads; Refinery gas<br>(A complex combination produced by treating the feed from the benzene unit with hydrogen in the presence of a catalyst followed by depentanising. It consists primarily of hydrogen, ethane and propane with various small amounts of nitrogen, carbon monoxide, carbon dioxide and hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_6$. It may contain trace amounts of benzene.) | 649-149-00-9 | 271-623-5 | 68602-82-4 | H, K |
| Gases (petroleum), secondary absorber off, fluidised catalytic cracker overheads fractionator; Refinery gas<br>(A complex combination produced by the fractionation of the overhead products from the catalytic cracking process in the fluidised catalytic cracker. It consists of hydrogen, nitrogen, and hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_3$.) | 649-150-00-4 | 271-625-6 | 68602-84-6 | H, K |
| Petroleum products, refinery gases; Refinery gas<br>(A complex combination which consists primarily of hydrogen with various small amounts of methane, ethane and propane.) | 649-151-00-X | 271-750-6 | 68607-11-4 | H, K |
| Gases (petroleum), hydrocracking low-pressure separator; Refinery gas<br>(A complex combination obtained by the liquid-vapour separation of the hydrocracking process reactor effluent. It consists predominantly of hydrogen and saturated hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_3$.) | 649-152-00-5 | 272-182-1 | 68783-06-2 | H, K |

| Substances | Index No | EC No | CAS No | Notes |
|---|---|---|---|---|
| Gases (petroleum), refinery; Refinery gas<br>(A complex combination obtained from various petroleum refining operations. It consists of hydrogen and hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_3$.) | 649-153-00-0 | 272-338-9 | 68814-67-5 | H, K |
| Gases (petroleum), platformer products separator off; Refinery gas<br>(A complex combination obtained from the chemical reforming of naphthenes to aromatics. It consists of hydrogen and saturated aliphatic hydrocarbons having carbon numbers predominantly in the range of $C_2$ through $C_4$.) | 649-154-00-6 | 272-343-6 | 68814-90-4 | H, K |
| Gases (petroleum), hydrotreated sour kerosine depentaniser stabiliser off; Refinery gas<br>(The complex combination obtained from the depentaniser stabilisation of hydrotreated kerosine. It consists primarily of hydrogen, methane, ethane, and propane with various small amounts of nitrogen, hydrogen sulphide, carbon monoxide and hydrocarbons having carbon numbers predominantly in the range of $C_4$ through $C_5$.) | 649-155-00-1 | 272-775-5 | 68911-58-0 | H, K |
| Gases (petroleum), hydrotreated sour kerosine flash drum; Refinery gas<br>(A complex combination obtained from the flash drum of the unit treating sour kerosine with hydrogen in the presence of a catalyst. It consists primarily of hydrogen and methane with various small amounts of nitrogen, carbon monoxide, and hydro-carbons having carbon numbers predominantly in the range of $C_2$ through $C_5$.) | 649-156-00-7 | 272-776-0 | 68911-59-1 | H, K |
| Gases (petroleum), distillate unifiner desulphurisation stripper off; Refinery gas<br>(A complex combination stripped from the liquid product of the unifiner desulphurisation process. It consists of hydrogen sulphide, methane, ethane, and propane.) | 649-157-00-2 | 272-873-8 | 68919-01-7 | H, K |
| Gases (petroleum), fluidised catalytic cracker fractionation off; Refinery gas<br>(A complex combination produced by the fractionation of the overhead product of the fluidised catalytic cracking process. It consists of hydrogen, hydrogen sulphide, nitrogen, and hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_5$.) | 649-158-00-8 | 272-874-3 | 68919-02-8 | H, K |
| Gases (petroleum), fluidised catalytic cracker scrubbing secondary absorber off; Refinery gas<br>(A complex combination produced by scrubbing the overhead gas from the fluidised catalytic cracker. It consists of hydrogen, nitrogen, methane, ethane and propane.) | 649-159-00-3 | 272-875-9 | 68919-03-9 | H, K |
| Gases (petroleum), heavy distillate hydrotreater desulphurisation stripper off; Refinery gas<br>(A complex combination stripped from the liquid product of the heavy distillate hydrotreater desulphurisation process. It consists of hydrogen, hydrogen sulphide, and saturated aliphatic hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_5$.) | 649-160-00-9 | 272-876-4 | 68919-04-0 | H, K |

| Substances | Index No | EC No | CAS No | Notes |
|---|---|---|---|---|
| Gases (petroleum), platformer stabiliser off, light ends fractionation; Refinery gas<br>(A complex combination obtained by the fractionation of the light ends of the platinum reactors of the platformer unit. It consists of hydrogen, methane, ethane and propane.) | 649-161-00-4 | 272-880-6 | 68919-07-3 | H, K |
| Gases (petroleum), preflash tower off, crude distillation; Refinery gas<br>(A complex combination produced from the first tower used in the distillation of crude oil. It consists of nitrogen and saturated aliphatic hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_5$.) | 649-162-00-X | 272-881-1 | 68919-08-4 | H, K |
| Gases (petroleum), tar stripper off; Refinery gas<br>(A complex combination obtained by the fractionation of reduced crude oil. It consists of hydrogen and hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_4$.) | 649-163-00-5 | 272-884-8 | 68919-11-9 | H, K |
| Gases (petroleum), unifiner stripper off; Refinery gas<br>(A combination of hydrogen and methane obtained by fractionation of the products from the unifiner unit.) | 649-164-00-0 | 272-885-3 | 68919-12-0 | H, K |
| Tail gas (petroleum), catalytic hydrodesulphurised naphtha separator; Refinery gas<br>(A complex combination of hydrocarbons obtained from the hydrodesulphurisation of naphtha. It consists of hydrogen, methane, ethane, and propane.) | 649-165-00-6 | 273-173-5 | 68952-79-4 | H, K |
| Tail gas (petroleum), straight-run naphtha hydrodesulphuriser; Refinery gas<br>(A complex combination obtained from the hydrodesulphurisation of straight-run naphtha. It consists of hydrogen and hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_5$.) | 649-166-00-1 | 273-174-0 | 68952-80-7 | H, K |
| Gases (petroleum), sponge absorber off, fluidised catalytic cracker and gas oil desulphuriser overhead fractionation; Refinery gas<br>(A complex combination obtained by the fractionation of products from the fluidised catalytic cracker and gas oil desulphuriser. It consists of hydrogen and hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_4$.) | 649-167-00-7 | 273-269-7 | 68955-33-9 | H, K |
| Gases (petroleum), crude distillation and catalytic cracking; Refinery gas<br>(A complex combination produced by crude distillation and catalytic cracking processes. It consists of hydrogen, hydrogen sulphide, nitrogen, carbon monoxide and paraffinic and olefinic hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_6$.) | 649-168-00-2 | 273-563-5 | 68989-88-8 | H, K |

| Substances | Index No | EC No | CAS No | Notes |
|---|---|---|---|---|
| Gases (petroleum), gas oil diethanolamine scrubber off; Refinery gas<br>(A complex combination produced by desulphurisation of gas oils with diethanolamine. It consists predominantly of hydrogen sulphide, hydrogen and aliphatic hydrocarbons having carbon numbers in the range of $C_1$ through $C_5$.) | 649-169-00-8 | 295-397-2 | 92045-15-3 | H, K |
| Gases (petroleum), gas oil hydrodesulphurisation effluent; Refinery gas<br>(A complex combination obtained by separation of the liquid phase from the effluent from the hydrogenation reaction. It consists predominantly of hydrogen, hydrogen sulphide and aliphatic hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_3$.) | 649-170-00-3 | 295-398-8 | 92045-16-4 | H, K |
| Gases (petroleum), gas oil hydrodesulphurisation purge; Refinery gas<br>(A complex combination of gases obtained from the reformer and from the purges from the hydrogenation reactor. It consists predominantly of hydrogen and aliphatic hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_4$.) | 649-171-00-9 | 295-399-3 | 92045-17-5 | H, K |
| Gases (petroleum), hydrogenator effluent flash drum off; Refinery gas<br>(A complex combination of gases obtained from flash of the effluents after the hydrogenation reaction. It consists predominantly of hydrogen and aliphatic hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_6$.) | 649-172-00-4 | 295-400-7 | 92045-18-6 | H, K |
| Gases (petroleum), naphtha steam cracking high-pressure residual; Refinery gas<br>(A complex combination obtained as a mixture of the non-condensable portions from the product of a naphtha steam cracking process as well as residual gases obtained during the preparation of subsequent products. It consists predominantly of hydrogen and paraffinic and olefinic hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_5$ with which natural gas may also be mixed.) | 649-173-00-X | 295-401-2 | 92045-19-7 | H, K |
| Gases (petroleum), residue visbaking off; Refinery gas<br>(A complex combination obtained from viscosity reduction of residues in a furnace. It consists predominantly of hydrogen sulphide and paraffinic and olefinic hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_5$.) | 649-174-00-5 | 295-402-8 | 92045-20-0 | H, K |
| Gases (petroleum), $C_{3-4}$; Petroleum gas<br>(A complex combination of hydrocarbons produced by distillation of products from the cracking of crude oil. It consists of hydrocarbons having carbon numbers in the range of $C_3$ through $C_4$, predominantly of propane and propylene, and boiling in the range of approximately - 51 °C to - 1 °C.) | 649-177-00-1 | 268-629-5 | 68131-75-9 | H, K |

| Substances | Index No | EC No | CAS No | Notes |
|---|---|---|---|---|
| Tail gas (petroleum), catalytic cracked distillate and catalytic cracked naphtha fractionation absorber; Petroleum gas<br>(The complex combination of hydrocarbons from the distillation of the products from catalytic cracked distillates and catalytic cracked naphtha. It consists predominantly of hydrocarbons having carbon numbers in the range of $C_1$ through $C_4$.) | 649-178-00-7 | 269-617-2 | 68307-98-2 | H, K |
| Tail gas (petroleum), catalytic polymerisation naphtha fractionation stabiliser; Petroleum gas<br>(A complex combination of hydrocarbons from the fractionation stabilisation products from polymerisation of naphtha. It consists predominantly of hydrocarbons having carbon numbers in the range of $C_1$ through $C_4$.) | 649-179-00-2 | 269-618-8 | 68307-99-3 | H, K |
| Tail gas (petroleum), catalytic reformed naphtha fractionation stabiliser, hydrogen sulphide-free; Petroleum gas<br>(A complex combination of hydrocarbons obtained from fractionation stabilisation of catalytic reformed naphtha and from which hydrogen sulphide has been removed by amine treatment. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_4$.) | 649-180-00-8 | 269-619-3 | 68308-00-9 | H, K |
| Tail gas (petroleum), cracked distillate hydrotreater stripper; Petroleum gas<br>(A complex combination of hydrocarbons obtained by treating thermal cracked distillates with hydrogen in the presence of a catalyst. It consists predominantly of saturated hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_6$.) | 649-181-00-3 | 269-620-9 | 68308-01-0 | H, K |
| Tail gas (petroleum), straight-run distillate hydrodesulphuriser, hydrogen sulphide-free; Petroleum gas<br>(A complex combination of hydrocarbons obtained from catalytic hydrodesulphurisation of straight run distillates and from which hydrogen sulphide has been removed by amine treatment. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_4$.) | 649-182-00-9 | 269-630-3 | 68308-10-1 | H, K |
| Tail gas (petroleum), gas oil catalytic cracking absorber; Petroleum gas<br>(A complex combination of hydrocarbons obtained from the distillation of products from the catalytic cracking of gas oil. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_5$.) | 649-183-00-4 | 269-623-5 | 68308-03-2 | H, K |
| Tail gas (petroleum), gas recovery plant; Petroleum gas<br>(A complex combination of hydrocarbons from the distillation of products from miscellaneous hydrocarbon streams. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_5$.) | 649-184-00-X | 269-624-0 | 68308-04-3 | H, K |

| Substances | Index No | EC No | CAS No | Notes |
|---|---|---|---|---|
| Tail gas (petroleum), gas recovery plant deethaniser; Petroleum gas<br>(A complex combination of hydrocarbons from the distillation of products from miscellaneous hydrocarbon streams. It consists of hydrocarbon having carbon numbers predominantly in the range of $C_1$ through $C_4$.) | 649-185-00-5 | 269-625-6 | 68308-05-4 | H, K |
| Tail gas (petroleum), hydrodesulphurised distillate and hydrodesulphurised naphtha fractionator, acid-free; Petroleum gas<br>(A complex combination of hydrocarbons obtained from fractionation of hydrodesulphurised naphtha and distillate hydrocarbon streams and treated to remove acidic impurities. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_5$.) | 649-186-00-0 | 269-626-1 | 68308-06-5 | H, K |
| Tail gas (petroleum), hydrodesulphurised vacuum gas oil stripper, hydrogen sulphide-free; Petroleum gas<br>(A complex combination of hydrocarbons obtained from stripping stabilisation of catalytic hydrodesulphurised vacuum gas oil and from which hydrogen sulphide has been removed by amine treatment. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_6$.) | 649-187-00-6 | 269-627-7 | 68308-07-6 | H, K |
| Tail gas (petroleum), light straight-run naphtha stabiliser, hydrogen sulphide-free; Petroleum gas<br>(A complex combination of hydrocarbons obtained from fractionation stabilisation of light straight-run naphtha and from which hydrogen sulphide has been removed by amine treatment. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_5$.) | 649-188-00-1 | 269-629-8 | 68308-09-8 | H, K |
| Tail gas (petroleum), propane-propylene alkylation feed prep deethaniser; Petroleum gas<br>(A complex combination of hydrocarbons obtained from the distillation of the reaction products of propane with propylene. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_4$.) | 649-189-00-7 | 269-631-9 | 68308-11-2 | H, K |
| Tail gas (petroleum), vacuum gas oil hydrodesulphuriser, hydrogen sulphide-free; Petroleum gas<br>(A complex combination of hydrocarbons obtained from catalytic hydrodesulphurisation of vacuum gas oil and from which hydrogen sulphide has been removed by amine treatment. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_6$.) | 649-190-00-2 | 269-632-4 | 68308-12-3 | H, K |
| Gases (petroleum), catalytic cracked overheads; Petroleum gas<br>(A complex combination of hydrocarbons produced by the distillation of products from the catalytic cracking process. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_3$ through $C_5$ and boiling in the range of approximately - 48 °C to 32 °C.) | 649-191-00-8 | 270-071-2 | 68409-99-4 | H, K |

| Substances | Index No | EC No | CAS No | Notes |
|---|---|---|---|---|
| Alkanes, $C_{1-2}$; Petroleum gas | 649-193-00-9 | 270-651-5 | 68475-57-0 | H, K |
| Alkanes, $C_{2-3}$; Petroleum gas | 649-194-00-4 | 270-652-0 | 68475-58-1 | H, K |
| Alkanes, $C_{3-4}$; Petroleum gas | 649-195-00-X | 270-653-6 | 68475-59-2 | H, K |
| Alkanes, $C_{4-5}$; Petroleum gas | 649-196-00-5 | 270-654-1 | 68475-60-5 | H, K |
| Fuel gases; Petroleum gas<br>(A combination of light gases. It consists predominantly of hydrogen and/or low molecular weight hydrocarbons.) | 649-197-00-0 | 270-667-2 | 68476-26-6 | H, K |
| Fuel gases, crude oil of distillates; Petroleum gas<br>(A complex combination of light gases produced by distillation of crude oil and by catalytic reforming of naphtha. It consists of hydrogen and hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_4$ and boiling in the range of approximately - 217 °C to - 12 °C.) | 649-198-00-6 | 270-670-9 | 68476-29-9 | H, K |
| Hydrocarbons, $C_{3-4}$; Petroleum gas | 649-199-00-1 | 270-681-9 | 68476-40-4 | H, K |
| Hydrocarbons, $C_{4-5}$; Petroleum gas | 649-200-00-5 | 270-682-4 | 68476-42-6 | H, K |
| Hydrocarbons, $C_{2-4}$, $C_3$-rich; Petroleum gas | 649-201-00-0 | 270-689-2 | 68476-49-3 | H, K |
| Petroleum gases, liquefied; Petroleum gas<br>(A complex combination of hydrocarbons produced by the distillation of crude oil. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_3$ through $C_7$ and boiling in the range of approximately - 40 °C to 80 °C.) | 649-202-00-6 | 270-704-2 | 68476-85-7 | H, K, S |
| Petroleum gases, liquefied, sweetened; Petroleum gas<br>(A complex combination of hydrocarbons obtained by subjecting liquefied petroleum gas mix to a sweetening process to convert mercaptans or to remove acidic impurities. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_3$ through $C_7$ and boiling in the range of approximately - 40 °C to 80 °C.) | 649-203-00-1 | 270-705-8 | 68476-86-8 | H, K, S |
| Gases (petroleum), $C_{3-4}$, isobutane-rich; Petroleum gas<br>(A complex combination of hydrocarbons from the distillation of saturated and unsaturated hydrocarbons usually ranging in carbon numbers from $C_3$ through $C_6$, predominantly butane and isobutane. It consists of saturated and unsaturated hydrocarbons having carbon numbers in the range of $C_3$ through $C_4$, predominantly isobutane.) | 649-204-00-7 | 270-724-1 | 68477-33-8 | H, K |
| Distillates (petroleum), $C_{3-6}$, piperylene-rich; Petroleum gas<br>(A complex combination of hydrocarbons from the distillation of saturated and unsaturated aliphatic hydrocarbons usually ranging in the carbon numbers $C_3$ through $C_6$. It consists of saturated and unsaturated hydrocarbons having carbon numbers in the range of $C_3$ through $C_6$, predominantly piperylenes.) | 649-205-00-2 | 270-726-2 | 68477-35-0 | H, K |

| Substances | Index No | EC No | CAS No | Notes |
|---|---|---|---|---|
| Gases (petroleum), butane splitter overheads; Petroleum gas<br>(A complex combination of hydrocarbons obtained from the distillation of the butane stream. It consists of aliphatic hydrocarbons having carbon numbers predominantly in the range of $C_3$ through $C_4$.) | 649-206-00-8 | 270-750-3 | 68477-69-0 | H, K |
| Gases (petroleum), $C_{2-3}$; Petroleum gas<br>(A complex combination of hydrocarbons produced by the distillation of products from a catalytic fractionation process. It contains predominantly ethane, ethylene, propane, and propylene.) | 649-207-00-3 | 270-751-9 | 68477-70-3 | H, K |
| Gases (petroleum), catalytic-cracked gas oil depropaniser bottoms, $C_4$-rich acid-free; Petroleum gas<br>(A complex combination of hydrocarbons obtained from fractionation of catalytic cracked gas oil hydrocarbon stream and treated to remove hydrogen sulphide and other acidic components. It consists of hydrocarbons having carbon numbers in the range of $C_3$ through $C_5$, predominantly $C_4$.) | 649-208-00-9 | 270-752-4 | 68477-71-4 | H, K |
| Gases (petroleum), catalytic-cracked naphtha debutaniser bottoms, $C_{3-5}$-rich; Petroleum gas<br>(A complex combination of hydrocarbons obtained from the stabilisation of catalytic cracked naphtha. It consists of aliphatic hydrocarbons having carbon numbers predominantly in the range of $C_3$ through $C_5$.) | 649-209-00-4 | 270-754-5 | 68477-72-5 | H, K |
| Tail gas (petroleum), isomerised naphtha fractionation stabiliser; Petroleum gas<br>(A complex combination of hydrocarbons obtained from the fractionation stabilisation products from isomerised naphtha. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_4$.) | 649-210-00-X | 269-628-2 | 68308-08-7 | H, K |
| Erionite | 650-012-00-0 | | 12510-42-8 | |
| Asbestos | 650-013-00-6 | | 12001-29-5<br>12001-28-4<br>132207-32-0<br>12172-73-5<br>77536-66-4<br>77536-68-6<br>77536-67-5 | |

*Appendix 2*

**Point 28 — Carcinogens: category 2**

| Substances | Index No | EC No | CAS No | Notes |
|---|---|---|---|---|
| Beryllium | 004-001-00-7 | 231-150-7 | 7440-41-7 | |
| Beryllium compounds with the exception of aluminium beryllium silicates | 004-002-00-2 | | | |
| Beryllium oxide | 004-003-00-8 | 215-133-1 | 1304-56-9 | E |
| Sulfallate (ISO); 2-chlorallyl diethyldithiocarbamate | 006-038-00-4 | 202-388-9 | 95-06-7 | |
| Dimethylcarbamoyl chloride | 006-041-00-0 | 201-208-6 | 79-44-7 | |
| Diazomethane | 006-068-00-8 | 206-382-7 | 334-88-3 | |
| Hydrazine | 007-008-00-3 | 206-114-9 | 302-01-2 | E |
| N,N-Dimethylhydrazine | 007-012-00-5 | 200-316-0 | 57-14-7 | |
| 1,2-Dimethylhydrazine | 007-013-00-0 | | 540-73-8 | E |
| Salts of hydrazine | 007-014-00-6 | | | |
| Isobutyl nitrite | 007-017-00-2 | 208-819-7 | 542-56-3 | E |
| Hydrazobenzene; 1,2-diphenylhydrazine | 007-021-00-4 | 204-563-5 | 122-66-7 | |
| Hydrazine bis(3-carboxy-4-hydroxybenzensulfonate) | 007-022-00-X | 405-030-1 | | |
| Hexamethylphosphoric triamide; hexamethylphosphoramide | 015-106-00-2 | 211-653-8 | 680-31-9 | |
| Dimethyl sulphate | 016-023-00-4 | 201-058-1 | 77-78-1 | E |
| Diethyl sulphate | 016-027-00-6 | 200-589-6 | 64-67-5 | |
| 1,3-Propanesultone | 016-032-00-3 | 214-317-9 | 1120-71-4 | |
| Dimethylsulfamoylchloride | 016-033-00-9 | 236-412-4 | 13360-57-1 | |
| Potassium dichromate | 024-002-00-6 | 231-906-6 | 7778-50-9 | E |
| Ammonium dichromate | 024-003-00-1 | 232-143-1 | 7789-09-5 | E |
| Sodium dichromate anhydrate | 024-004-00-7 | 234-190-3 | 10588-01-9 | E |
| Sodium dichromate, dihydrate | 024-004-01-4 | 234-190-3 | 7789-12-0 | E |
| Chromyl dichloride; chromic oxychloride | 024-005-00-2 | 239-056-8 | 14977-61-8 | |
| Potassium chromate | 024-006-00-8 | 232-140-5 | 7789-00-6 | |
| Calcium chromate | 024-008-00-9 | 237-366-8 | 13765-19-0 | |
| Strontium chromate | 024-009-00-4 | 232-142-6 | 7789-06-2 | |
| Chromium III chromate; chromic chromate | 024-010-00-X | 246-356-2 | 24613-89-6 | |
| Chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in Annex I to Directive 67/548/EEC | 024-017-00-8 | — | — | |
| Sodium chromate | 024-018-00-3 | 231-889-5 | 7775-11-3 | E |
| Cobalt dichloride | 027-004-00-5 | 231-589-4 | 7646-79-9 | E |
| Cobalt sulphate | 027-005-00-0 | 233-334-2 | 10124-43-3 | E |
| Potassium bromate | 035-003-00-6 | 231-829-8 | 7758-01-2 | |

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|---|---|---|---|---|
| Cadmium oxide | 048-002-00-0 | 215-146-2 | 1306-19-0 | E |
| Cadmium fluoride | 048-006-00-2 | 232-222-0 | 7790-79-6 | E |
| Cadmium chloride | 048-008-00-3 | 233-296-7 | 10108-64-2 | E |
| Cadmium sulphate | 048-009-00-9 | 233-331-6 | 10124-36-4 | E |
| Cadmium sulphide | 048-010-00-4 | 215-147-8 | 1306-23-6 | E |
| Cadmium (pyrophoric) | 048-011-00-X | 231-152-8 | 7440-43-9 | E |
| Isoprene (stabilised)<br>2-Methyl-1,3-butadiene | 601-014-00-5 | 201-143-3 | 78-79-5 | D |
| Benzo[a]pyrene; benzo[d,e,f]chrysene | 601-032-00-3 | 200-028-5 | 50-32-8 | |
| Benzo[a]anthracene | 601-033-00-9 | 200-280-6 | 56-55-3 | |
| Benzo[b]fluoranthene; benzo[e]acephenanthrylene | 601-034-00-4 | 205-911-9 | 205-99-2 | |
| Benzo[j]fluoranthene | 601-035-00-X | 205-910-3 | 205-82-3 | |
| Benzo[k]fluoranthene | 601-036-00-5 | 205-916-6 | 207-08-9 | |
| Dibenz[a, h]anthracene | 601-041-00-2 | 200-181-8 | 53-70-3 | |
| Chrysene | 601-048-00-0 | 205-923-4 | 218-01-9 | |
| Benzo[e]pyrene | 601-049-00-6 | 205-892-7 | 192-97-2 | |
| 1,2-Dibromoethane; ethylene dibromide | 602-010-00-6 | 203-444-5 | 106-93-4 | E |
| 1,2-Dichloroethane; ethylene dichloride | 602-012-00-7 | 203-458-1 | 107-06-2 | |
| 1,2-Dibromo-3-chloropropane | 602-021-00-6 | 202-479-3 | 96-12-8 | |
| Bromoethylene | 602-024-00-2 | 209-800-6 | 593-60-2 | |
| Trichloroethylene; trichloroethene | 602-027-00-9 | 201-167-4 | 79-01-6 | |
| Chloroprene (stabilised)<br>2-Chlorobuta-1,3-diene | 602-036-00-8 | 204-818-0 | 126-99-8 | D, E |
| α-Chlorotoluene; benzyl chloride | 602-037-00-3 | 202-853-6 | 100-44-7 | E |
| α,α,α-Trichlorotoluene; benzotrichloride | 602-038-00-9 | 202-634-5 | 98-07-7 | |
| 1,2,3-Trichloropropane | 602-062-00-X | 202-486-1 | 96-18-4 | D |
| 1,3-Dichloro-2-propanol | 602-064-00-0 | 202-491-9 | 96-23-1 | |
| Hexachlorobenzene | 602-065-00-6 | 204-273-9 | 118-74-1 | |
| 1,4-Dichlorobut-2-ene | 602-073-00-X | 212-121-8 | 764-41-0 | E |
| 2,3-dibromopropan-1-ol; 2,3-dibromo-1-propanol | 602-088-00-1 | 202-480-9 | 96-13-9 | E |
| α,α,α,4-Tetrachlorotoluene<br>p-Chlorobenzotrichloride | 602-093-00-9 | 226-009-1 | 5216-25-1 | E |
| Ethylene oxide; oxirane | 603-023-00-X | 200-849-9 | 75-21-8 | |
| 1-Chloro-2,3-epoxypropane; epichlorhydrin | 603-026-00-6 | 203-439-8 | 106-89-8 | |
| Propylene oxide; 1,2-epoxypropane; methyloxirane | 603-055-00-4 | 200-879-2 | 75-56-9 | E |
| 2,2'-Bioxirane; 1,2:3,4-diepoxybutane | 603-060-00-1 | 215-979-1 | 1464-53-5 | |

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| 2,3-Epoxypropan-1-ol; glycidol oxiranemethanol | 603-063-00-8 | 209-128-3 | 556-52-5 | E |
| Phenyl glycidyl ether; 2,3-epoxypropyl phenyl ether; 1,2-epoxy-3-phenoxypropane | 603-067-00-X | 204-557-2 | 122-60-1 | E |
| Styrene oxide; (epoxyethyl)benzene; phenyloxirane | 603-084-00-2 | 202-476-7 | 96-09-3 | |
| Furan | 603-105-00-5 | 203-727-3 | 110-00-9 | E |
| R-2,3-epoxy-1-propanol | 603-143-00-2 | 404-660-4 | 57044-25-4 | E |
| (R)-1-chloro-2,3-epoxypropane | 603-166-00-8 | 424-280-2 | 51594-55-9 | |
| 4-Amino-3-fluorophenol | 604-028-00-X | 402-230-0 | 399-95-1 | |
| 5-Allyl-1,3-benzodioxole; safrole | 605-020-00-9 | 202-345-4 | 94-59-7 | E |
| 3-Propanolide; 1,3-propiolactone | 606-031-00-1 | 200-340-1 | 57-57-8 | |
| 4,4'-Bis(dimethylamino)benzophenone<br>Michler's ketone | 606-073-00-0 | 202-027-5 | 90-94-8 | |
| Urethane(INN); ethyl carbamate | 607-149-00-6 | 200-123-1 | 51-79-6 | |
| Methyl acrylamidomethoxyacetate (containing ≥ 0,1 % acrylamide) | 607-190-00-X | 401-890-7 | 77402-03-0 | |
| Methyl acrylamidoglycolate (containing ≥ 0,1 % acrylamide) | 607-210-00-7 | 403-230-3 | 77402-05-2 | |
| Oxiranemethanol, 4-methylbenzene-sulfonate, (S)- | 607-411-00-X | 417-210-7 | 70987-78-9 | |
| Acrylonitrile | 608-003-00-4 | 203-466-5 | 107-13-1 | D, E |
| 2-Nitropropane | 609-002-00-1 | 201-209-1 | 79-46-9 | |
| 2,4-Dinitrotoluene [1]; dinitrotoluene [2]; dinitrotoluene, technical grade | 609-007-00-9 | 204-450-0 [1]<br>246-836-1 [2] | 121-14-2 [1]<br>25321-14-6 [2] | E |
| 5-Nitroacenaphthene | 609-037-00-2 | 210-025-0 | 602-87-9 | |
| 2-Nitronaphthalene | 609-038-00-8 | 209-474-5 | 581-89-5 | |
| 4-Nitrobiphenyl | 609-039-00-3 | 202-204-7 | 92-93-3 | |
| Nitrofen (ISO); 2,4-dichlorophenyl4-nitrophenyl ether | 609-040-00-9 | 217-406-0 | 1836-75-5 | |
| 2-Nitroanisole | 609-047-00-7 | 202-052-1 | 91-23-6 | |
| 2,6-Dinitrotoluene | 609-049-00-8 | 210-106-0 | 606-20-2 | E |
| 2,3-dinitrotoluene | 609-050-00-3 | 210-013-5 | 602-01-7 | E |
| 3,4-dinitrotoluene | 609-051-00-9 | 210-222-1 | 610-39-9 | E |
| 3,5-dinitrotoluene | 609-052-00-4 | 210-566-2 | 618-85-9 | E |
| Hydrazine-tri-nitromethane | 609-053-00-X | 414-850-9 | — | |
| 2,5-dinitrotoluene | 609-055-00-0 | 210-581-4 | 619-15-8 | E |
| 2-Nitrotoluene | 609-065-00-5 | 201-853-3 | 88-72-2 | E |
| Azobenzene | 611-001-00-6 | 203-102-5 | 103-33-3 | E |
| Methyl-ONN-azoxymethyl acetate; methyl azoxy methyl acetate | 611-004-00-2 | 209-765-7 | 592-62-1 | |
| Disodium {5-[(4′-((2,6-hydroxy-3-((2-hydroxy-5-sulphophenyl)azo) phenyl)azo) (1,1′-biphenyl)-4-yl)azo]salicylato(4-)} cuprate(2-); CI Direct Brown 95 | 611-005-00-8 | 240-221-1 | 16071-86-6 | |

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| 4-o-Tolylazo-o-toluidine; 4-amino-2′,3-dimethylazobenzene; fast garnet GBC base; AAT; o-aminoazotoluene | 611-006-00-3 | 202-591-2 | 97-56-3 | |
| 4-Aminoazobenzene | 611-008-00-4 | 200-453-6 | 60-09-3 | |
| Benzidine based azo dyes; 4,4'-diarylazobiphenyl dyes, with the exception of those specified elsewhere in Annex I to Directive 67/548/EEC | 611-024-00-1 | — | — | |
| Disodium 4-amino 3-[[4′-[(2,4-diaminophenyl)azo][1,1′-biphenyl]-4-yl]azo]-5-hydroxy-6-(phenylazo)naphtalene-2,7-disulphonate; C.I. Direct Black 38 | 611-025-00-7 | 217-710-3 | 1937-37-7 | |
| Tetrasodium 3,3′-[[1,1′-biphenyl]-4,4′-dylbis(azo)]bis[5-amino-4-hydroxynaphthalene-2,7-disulphonate]; C.I. Direct Blue 6 | 611-026-00-2 | 220-012-1 | 2602-46-2 | |
| Disodium 3,3′-[[1,1′-bifenyl]-4,4′dylbis(azo)]bis[4-aminonaphthalene-1-sulphonate); C.I. Direct Red 28 | 611-027-00-8 | 209-358-4 | 573-58-0 | |
| o-Dianisidine based azo dyes; 4,4'-diarylazo-3,3'-dimethoxybiphenyl dyes with the exception of those mentioned elsewhere in Annex I to Directive 67/548/EEC | 611-029-00-9 | — | — | |
| o-Tolidine based dyes; 4,4'-diarylazo-3,3'-dimethylbiphenyl dyes, with the exception of those mentioned elsewhere in Annex I to Directive 67/548/EEC | 611-030-00-4 | — | — | |
| 1,4,5,8-Tetraaminoanthraquinone; C.I. Disperse Blue 1 | 611-032-00-5 | 219-603-7 | 2475-45-8 | |
| 6-hydroxy-1-(3-isopropoxypropyl)-4-methyl-2-oxo-5-[4-(phenylazo) phenylazo]-1,2-dihydro-3-pyridinecarbonitrile | 611-057-00-1 | 400-340-3 | 85136-74-9 | |
| (6-(4-hydroxy-3-(2-methoxyphenylazo)-2-sulfonato-7-naphthylamino)-1,3,5-triazin-2,4-diyl)bis[(amino-1-methylethyl)-ammonium] formate | 611-058-00-7 | 402-060-7 | 108225-03-2 | |
| Trisodium-[4'-(8-acetylamino-3,6-disulfonato-2-naphthylazo)-4"-(6-benzoylamino-3-sulfonato-2-naphthylazo)biphenyl-1,3',3",1'"-tetraolato-O, O', O", O'"]copper(II) | 611-063-00-4 | 413-590-3 | 164058-22-4 | |
| (Methylenebis(4,1-phenylenazo(1-(3-(dimethylamino)propyl)-1,2-dihydro-6-hydroxy-4-methyl-2-oxopyridine-5,3-diyl)))-1,1'-dipyridinium dichloride dihydrochloride | 611-099-00-0 | 401-500-5 | — | |
| Phenylhydrazine [1]<br>Phenylhydrazinium chloride [2]<br>Phenylhydrazine hydrochloride [3]<br>Phenylhydrazinium sulphate (2:1) [4] | 612-023-00-9 | 202-873-5 [1]<br>200-444-7 [2]<br>248-259-0 [3]<br>257-622-2 [4] | 100-63-0 [1]<br>59-88-1 [2]<br>27140-08-5 [3]<br>52033-74-6 [4] | E |
| 2-Methoxyaniline; o-anisidine | 612-035-00-4 | 201-963-1 | 90-04-0 | E |
| 3,3′-Dimethoxybenzidine; o-dianisidine | 612-036-00-X | 204-355-4 | 119-90-4 | |
| Salts of 3,3′-dimethoxybenzidine; salts of o-dianisidine | 612-037-00-5 | | | |
| 3,3′-Dimethylbenzidine; o-tolidine | 612-041-00-7 | 204-358-0 | 119-93-7 | |
| 4,4′-Diaminodiphenylmethane; 4,4′-methylenedianiline | 612-051-00-1 | 202-974-4 | 101-77-9 | E |
| 3,3′-Dichlorobenzidine; 3,3′-dichlorobiphenyl-4,4′-ylenediamine | 612-068-00-4 | 202-109-0 | 91-94-1 | |
| Salts of 3,3′-dichlorobenzidine; salts of 3,3′-dichlorobiphenyl-4,4′-ylenediamine | 612-069-00-X | 210-323-0[1]<br>265-293-1[2]<br>277-822-3[3] | 612-83-9[1]<br>64969-34-2[2]<br>74332-73-3[3] | |
| N-nitrosodimethylamine; dimethylnitrosamine | 612-077-00-3 | 200-549-8 | 62-75-9 | E |

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| 2,2′-Dichloro-4,4′-methylenedianiline;<br>4,4′-Methylene bis(2-chloroaniline) | 612-078-00-9 | 202-918-9 | 101-14-4 | |
| Salts of 2,2′-dichloro-4,4-methylenedianiline; salts of 4,4′-methylenebis(2-chloroaniline) | 612-079-00-4 | | | |
| Salts of 3,3′-dimethylbenzidine; salts of o-tolidine | 612-081-00-5 | 210-322-5[1]<br>265-294-7[2]<br>277-985-0[3] | 612-82-8[1]<br>64969-36-4[2]<br>74753-18-7[3] | |
| 1-Methyl-3-nitro-1-nitrosoguanidine | 612-083-00-6 | 200-730-1 | 70-25-7 | |
| 4,4′-Methylenedi-o-toluidine | 612-085-00-7 | 212-658-8 | 838-88-0 | |
| 2,2′-(Nitrosoimino)bisethanol | 612-090-00-4 | 214-237-4 | 1116-54-7 | |
| o-Toluidine | 612-091-00-X | 202-429-0 | 95-53-4 | |
| Nitrosodipropylamine | 612-098-00-8 | 210-698-0 | 621-64-7 | |
| 4-Methyl-m-phenylenediamine | 612-099-00-3 | 202-453-1 | 95-80-7 | |
| Toluene-2,4-diammonium sulphate | 612-126-00-9 | 265-697-8 | 65321-67-7 | |
| 4-Chloraniline | 612-137-00-9 | 203-401-0 | 106-47-8 | |
| Diaminotoluene, technical product — mixture of [2] and [3]<br>methyl-phenylenediamine [1]<br>4-methyl-m-phenylene diamine [2]<br>2-methyl-m-phenylene diamine [3] | 612-151-00-5 | 246-910-3[1]<br>202-453-1 [2]<br>212-513-9 [3] | 25376-45-8 [1]<br>95-80-7 [2]<br>823-40-5 [3] | E |
| 4-Chloro-o-toluidine [1]<br>4-chloro-o-toluidine hydrochloride [2] | 612-196-00-0 | 202-441-6 [1]<br>221-627-8 [2] | 95-69-2 [1]<br>3165-93-3 [2] | E |
| 2,4,5-Trimethylaniline [1]<br>2,4,5-trimethylaniline hydrochloride [2] | 612-197-00-6 | 205-282-0 [1] - [2] | 137-17-7 [1]<br>21436-97-5 [2] | E |
| 4,4'-Thiodianiline [1] and its salts | 612-198-00-1 | 205-370-9 [1] | 139-65-1 [1] | E |
| 4,4'-Oxydianiline [1] and its salts<br>p-Aminophenyl ether [1] | 612-199-00-7 | 202-977-0 [1] | 101-80-4 [1] | E |
| 2,4-Diaminoanisole [1]<br>4-methoxy-m-phenylenediamine<br>2,4-diaminoanisole sulphate [2] | 612-200-00-0 | 210-406-1 [1]<br>254-323-9 [2] | 615-05-4 [1]<br>39156-41-7 [2] | |
| N, N,N',N'-tetramethyl-4,4'-methylendianiline | 612-201-00-6 | 202-959-2 | 101-61-1 | |
| C.I. Basic Violet 3 with ≥ 0,1 % of Michler's ketone (EC No 202-027-5) | 612-205-00-8 | 208-953-6 | 548-62-9 | E |
| 6-Methoxy-m-toluidine<br>p-cresidine | 612-209-00-X | 204-419-1 | 120-71-8 | E |
| Ethyleneimine; aziridine | 613-001-00-1 | 205-793-9 | 151-56-4 | |
| 2-Methylaziridine; propyleneimine | 613-033-00-6 | 200-878-7 | 75-55-8 | E |
| Captafol (ISO); 1,2,3,6-tetrahydro-N-(1,1,2,2-tetrachloroethylthio) phthalimide | 613-046-00-7 | 219-363-3 | 2425-06-1 | |

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| Carbadox (INN); methyl 3-(quinoxalin-2-ylmethylene)carbazate 1,4-dioxide; 2-(methoxycarbonylhydrazonomethyl) quinoxaline 1,4-dioxide | 613-050-00-9 | 229-879-0 | 6804-07-5 | |
| A mixture of: 1,3,5-tris(3-aminomethylphenyl)-1,3,5-(1H,3H,5H)-triazine-2,4,6-trione;<br>a mixture of oligomers of 3,5-bis(3-aminomethylphenyl)-1-poly[3,5-bis(3-aminomethylphenyl)-2,4,6-trioxo-1,3,5-(1H,3H,5H)-triazin-1-yl]-1,3,5-(1H,3H,5H)-triazine-2,4,6-trione | 613-199-00-X | 421-550-1 | — | |
| Acrylamide | 616-003-00-0 | 201-173-7 | 79-06-1 | |
| Thioacetamide | 616-026-00-6 | 200-541-4 | 62-55-5 | |
| A mixture of: N-[3-hydroxy-2-(2-methylacryloylamino-methoxy) propoxymethyl]-2-methylacrylamide; N-[2,3-Bis-(2-methylacryloylamino-methoxy)propoxymethyl]-2-methylacrylamide; methacrylamide; 2-methyl-N-(2-methyl-acryloylaminomethoxymethyl)-acrylamide; N-2,3-dihydroxypropoxymethyl)-2-methylacrylamide | 616-057-00-5 | 412-790-8 | — | |
| Distillates (coal tar), benzole fraction; Light oil<br>(A complex combination of hydrocarbons obtained by the distillation of coal tar. It consists of hydrocarbons having carbon numbers primarily in the range of $C_4$ to $C_{10}$ and distilling in the approximate range of 80 to 160 °C.) | 648-001-00-0 | 283-482-7 | 84650-02-2 | |
| Tar oils, brown-coal; Light oil<br>(The distillate from lignite tar boiling in the range of approximately 80 to 250 °C. Composed primarily of aliphatic and aromatic hydrocarbons and monobasic phenols.) | 648-002-00-6 | 302-674-4 | 94114-40-6 | J |
| Benzol forerunnings (coal); Light oil redistillate, low boiling<br>(The distillate from coke oven light oil having an approximate distillation range below 100 °C. Composed primarily of $C_4$ to $C_6$ aliphatic hydrocarbons.) | 648-003-00-1 | 266-023-5 | 65996-88-5 | J |
| Distillates (coal tar), benzole fraction, BTX-rich; Light oil redistillate, low boiling<br>(A residue from the distillation of crude benzole to remove benzole fronts. Composed primarily of benzene, toluene and xylenes boiling in the range of approximately 75 to 200 °C.) | 648-004-00-7 | 309-984-9 | 101896-26-8 | J |
| Aromatic hydrocarbons, $C_{6-10}$, $C_8$-rich; Light oil redistillate, low boiling | 648-005-00-2 | 292-697-5 | 90989-41-6 | J |
| Solvent naphtha (coal), light; Light oil redistillate, low boiling | 648-006-00-8 | 287-498-5 | 85536-17-0 | J |
| Solvent naphtha (coal), xylene-styrene cut; Light oil redistillate, intermediate boiling | 648-007-00-3 | 287-502-5 | 85536-20-5 | J |
| Solvent naphtha (coal), coumarone-styrene contg.; Light oil redistillate, intermediate boiling | 648-008-00-9 | 287-500-4 | 85536-19-2 | J |
| Naphtha (coal), distillation residues; Light oil redistillate, high boiling<br>(The residue remaining from the distillation of recovered naphtha. Composed primarily of naphthalene and condensation products of indene and styrene.) | 648-009-00-4 | 292-636-2 | 90641-12-6 | J |
| Aromatic hydrocarbons, $C_8$; Light oil redistillate, high boiling | 648-010-00-X | 292-694-9 | 90989-38-1 | J |

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| Aromatic hydrocarbons, $C_{8-9}$, hydrocarbon resin polymerisation by-product; Light oil redistillate, high boiling<br>(A complex combination of hydrocarbons obtained from the evaporation of solvent under vacuum from polymerised hydrocarbon resin. It consists predominantly of aromatic hydrocarbons having carbon numbers predominantly in the range of $C_8$ through $C_9$ and boiling in the range of approximately 120 to 215 °C.) | 648-012-00-0 | 295-281-1 | 91995-20-9 | J |
| Aromatic hydrocarbons, $C_{9-12}$, benzene distillation; Light oil redistillate, high boiling | 648-013-00-6 | 295-551-9 | 92062-36-7 | J |
| Extract residues (coal), benzole fraction alk., acid ext.; Light oil extract residues, low boiling<br>(The redistillate from the distillate, freed of tar acids and tar bases, from bituminous coal high temperature tar boiling in the approximate range of 90 to 160 °C. It consists predominantly of benzene, toluene and xylenes.) | 648-014-00-1 | 295-323-9 | 91995-61-8 | J |
| Extract residues (coal tar), benzole fraction alk., acd ext.; Light oil extract residues, low boiling<br>(A complex combination of hydrocarbons obtained by the redistillation of the distillate of high temperature coal tar (tar acid and tar base free). It consists predominantly of unsubstituted and substituted mononuclear aromatic hydrocarbons boiling in the range of 85 to 195 °C.) | 648-015-00-7 | 309-868-8 | 101316-63-6 | J |
| Extract residues (coal), benzole fraction acid; Light oil extract residues, low boiling<br>(An acid sludge by-product of the sulphuric acid refining of crude high temperature coal. Composed primarily of sulfuric acid and organic compounds.) | 648-016-00-2 | 298-725-2 | 93821-38-6 | J |
| Extract residues (coal), light oil alk., distillation overheads; Light oil extract residues, low boiling<br>(The first fraction from the distillation of aromatic hydrocarbons, coumarone, naphthalene and indene rich prefactionator bottoms or washed carbolic oil boiling substantially below 145 °C. Composed primarily of $C_7$ and $C_8$ aliphatic and aromatic hydrocarbons.) | 648-017-00-8 | 292-625-2 | 90641-02-4 | J |
| Extract residues (coal), light oil alk., acid ext., indene fraction; Light oil extract residues, intermediate boiling | 648-018-00-3 | 309-867-2 | 101316-62-5 | J |
| Extract residues (coal), light oil alk., indene naphtha fraction; Light oil extract residues, high boiling<br>(The distillate from aromatic hydrocarbons, coumarone, naphthalene and indene rich prefractionator bottoms or washed carbolic oils, having an approximate boiling range of 155 to 180 °C. Composed primarily of indene, indan and trimethylbenzenes.) | 648-019-00-9 | 292-626-8 | 90641-03-5 | J |
| Solvent naphtha (coal); Light oil extract residues, high boiling<br>(The distillate from either high temperature coal tar, coke oven light oil, or coal tar oil alkaline extract residue having an approximate distillation range of 130 to 210 °C. Composed primarily of indene and other polycyclic ring systems containing a single aromatic ring. May contain phenolic compounds and aromatic nitrogen bases.) | 648-020-00-4 | 266-013-0 | 65996-79-4 | J |

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| Distillates (coal tar), light oils, neutral fraction; Light oil extract residues, high boiling<br>(A distillate from the fractional distillation of high temperature coal tar. Composed primarily of alkyl-substituted one ring aromatic hydrocarbons boiling in the range of approximately 135 to 210 °C. May also include unsaturated hydrocarbons such as indene and coumarone.) | 648-021-00-X | 309-971-8 | 101794-90-5 | J |
| Distillates (coal tar), light oils, acid extracts; Light oil extract residues, high boiling<br>(This oil is a complex mixture of aromatic hydrocarbons, primarily indene, naphthalene, coumarone, phenol and o-, m- and p-cresol and boiling in the range of 140 to 215 °C.) | 648-022-00-5 | 292-609-5 | 90640-87-2 | J |
| Distillates (coal tar), light oils; Carbolic oil<br>(A complex combination of hydrocarbons obtained by distillation of coal tar. It consists of aromatic and other hydrocarbons, phenolic compounds and aromatic nitrogen compounds and distills at the approximate range of 150 to 210 °C.) | 648-023-00-0 | 283-483-2 | 84650-03-3 | J |
| Tar oils, coal; Carbolic oil<br>(The distillate from high temperature coal tar having an approximate distillation range of 130 to 250 °C. Composed primarily of naphthalene, alkylnaphthalenes, phenolic compounds, and aromatic nitrogen bases.) | 648-024-00-6 | 266-016-7 | 65996-82-9 | J |
| Extract residues (coal), light oil alk., acid extract; Carbolic oil extract residue<br>(The oil resulting from the acid washing of alkali-washed carbolic oil to remove the minor amounts of basic compounds (tar bases). Composed primarily of indene, indan and alkylbenzenes.) | 648-026-00-7 | 292-624-7 | 90641-01-3 | J |
| Extract residues (coal), tar oil alkaline; Carbolic oil extract residue<br>(The residue obtained from coal tar oil by an alkaline wash such as aqueous sodium hydroxide after the removal of crude coal tar acids. Composed primarily of naphthalenes and aromatic nitrogen bases.) | 648-027-00-2 | 266-021-4 | 65996-87-4 | J |
| Extract oils (coal), light oil; Acid Extract<br>(The aqueous extract produced by an acidic wash of alkali-washed carbolic oil. Composed primarily of acid salts of various aromatic nitrogen bases including pyridine, quinoline and their alkyl derivatives.) | 648-028-00-8 | 292-622-6 | 90640-99-6 | J |
| Pyridine, alkyl derivs.; Crude tar bases<br>(The complex combination of polyalkylated pyridines derived from coal tar distillation or as high-boiling distillates approximately above 150 °C from the reaction of ammonia with acetaldehyde, formaldehyde or paraformaldehyde.) | 648-029-00-3 | 269-929-9 | 68391-11-7 | J |
| Tar bases, coal, picoline fraction; Distillate bases<br>(Pyridine bases boiling in the range of approximately 125 to 160 °C obtained by distillation of neutralised acid extract of the base-containing tar fraction obtained by the distillation of bituminous coal tars. Composed chiefly of lutidines and picolines.) | 648-030-00-9 | 295-548-2 | 92062-33-4 | J |
| Tar bases, coal, lutidine fraction; Distillate bases | 648-031-00-4 | 293-766-2 | 91082-52-9 | J |

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| Extract oils (coal), tar base, collidine fraction; Distillate bases<br>(The extract produced by the acid extraction of bases from crude coal tar aromatic oils, neutralisation, and distillation of the bases. Composed primarily of collidines, aniline, toluidines, lutidines, xylidines.) | 648-032-00-X | 273-077-3 | 68937-63-3 | J |
| Tar bases, coal, collidine fraction; Distillate bases<br>(The distillation fraction boiling in the range of approximately 181 to 186 °C from the crude bases obtained from the neutralised, acid-extracted base-containing tar fractions obtained by the distillation of bituminous coal tar. It contains chiefly aniline and collidines.) | 648-033-00-5 | 295-543-5 | 92062-28-7 | J |
| Tar Bases, coal, aniline fraction; Distillate bases<br>(The distillation fraction boiling in the range of approximately 180 to 200 °C from the crude bases obtained by dephenolating and debasing the carbolated oil from the distillation of coal tar. It contains chiefly aniline, collidines, lutidines and toluidines.) | 648-034-00-0 | 295-541-4 | 92062-27-6 | J |
| Tar bases, coal, toluidine fraction; Distillate bases | 648-035-00-6 | 293-767-8 | 91082-53-0 | J |
| Distillates (petroleum), alkene-alkyene manuf. pyrolysis oil, mixed with high-temperature coal tar, indene fraction; Redistillates<br>(A complex combination of hydrocarbons obtained as a redistillate from the fractional distillation of bituminous coal high temperature tar and residual oils that are obtained by the pyrolytic production of alkenes and alkynes from petroleum products or natural gas. It consists predominantly of indene and boils in a range of approximately 160 to 190 °C.) | 648-036-00-1 | 295-292-1 | 91995-31-2 | J |
| Distillates (coal), coal tar-residual pyrolysis oils, naphthalene oils; Redistillates<br>(The redistillate obtained from the fractional distillation of bituminous coal high temperature tar and pyrolysis residual oils and boiling in the range of approximately 190 to 270 °C. Composed primarily of substituted dinuclear aromatics.) | 648-037-00-7 | 295-295-8 | 91995-35-6 | J |
| Extract oils (coal), coal tar-residual pyrolysis oils, naphthalene oil, redistillate; Redistillates<br>(The redistillate from the fractional distillation of dephenolated and debased methylnaphthalene oil obtained from bituminous coal high temperature tar and pyrolysis residual oils boiling in the approximate range of 220 to 230 °C. It consists predominantly of unsubstituted and substituted dinuclear aromatic hydrocarbons.) | 648-038-00-2 | 295-329-1 | 91995-66-3 | J |
| Extract oils (coal), coal tar-residual pyrolysis oils, naphthalene oils; Redistillates<br>(A neutral oil obtained by debasing and dephenolating the oil obtained from the distillation of high temperature tar and pyrolysis residual oils which has a boiling range of 225 to 255 °C. Composed primarily of substituted dinuclear aromatic hydrocarbons.) | 648-039-00-8 | 310-170-0 | 122070-79-5 | J |
| Extract oils (coal), coal tar residual pyrolysis oils, naphthalene oil, distillation residues; Redistillates<br>(Residue from the distillation of dephenolated and debased methylnaphthalene oil (from bituminous coal tar and pyrolysis residual oils) with a boiling range of 240 to 260 °C. Composed primarily of substituted dinuclear aromatic and heterocyclic hydrocarbons.) | 648-040-00-3 | 310-171-6 | 122070-80-8 | J |

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| Absorption oils, bicyclo arom. and heterocyclic hydrocarbon fraction; Wash oil redistillate<br>(A complex combination of hydrocarbons obtained as a redistillate from the distillation of wash oil. It consists predominantly of two-ringed aromatic and heterocyclic hydrocarbons boiling in the range of approximately 260 to 290 °C.) | 648-041-00-9 | 309-851-5 | 101316-45-4 | M |
| Distillates (coal tar), upper, fluorene-rich; Wash oil redistillate<br>(A complex combination of hydrocarbons obtained by the crystallisation of tar oil. It consists of aromatic and polycyclic hydrocarbons primarily fluorene and some acenaphthene.) | 648-042-00-4 | 284-900-0 | 84989-11-7 | M |
| Creosote oil, acenaphthene fraction, acenaphthene-free; Wash oil redistillate<br>(The oil remaining after removal by a crystallisation process of acenaphthene from acenaphthene oil from coal tar. Composed primarily of naphthalene and alkylnaphthalenes.) | 648-043-00-X | 292-606-9 | 90640-85-0 | H |
| Distillates (coal tar), heavy oils; Heavy anthracene oil<br>(Distillate from the fractional distillation of coal tar of bituminous coal, with boiling range of 240 to 400 °C. Composed primarily of tri- and polynuclear hydrocarbons and heterocyclic compounds.) | 648-044-00-5 | 292-607-4 | 90640-86-1 | |
| Anthracene oil, acid ext.; Anthracene oil extract residue<br>(A complex combination of hydrocarbons from the base-freed fraction obtained from the distillation of coal tar and boiling in the range of approximately 325 to 365 °C. It contains predominantly anthracene and phenanthrene and their alkyl derivatives.) | 648-046-00-6 | 295-274-3 | 91995-14-1 | M |
| Distillates (coal tar); Heavy anthracene oil<br>(The distillate from coal tar having an approximate distillation range of 100 to 450 °C. Composed primarily of two to four membered condensed ring aromatic hydrocarbons, phenolic compounds, and aromatic nitrogen bases.) | 648-047-00-1 | 266-027-7 | 65996-92-1 | M |
| Distillates (coal tar), pitch, heavy oils; Heavy anthracene oil<br>(The distillate from the distillation of the pitch obtained from bituminous high temperature tar. Composed primarily of tri- and polynuclear aromatic hydrocarbons and boiling in the range of approximately 300 to 470 °C. The product may also contain heteroatoms.) | 648-048-00-7 | 295-312-9 | 91995-51-6 | M |
| Distillates (coal tar), pitch; Heavy anthracene oil<br>(The oil obtained from condensation of the vapours from the heat treatment of pitch. Composed primarily of two-to four-ring aromatic compounds boiling in the range of 200 to greater than 400 °C.) | 648-049-00-2 | 309-855-7 | 101316-49-8 | M |
| Distillates (coal tar), heavy oils, pyrene fraction; Heavy anthracene oil redistillate<br>(The redistillate obtained from the fractional distillation of pitch distillate boiling in the range of approximately 350 to 400 °C. Consists predominantly of tri- and polynuclear aromatic and heterocyclic hydrocarbons.) | 648-050-00-8 | 295-304-5 | 91995-42-5 | M |

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| Distillates (coal tar), pitch, pyrene fraction; Heavy anthracene oil redistillate<br>(The redistillate obtained from the fractional distillation of pitch distillate and boiling in the range of approximately 380 to 410 °C. Composed primarily of tri- and polynuclear aromatic hydrocarbons and heterocyclic compounds.) | 648-051-00-3 | 295-313-4 | 91995-52-7 | M |
| Paraffin waxes (coal), brown-coal high-temperature tar, carbon-treated; Coal tar extract<br>(A complex combination of hydrocarbons obtained by the treatment of lignite carbonisation tar with activated carbon for removal of trace constituents and impurities. It consists predominantly of saturated straight and branched chain hydrocarbons having carbon numbers predominantly greater than $C_{12}$.) | 648-052-00-9 | 308-296-6 | 97926-76-6 | M |
| Paraffin waxes (coal), brown-coal high-temperature tar, carbon-treated; Coal tar extract<br>(A complex combination of hydrocarbons obtained by the treatment of lignite carbonisation tar with bentonite for removal of trace constituents and impurities. It consists predominantly of saturated straight and branched chain hydrocarbons having carbon numbers predominantly greater than $C_{12}$.) | 648-053-00-4 | 308-297-1 | 97926-77-7 | M |
| Pitch; Pitch | 648-054-00-X | 263-072-4 | 61789-60-4 | M |
| Pitch, coal tar, high temperature; Pitch<br>(The residue from the distillation of high temperature coal tar. A black solid with an approximate softening point from 30 to 180 °C. Composed primarily of a complex mixture of three or more membered condensed ring aromatic hydrocarbons.) | 648-055-00-5 | 266-028-2 | 65996-93-2 | |
| Pitch, coal tar, high temperature, heat-treated; Pitch<br>(The heat treated residue from the distillation of high temperature coal tar. A black solid with an approximate softening point from 80 to 180 °C. Composed primarily of a complex mixture of three or more membered condensed ring aromatic hydrocarbons.) | 648-056-00-0 | 310-162-7 | 121575-60-8 | M |
| Pitch, coal tar, high temperature, secondary; Pitch redistillate<br>(The residue obtained during the distillation of high boiling fractions from bituminous coal high temperature tar and/or pitch coke oil, with a softening point of 140 to 170 °C according to DIN 52025. Composed primarily of tri- and polynuclear aromatic compounds which also contain heteroatoms.) | 648-057-00-6 | 302-650-3 | 94114-13-3 | M |
| Residues (coal tar), pitch distillation; Pitch redistillate<br>(Residue from the fractional distillation of pitch distillate boiling in the range of approximately 400 to 470 °C. Composed primarily of polynuclear aromatic hydrocarbons, and heterocyclic compounds.) | 648-058-00-1 | 295-507-9 | 92061-94-4 | M |
| Tar, coal, high-temperature, distillation and storage residues; Coal tar solids residue<br>(Coke- and ash-containing solid residues that separate on distillation and thermal treatment of bituminous coal high temperature tar in distillation installations and storage vessels. Consists predominantly of carbon and contains a small quantity of hetero compounds as well as ash components.) | 648-059-00-7 | 295-535-1 | 92062-20-9 | M |
| Tar, coal, storage residues; Coal tar solids residue<br>(The deposit removed from crude coal tar storages. Composed primarily of coal tar and carbonaceous particulate matter.) | 648-060-00-2 | 293-764-1 | 91082-50-7 | M |

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| Tar, coal, high-temperature, residues; Coal tar solids residue<br>(Solids formed during the coking of bituminous coal to produce crude bituminous coal high temperature tar. Composed primarily of coke and coal particles, highly aromatised compounds and mineral substances.) | 648-061-00-8 | 309-726-5 | 100684-51-3 | M |
| Tar, coal, high-temperature, high-solids; Coal tar solids residue<br>(The condensation product obtained by cooling, to approximately ambient temperature, the gas evolved in the high temperature (greater than 700 °C) destructive distillation of coal. Composed primarily of a complex mixture of condensed ring aromatic hydrocarbons with a high solid content of coal-type materials.) | 648-062-00-3 | 273-615-7 | 68990-61-4 | M |
| Waste solids, coal-tar pitch coking; Coal tar solids residue<br>(The combination of wastes formed by the coking of bituminous coal tar pitch. It consists predominantly of carbon.) | 648-063-00-9 | 295-549-8 | 92062-34-5 | M |
| Extract residues (coal), brown; Coal tar extract<br>(The residue from extraction of dried coal.) | 648-064-00-4 | 294-285-0 | 91697-23-3 | M |
| Paraffin waxes (coal), brown-coal-high-temperature tar; Coal tar extract<br>(A complex combination of hydrocarbons obtained from lignite carbonisation tar by solvent crystallisation (solvent deoiling), by sweating or an adducting process. It consists predominantly of straight and branched chain saturated hydrocarbons having carbon numbers predominantly greater than $C_{12}$.) | 648-065-00-X | 295-454-1 | 92045-71-1 | M |
| Paraffin waxes (coal), brown-coal-high-temperature tar, hydrotreated; Coal tar extract<br>(A complex combination of hydrocarbons obtained from lignite carbonisation tar by solvent crystallisation (solvent deoiling), by sweating or an adducting process treated with hydrogen in the presence of a catalyst. It consists predominantly of straight and branched chain saturated hydrocarbons having carbon numbers predominantly greater than $C_{12}$.) | 648-066-00-5 | 295-455-7 | 92045-72-2 | M |
| Paraffin waxes (coal), brown-coal high-temp tar, silicic acid-treated; Coal tar extract<br>(A complex combination of hydrocarbons obtained by the treatment of lignite carbonisation tar with silicic acid for removal of trace constituents and impurities. It consists predominantly of saturated straight and branched chain hydrocarbons having carbon numbers predominantly greater than $C_{12}$.) | 648-067-00-0 | 308-298-7 | 97926-78-8 | M |
| Tar, coal, low-temperature, distillation residues; Tar oil, intermediate boiling<br>(Residues from fractional distillation of low temperature coal tar to remove oils that boil in a range up to approximately 300 °C. Composed primarily of aromatic compounds.) | 648-068-00-6 | 309-887-1 | 101316-85-2 | M |
| Pitch, coal tar, low-temp; Pitch residue<br>(A complex black solid or semi-solid obtained from the distillation of a low temperature coal tar. It has a softening point within the approximate range of 40 to 180 °C. Composed primarily of a complex mixture of hydrocarbons.) | 648-069-00-1 | 292-651-4 | 90669-57-1 | M |

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| Pitch, coal tar, low-temperature, oxidised; Pitch residue, oxidised<br>(The product obtained by air-blowing, at elevated temperature, low-temperature coal tar pitch. It has a softening-point within the approximate range of 70to 180 °C. Composed primarily of a complex mixture of hydrocarbons.) | 648-070-00-7 | 292-654-0 | 90669-59-3 | M |
| Pitch, coal tar, low-temperature, heat-treated; Pitch residue, oxidised; Pitch residue, heat-treated<br>(A complex black solid obtained by the heat treatment of low temperature coal tar pitch. It has a softening point within the approximate range of 50 to 140 °C. Composed primarily of a complex mixture of aromatic compounds.) | 648-071-00-2 | 292-653-5 | 90669-58-2 | M |
| Distillates (coal-petroleum), condensed ring arom.; Distillates<br>(The distillate from a mixture of coal and tar and aromatic petroleum streams having an approximate distillation range of 220 to 450 °C. Composed primarily of three- to four-membered condensed ring aromatic hydrocarbons.) | 648-072-00-8 | 269-159-3 | 68188-48-7 | M |
| Aromatic hydrocarbons, $C_{20-28}$, polycyclic, mixed coal-tar pitch-polyethylene-polypropylene pyrolysis-derived; Pyrolysis products<br>(A complex combination of hydrocarbons obtained from mixed coal tar pitch-polyethylene-polypropylene pyrolysis. Composed primarily of polycyclic aromatic hydrocarbons having carbon numbers predominantly in the range of $C_{20}$ through $C_{28}$ and having a softening point of 100 to 220 °C according to DIN 52025.) | 648-073-00-3 | 309-956-6 | 101794-74-5 | M |
| Aromatic hydrocarbons, $C_{20-28}$, polycyclic, mixed coal-tar pitch-polyethylene pyrolysis-derived; Pyrolysis products<br>(A complex combination of hydrocarbons obtained from mixed coal tar pitch-polyethylene pyrolysis. Composed primarily of polycyclic aromatic hydrocarbons having carbon numbers predominantly in the range of $C_{20}$ through $C_{28}$ and having a softening point of 100 to 220 ° C according to DIN 52025.) | 648-074-00-9 | 309-957-1 | 101794-75-6 | M |
| Aromatic hydrocarbons, $C_{20-28}$, polycyclic, mixed coal-tar pitch-polystyrene pyrolysis-derived; Pyrolysis products<br>(A complex combination of hydrocarbons obtained from mixed coal tar pitch-polystyrene pyrolysis. Composed primarily of polycyclic aromatic hydrocarbons having carbon numbers predominantly in the range of $C_{20}$ through $C_{28}$ and having a softening point of 100 to 220 ° C according to DIN 52025.) | 648-075-00-4 | 309-958-7 | 101794-76-7 | M |
| Pitch, coal tar-petroleum; Pitch residues<br>(The residue from the distillation of a mixture of coal tar and aromatic petroleum streams. A solid with a softening point from 40 to 180 °C. Composed primarily of a complex combination of three or more membered condensed ring aromatic hydrocarbons.) | 648-076-00-X | 269-109-0 | 68187-57-5 | M |
| Phenanthrene, distillation residues; Heavy anthracene oil redistillate<br>(Residue from the distillation of crude phenanthrene boiling in the approximate range of 340 to 420 °C. It consists predominantly of phenanthrene, anthracene and carbazole.) | 648-077-00-5 | 310-169-5 | 122070-78-4 | M |

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| Distillates (coal tar), upper, fluorene-free; Wash oil redistillate<br>(A complex combination of hydrocarbons obtained by the crystallisation of tar oil. It consists of aromatic polycyclic hydrocarbons, primarily diphenyl, dibenzofuran and acenaphthene.) | 648-078-00-0 | 284-899-7 | 84989-10-6 | M |
| Residues (coal tar), creosote oil distillation; Wash oil redistillate<br>(The residue from the fractional distillation of wash oil boiling in the approximate range of 270 to 330 °C. It consists predominantly of dinuclear aromatic and heterocyclic hydrocarbons.) | 648-080-00-1 | 295-506-3 | 92061-93-3 | H |
| Distillates (coal), coke-oven light oil, naphthalene cut; Naphthalene oil<br>(The complex combination of hydrocarbons obtained from prefractionation (continuous distillation) of coke oven light oil. It consists predominantly of naphthalene, coumarone and indene and boils above 148 °C.) | 648-084-00-3 | 285-076-5 | 85029-51-2 | J, M |
| Distillates (coal tar), naphthalene oils, naphthalene-low; Napththalene oil redistillate<br>(A complex combination of hydrocarbons obtained by crystallisation of naphthalene oil. Composed primarily of naphthalene, alkyl naphthalenes and phenolic compounds.) | 648-086-00-4 | 284-898-1 | 84989-09-3 | J, M |
| Distillates (coal tar), naphthalene oil crystn. mother liquor; Naphthalene oil redistillate<br>(A complex combination of organic compounds obtained as a filtrate from the crystallisation of the naphthalene fraction from coal tar and boiling in the range of approximately 200 to 230 °C. Contains chiefly naphthalene, thionaphthene and alkylnaphthalenes.) | 648-087-00-X | 295-310-8 | 91995-49-2 | J, M |
| Extract residues (coal), naphthalene oil, alk.; Naphthalene oil extract residue<br>(A complex combination of hydrocarbons obtained from the alkali washing of naphthalene oil to remove phenolic compounds (tar acids). It is composed of naphthalene and alkyl naphthalenes.) | 648-088-00-5 | 310-166-9 | 121620-47-1 | J, M |
| Extract residues (coal), naphthalene oil, alk., naphthalene-low; Naphthalene oil extract residue<br>(A complex combination of hydrocarbons remaining after the removal of naphthalene from alkali-washed naphthalene oil by a crystallisation process. It is composed primarily of naphthalene and alkyl naphthalenes.) | 648-089-00-0 | 310-167-4 | 121620-48-2 | J, M |
| Distillates (coal tar), naphthalene oils, naphthalene-free, alk. extracts; Naphthalene oil extract residue<br>(The oil remaining after the removal of phenolic compounds (tar acids) from drained naphthalene oil by an alkali wash. Composed primarily of naphthalene and alkyl naphthalenes.) | 648-090-00-6 | 292-612-1 | 90640-90-7 | J, M |
| Extract residues (coal), naphthalene oil alk., distillation overheads; Naphthalene oil extract residue<br>(The distillation from alkali-washed naphthalene oil having an approximate distillation range of 180 to 220 °C. Composed primarily of naphthalene, alkylbenzenes, indene and indan.) | 648-091-00-1 | 292-627-3 | 90641-04-6 | J, M |
| Distillates (coal tar), naphthalene oils, methylnaphthalene fraction; Methylnaphthalene oil<br>(A distillate from the fractional distillation of high temperature coal tar. Composed primarily of substituted two ring aromatic hydrocarbons and aromatic nitrogen bases boiling in the range of approximately 225 to 255 °C.) | 648-092-00-7 | 309-985-4 | 101896-27-9 | J, M |

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| Distillates (coal tar), naphthalene oils, indole-methylnaphthalene fraction; Methylnaphthalene oil<br>(A distillate from the fractional distillation of high temperature coal tar. Composed primarily of indole and methylnaphthalene boiling in the range of approximately 235 to 255 °C.) | 648-093-00-2 | 309-972-3 | 101794-91-6 | J, M |
| Distillates (coal tar), naphthalene oils, acid extracts; Methylnaphtalene oil extract residue<br>(A complex combination of hydrocarbons obtained by debasing the methylnaphthalene fraction obtained by the distillation of coal tar and boiling in the range of approximately 230 to 255 °C. Contains chiefly 1(2)-methylnaphthalene, naphthalene, dimethylnaphthalene and biphenyl.) | 648-094-00-8 | 295-309-2 | 91995-48-1 | J, M |
| Extract residues (coal), naphthalene oil alk., distillation residues; Methylnaphthalene oil extract residue<br>(The residue from the distillation of alkali-washed naphthalene oil having an approximate distillation range of 220 to 300 °C. Composed primarily of naphthalene, alkylnaphthalenes and aromatic nitrogen bases.) | 648-095-00-3 | 292-628-9 | 90641-05-7 | J, M |
| Extract oils (coal), acidic, tar-base free; Methylnaphthalene oil extract residue<br>(The extract oil boiling in the range of approximately 220 to 265 °C from coal tar alkaline extract residue produced by an acidic wash such as aqueous sulfuric acid after distillation to remove tar bases. Composed primarily of alkylnaphthalenes.) | 648-096-00-9 | 284-901-6 | 84989-12-8 | J, M |
| Distillates (coal tar), benzole fraction, distillation residues; Wash oil<br>(A complex combination of hydrocarbons obtained from the distillation of crude benzole (high temperature coal tar). It may be a liquid with the approximate distillation range of 150 to 300 °C or a semi-solid or solid with a melting point up to 70 °C. It is composed primarily of naphthalene and alkyl naphthalenes.) | 648-097-00-4 | 310-165-3 | 121620-46-0 | J, M |
| Creosote oil, acenaphthene fraction<br>Wash oil | 648-098-00-X | 292-605-3 | 90640-84-9 | H |
| Creosote oil | 648-099-00-5 | 263-047-8 | 61789-28-4 | H |
| Creosote oil, high-boiling distillate; Wash oil<br>(The high-boiling distillation fraction obtained from the high temperature carbonisation of bituminous coal which is further refined to remove excess crystalline salts. It consists primarily of creosote oil with some of the normal polynuclear aromatic salts, which are components of coal tar distillates, removed. It is crystal free at approximately 5 °C.) | 648-100-00-9 | 274-565-9 | 70321-79-8 | H |
| Creosote | 648-101-00-4 | 232-287-5 | 8001-58-9 | H |
| Extract residues (coal), creosote oil acid; Wash oil extract residue<br>(A complex combination of hydrocarbons from the base-freed fraction from the distillation of coal tar, boiling in the range of approximately 250 to 280 °C. It consists predominantly of biphenyl and isomeric diphenylnaphthalenes.) | 648-102-00-X | 310-189-4 | 122384-77-4 | H |
| Anthracene oil, anthracene paste; Anthracene oil fraction<br>(The anthracene-rich solid obtained by the crystallisation and centrifuging of anthracene oil. It is composed primarily of anthracene, carbazole and phenanthrene.) | 648-103-00-5 | 292-603-2 | 90640-81-6 | J, M |

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| Anthracene oil, anthracene-low; Anthracene oil fraction<br>(The oil remaining after the removal, by a crystallisation process, of an anthracene-rich solid (anthracene paste) from anthracene oil. It is composed primarily of two, three and four membered aromatic compounds.) | 648-104-00-0 | 292-604-8 | 90640-82-7 | J, M |
| Residues (coal tar), anthracene oil distillation; Anthracene oil fraction<br>(The residue from the fraction distillation of crude anthracene boiling in the approximate range of 340 to 400 °C. It consists predominantly of tri- and polynuclear aromatic and heterocyclic hydrocarbons.) | 648-105-00-6 | 295-505-8 | 92061-92-2 | J, M |
| Anthracene oil, anthracene paste, anthracene fraction; Anthracene oil fraction<br>(A complex combination of hydrocarbons from the distillation of anthracene obtained by the crystallisation of anthracene oil from bituminous high temperature tar and boiling in the range of 330 to 350 °C. It contains chiefly anthracene, carbazole and phenanthrene.) | 648-106-00-1 | 295-275-9 | 91995-15-2 | J, M |
| Anthracene oil, anthracene paste, carbazole fraction; Anthracene oil fraction<br>(A complex combination of hydrocarbons from the distillation of anthracene obtained by crystallisation of anthrancene oil from bituminous coal high temperature tar and boiling in the approximate range of 350 to 360 °C. It contains chiefly anthracene, carbazole and phenanthrene.) | 648-107-00-7 | 295-276-4 | 91995-16-3 | J, M |
| Anthracene oil, anthracene paste, distillation lights; Anthracene oil fraction<br>(A complex combination of hydrocarbons from the distillation of anthracene obtained by crystallisation of anthracene oil from bituminous light temperature tar and boiling in the range of approximately 290 to 340 °C. It contains chiefly trinuclear aromatics and their dihydro derivatives.) | 648-108-00-2 | 295-278-5 | 91995-17-4 | J, M |
| Tar oils, coal, low-temperature; Tar oil, high boiling<br>(A distillate from low-temperature coal tar. Composed primarily of hydrocarbons, phenolic compounds and aromatic nitrogen bases boiling in the range of approximately 160 to 340 °C.) | 648-109-00-8 | 309-889-2 | 101316-87-4 | J, M |
| Phenols, ammonia liquor ext.; Alkaline extract<br>(The combination of phenols extracted, using isobutyl acetate, from the ammonia liquor condensed from the gas evolved in low-temperature (less than 700 °C) destructive distillation of coal. It consists predominantly of a mixture of monohydric and dihydric phenols.) | 648-111-00-9 | 284-881-9 | 84988-93-2 | J, M |
| Distillates (coal tar), light oils, alkaline extracts; Alkaline extract<br>(The aqueous extract from carbolic oil produced by an alkaline wash such as aqueous sodium hydroxide. Composed primarily of the alkali salts of various phenolic compounds.) | 648-112-00-4 | 292-610-0 | 90640-88-3 | J, M |
| Extracts, coal tar oil alkaline; Alkaline extract<br>(The extract from coal tar oil produced by an alkaline wash such as aqueous sodium hydroxide. Composed primarily of the alkali salts of various phenolic compounds.) | 648-113-00-X | 266-017-2 | 65996-83-0 | J, M |

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| Distillates (coal tar), naphthalene oils, alkaline extracts; Alkaline extract<br>(The aqueous extract from naphthalene oil produced by an alkaline wash such as aqueous sodium hydroxid. Composed primarily of the alkali salts of various phenolic compounds.) | 648-114-00-5 | 292-611-6 | 90640-89-4 | J, M |
| Extract residues (coal), tar oil alkaline, carbonated, limed; Crude phenols<br>(The product obtained by treatment of coal tar oil alkaline extract with $CO_2$ and CaO. Composed primarily of $CaCO_3$, $Ca(OH)_2$, $Na_2CO_3$ and other organic and inorganic impurities.) | 648-115-00-0 | 292-629-4 | 90641-06-8 | J, M |
| Tar acids, brown-coal, crude; Crude phenols<br>(An acidified alkaline extract of brown coal tar distillate. Composed primarily of phenol and phenol homologs.) | 648-117-00-1 | 309-888-7 | 101316-86-3 | J, M |
| Tar acids, brown-coal gasification; Crude phenols<br>(A complex combination of organic compounds obtained from brown coal gasification. Composed primarily of $C_{6-10}$ hydroxy aromatic phenols and their homologs.) | 648-118-00-7 | 295-536-7 | 92062-22-1 | J, M |
| Tar acids, distillation residues; Distillate phenols<br>(A residue from the distillation of crude phenol from coal. It consists predominantly of phenols having carbon numbers in the range of $C_8$ through $C_{10}$ with a softening point of 60 to 80 °C.) | 648-119-00-2 | 306-251-5 | 96690-55-0 | J, M |
| Tar acids, methylphenol fraction; Distillate phenols<br>(The fraction of tar acid rich in 3- and 4-methylphenol, recovered by distillation of low-temperature coal tar crude tar acids.) | 648-120-00-8 | 284-892-9 | 84989-04-8 | J, M |
| Tar acids, polyalkylphenol fraction; Distillate phenols<br>(The fraction of tar acids, recovered by distillation of low-temperature coal tar crude tar acids, having an approximate boiling range of 225 to 320 °C. Composed primarily of polyalkylphenols.) | 648-121-00-3 | 284-893-4 | 84989-05-9 | J, M |
| Tar acids, xylenol fraction; Distillate phenols<br>(The fraction of tar acids, rich in 2,4- and 2,5-dimethylphenol, recovered by distillation of low-temperature coal tar crude tar acids.) | 648-122-00-9 | 284-895-5 | 84989-06-0 | J, M |
| Tar acids, ethylphenol fraction; Distillate phenols<br>(The fraction of tar acids, rich in 3- and 4-ethylphenol, recovered by distillation of low-temperature coal tar crude tar acids.) | 648-123-00-4 | 284-891-3 | 84989-03-7 | J, M |
| Tar acids, 3,5-xylenol fraction; Distillate phenols<br>(The fraction of tar acids, rich in 3,5-dimethylphenol, recovered by distillation of low-temperature coal tar acids.) | 648-124-00-X | 284-896-0 | 84989-07-1 | J, M |
| Tar acids, residues, distillates, first-cut; Distillate phenols<br>(The residue from the distillation in the range of 235 to 355 °C of light carbolic oil.) | 648-125-00-5 | 270-713-1 | 68477-23-6 | J, M |
| Tar acids, cresylic, residues; Distillate phenols<br>(The residue from crude coal tar acids after removal of phenol, cresols, xylenols and any higher boiling phenols. A black solid with a melting point approximately 80 °C. Composed primarily of polyalkyphenols, resin gums, and inorganic salts.) | 648-126-00-0 | 271-418-0 | 68555-24-8 | J, M |

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| Phenols, $C_{9-11}$; Distillate phenols | 648-127-00-6 | 293-435-2 | 91079-47-9 | J, M |
| Tar acids, cresylic; Distillate phenols<br>(A complex combination of organic compounds obtained from brown coal and boiling in the range of approximately 200 to 230 °C. It contains chiefly phenols and pyridine bases.) | 648-128-00-1 | 295-540-9 | 92062-26-5 | J, M |
| Tar acids, brown-coal, $C_2$-alkylphenol fraction; Distillate phenols<br>(The distillate from the acidification of alkaline washed lignite tar distillate boiling in the range of approximately 200 to 230 °C. Composed primarily of m- and p-ethylphenol as well as cresols and xylenols.) | 648-129-00-7 | 302-662-9 | 94114-29-1 | J, M |
| Extract oils (coal), naphthalene oils; Acid extract<br>(The aqueous extract produced by an acidic wash of alkali-washed naphthalene oil. Composed primarily of acid salts of various aromatic nitrogen bases including pyridine, quinoline and their alkyl derivatives.) | 648-130-00-2 | 292-623-1 | 90641-00-2 | J, M |
| Tar bases, quinoline derivs.; Distillate bases | 648-131-00-8 | 271-020-7 | 68513-87-1 | J, M |
| Tar bases, coal, quinoline derivs. fraction; Distillate bases | 648-132-00-3 | 274-560-1 | 70321-67-4 | J, M |
| Tar bases, coal, distillation residues; Distillate bases<br>(The distillation residue remaining after the distillation of the neutralised, acid-extracted base-containing tar fractions obtained by the distillation of coal tars. It contains chiefly aniline, collidines, quinoline and quinoline derivatives and toluidines.) | 648- 133 -00-9 | 274-544-0 | 92062-29-8 | J, M |
| Hydrocarbon oils, arom., mixed with polyethylene and polypropylene, pyrolysed, light oil fraction; Heat treatment products<br>(The oil obtained from the heat treatment of a polyethylene/polypropylene mixture with coal tar pitch or aromatic oils. It consists predominantly of benzene and its homologs boiling in a range of approximately 70 to 120 °C.) | 648-134-00-4 | 309-745-9 | 100801-63-6 | J, M |
| Hydrocarbon oils, arom., mixed with polyethylene, pyrolysed, light oil fraction; Heat treatment products<br>(The oil obtained from the heat treatment of polyethylene with coal tar pitch or aromatic oils. It consists predominantly of benzene and its homologs boiling in a range of 70 to 120 °C.) | 648-135-00-X | 309-748-5 | 100801-65-8 | J, M |
| Hydrocarbon oils, arom., mixed with polystyrene, pyrolysed, light oil fraction; Heat treatment products<br>(The oil obtained from the heat treatment of polystyrene with coal tar pitch or aromatic oils. It consists predominantly of benzene and its homologs boiling in a range of approximately 70 to 210 °C.) | 648-136-00-5 | 309-749-0 | 100801-66-9 | J, M |
| Extract residues (coal), tar oil alkaline, naphthalene distillation residues; Naphthalene oil extract residue<br>(The residue obtained from chemical oil extracted after the removal of naphthalene by distillation composed primarily of two to four membered condensed ring aromatic hydrocarbons and aromatic nitrogen bases.) | 648-137-00-0 | 277-567-8 | 736665-18-6 | J, M |

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| Creosote oil, low-boiling distillate; Wash oil<br>(The low-boiling distillation fraction obtained from the high temperature carbonisation of bituminous coal, which is further refined to remove excess crystalline salts. It consists primarily of creosote oil with some of the normal polynuclear aromatic salts, which are components of coal tar distillate, removed. It is crystal free at approximately 38 °C.) | 648-138-00-6 | 274-566-4 | 70321-80-1 | H |
| Tar acids, cresylic, sodium salts, caustic solutions.; Alkaline extract | 648-139-00-1 | 272-361-4 | 68815-21-4 | J, M |
| Extract oils (coal), tar base; Acid extract<br>(The extract from coal tar oil alkaline extract residue produced by an acidic wash such as aqueous sulfuric acid after distillation to remove naphthalene. Composed primarily of the acid salts of various aromatic nitrogen bases including pyridine, quinoline, and their alkyl derivatives.) | 648-140-00-7 | 266-020-9 | 65996-86-3 | J, M |
| Tar bases, coal, crude; Crude tar bases<br>(The reaction product obtained by neutralising coal tar base extract oil with an alkaline solution, such as aqueous sodium hydroxide, to obtain the free bases. Composed primarily of such organic bases as acridine, phenanthridine, pyridine, quinoline and their alkyl derivatives.) | 648-141-00-2 | 266-018-8 | 65996-84-1 | J, M |
| Residues (coal), liquid solvent extraction;<br>(A cohesive powder composed of coal mineral matter and undissolved coal remaining after extraction of coal by a liquid solvent.) | 648-142-00-8 | 302-681-2 | 94114-46-2 | M |
| Coal liquids, liquid solvent extraction solution.;<br>(The product obtained by filtration of coal mineral matter and undissolved coal from coal extract solution produced by digesting coal in a liquid solvent. A black, viscous, highly complex liquid combination composed primarily of aromatic and partly hydrogenated aromatic hydrocarbons, aromatic nitrogen compounds, aromatic sulfur compounds, phenolic and other aromatic oxygen compounds and their alkyl derivatives.) | 648-143-00-3 | 302-682-8 | 94114-47-3 | M |
| Coal liquids, liquid solvent extraction;<br>(The substantially solvent-free product obtained by the distillation of the solvent from filtered coal extract solution produced by digesting coal in a liquid solvent. A black semi-solid, composed primarily of a complex combination of condensed-ring aromatic hydrocarbons, aromatic nitrogen compounds, aromatic sulfur compounds, phenolic compounds and other aromatic oxygen compounds, and their alkyl derivatives.) | 648-144-00-9 | 302-683-3 | 94114-48-4 | M |
| Light oil (coal), coke-oven; Crude benzole<br>(The volatile organic liquid extracted from the gas evolved in the high temperature (greater than 700 °C) destructive distillation of coal. Composed primarily of benzene, toluene, and xylenes. May contain other minor hydrocarbon constituents.) | 648-147-00-5 | 266-012-5 | 65996-78-3 | J |
| Distillates (coal), liquid solvent extraction, primary;<br>(The liquid product of condensation of vapours emitted during the digestion of coal in a liquid solvent and boiling in the range of approximately 30 to 300 °C. Composed primarily of partly hydrogenated condensed-ring aromatic hydrocarbons, aromatic compounds containing nitrogen, oxygen and sulfur, and their alkyl derivatives having carbon numbers predominantly in the range of $C_4$ through $C_{14}$.) | 648-148-00-0 | 302-688-0 | 94114-52-0 | J |

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| Distillates (coal), solvent extraction, hydrocracked;<br>(Distillate obtained by hydrocracking of coal extract or solution produced by the liquid solvent extraction or supercritical gas extraction process and boiling in the range of approximately 30 to 300 °C. Composed primarily of aromatic, hydrogenated aromatic and naphthenic compounds, their alkyl derivatives and alkanes with carbon numbers predominantly in the range of $C_4$ through $C_{14}$. Nitrogen, sulfur and oxygen-containing aromatic and hydrogenated aromatic compounds are also present.) | 648-149-00-6 | 302-689-6 | 94114-53-1 | J |
| Naphtha (coal), solvent extraction, hydrocracked;<br>(Fraction of the distillate obtained by hydrocracking of coal extract or solution produced by the liquid solvent extraction or supercritical gas extraction processes and boiling in the range of approximately 30 to 180 °C. Composed primarily of aromatic, hydrogenated aromatic and naphthenic compounds, their alkyl derivatives and alkanes with carbon numbers predominantly in the range of $C_4$ to $C_9$. Nitrogen, sulfur and oxygen-containing aromatic and hydrogenated aromatic compounds are also present.) | 648-150-00-1 | 302-690-1 | 94114-54-2 | J |
| Gasoline, coal solvent extraction, hydrocracked naphtha;<br>(Motor fuel produced by the reforming of the refined naphtha fraction of the products of hydrocracking of coal extract or solution produced by the liquid solvent extraction or supercritical gas extraction processes and boiling in the range of approximately 30 to 180 °C. Composed primarily of aromatic and naphthenic hydrocarbons, their alkyl derivatives and alkyl hydrocarbons having carbon numbers in the range of $C_4$ through $C_9$.) | 648-151-00-7 | 302-691-7 | 94114-55-3 | J |
| Distillates (coal), solvent extraction, hydrocracked middle;<br>(Distillate obtained from the hydrocracking of coal extract or solution produced by the liquid solvent extraction or supercritical gas extraction processes and boiling in the range of approximately 180 to 300 °C. Composed primarily of two-ring aromatic, hydrogenated aromatic and naphthenic compounds, their alkyl derivatives and alkanes having carbon numbers predominantly in the range of $C_9$ through $C_{14}$. Nitrogen, sulfur and oxygen-containing compounds are also present.) | 648-152-00-2 | 302-692-2 | 94114-56-4 | J |
| Distillates (coal), solvent extraction, hydrocracked hydrogenated middle;<br>(Distillate from the hydrogenation of hydrocracked middle distillate from coal extract or solution produced by the liquid solvent extraction or supercritical gas extraction processes and boiling in the range of approximately 180 to 280 °C. Composed primarily of hydrogenated two-ring carbon compounds and their alkyl derivatives having carbon numbers predominantly in the range of $C_9$ through $C_{14}$.) | 648-153-00-8 | 302-693-8 | 94114-57-5 | J |
| Light oil (coal), semi-coking process; Fresh oil<br>(The volatile organic liquid condensed from the gas evolved in the low temperature (less than 700 °C) destructive distillation of coal. Composed primarily of $C_{6-10}$ hydrocarbons.) | 648-156-00-4 | 292-635-7 | 90641-11-5 | J |
| Extracts (petroleum), light naphthenic distillate solvent | 649-001-00-3 | 265-102-1 | 64742-03-6 | H |
| Extracts (petroleum), heavy paraffinic distillate solvent | 649-002-00-9 | 265-103-7 | 64742-04-7 | H |
| Extracts (petroleum), light paraffinic distillate solvent | 649-003-00-4 | 265-104-2 | 6472-05-8 | H |

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| Extracts (petroleum), heavy naphthenic distillate solvent | 649-004-00-X | 265-111-0 | 64742-11-6 | H |
| Extracts (petroleum), light vacuum gas oil solvent | 649-005-00-5 | 295-341-7 | 91995-78-7 | H |
| Hydrocarbons $C_{26-55}$, arom.-rich | 649-006-00-0 | 307-753-7 | 97722-04-8 | H |
| Residues (petroleum), atm. tower; Heavy fuel oil<br>(A complex residuum from the atmospheric distillation of crude oil. It consists of hydrocarbons having carbon numbers predominantly greater than $C_{20}$ and boiling above approximately 350 °C. This stream is likely to contain 5 wt % or more of four- to six-membered condensed ring aromatic hydrocarbons.) | 649-008-00-1 | 265-045-2 | 64741-45-3 | |
| Gas oils (petroleum), heavy vacuum; Heavy fuel oil<br>(A complex combination of hydrocarbons produced by the vacuum distillation of the residuum from atmospheric distillation of crude oil. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_{20}$ through $C_{50}$ and boiling in the range of approximately 350 to 600 °C. This stream is likely to contain 5 wt % more of four- to six-membered condensed ring aromatic hydrocarbons.) | 649-009-00-7 | 265-058-3 | 64741-57-7 | |
| Distillates (petroleum), heavy catalytic cracked; Heavy fuel oil<br>(A complex combination of hydrocarbons produced by the distillation of products from a catalytic cracking process. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_{15}$ through $C_{35}$ and boiling in the range of approximately 260 to 500 °C. This stream is likely to contain 5 wt % or more of four- to six-membered condensed ring aromatic hydrocarbons.) | 649-010-00-2 | 265-063-0 | 64741-61-3 | |
| Clarified oils (petroleum), catalytic cracked; Heavy fuel oil<br>(A complex combination of hydrocarbons produced as the residual fraction from distillation of the products from a catalytic cracking process. It consists of hydrocarbons having carbon numbers predominantly greater than $C_{20}$ and boiling above approximately 350 °C. This stream is likely to contain 5 wt % or more of four- to six-membered condensed ring aromatic hydrocarbons.) | 649-011-00-8 | 265-064-6 | 64741-62-4 | |
| Residues (petroleum), hydrocracked; Heavy fuel oil<br>(A complex combination of hydrocarbons produced as the residual fraction from distillation of the products of a hydrocracking process. It consists of hydrocarbons having carbon numbers predominantly greater than $C_{20}$ and boiling above approximately 350 °C.) | 649-012-00-3 | 265-076-1 | 64741-75-9 | |
| Residues (petroleum), thermal cracked; Heavy fuel oil<br>(A complex combination of hydrocarbons produced as the residual fraction from distillation of the product from a thermal cracking process. It consists predominantly of unsaturated hydrocarbons having carbon numbers predominantly greater than $C_{20}$ and boiling above approximately 350 °C. This stream is likely to contain 5 wt % or more of 4- to 6-membered condensed ring aromatic hydrocarbons.) | 649-013-00-9 | 265-081-9 | 64741-80-6 | |

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| Distillates (petroleum), heavy thermal cracked; Heavy fuel oil<br>(A complex combination of hydrocarbons from the distillation of the products from a thermal cracking process. It consists predominantly of unsaturated hydrocarbons having carbon numbers predominantly in the range of $C_{15}$ through $C_{36}$ and boiling in the range of approximately 260 to 480 °C. This stream is likely to contain 5 wt % or more or four- to six-membered condensed ring aromatic hydrocarbons.) | 649-014-00-4 | 265-082-4 | 64741-81-7 | |
| Gas oils (petroleum), hydrotreated vacuum; Heavy fuel oil<br>(A complex combination of hydrocarbons obtained by treating a petroleum fraction with hydrogen in the presence of a catalyst. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_{13}$ through $C_{50}$ and boiling in the range of approximately 230 to 600 °C. This stream is likely to contain 5 wt % or more of four- to six-membered condensed ring aromatic hydrocarbons.) | 649-015-00-X | 265-162-9 | 64742-59-2 | |
| Residues (petroleum) hydrodesulphurised atmospheric tower; Heavy fuel oil<br>(A complex combination of hydrocarbons obtained by treating an atmospheric tower residuum with hydrogen in the presence of a catalyst under conditions primarily to remove organic sulfur compounds. It consists of hydrocarbons having carbon numbers predominantly greater than $C_{20}$ and boiling above approximately 350 °C. This stream is likely to contain 5 wt % or more of four- to six-membered condensed ring aromatic hydrocarbons.) | 649-016-00-5 | 265-181-2 | 64742-78-5 | |
| Gas oils (petroleum), hydrodesulphurised heavy vacuum; Heavy fuel oil<br>(A complex combination of hydrocarbons obtained from a catalytic hydrodesulphurisation process. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_{20}$ through $C_{50}$ and boiling in the range of approximately 350 to 600 °C. This stream is likely to contain 5 wt % or more of four- to six-membered condensed ring aromatic hydrocarbons.) | 649-017-00-0 | 265-189-6 | 64742-86-5 | |
| Residues (petroleum), steam-cracked; Heavy fuel oil<br>(A complex combination of hydrocarbons obtained as the residual fraction from the distillation of the products of a steam cracking process (including steam cracking to produce ethylene). It consists predominantly of unsaturated hydrocarbons having carbon numbers predominantly greater than $C_{14}$ and boiling above approximately 260 °C. This stream is likely to contain 5 wt % or more of four- to six-membered condensed ring aromatic hydrocarbons.) | 649-018-00-6 | 265-193-8 | 64742-90-1 | |
| Residues (petroleum), atmospheric; Heavy fuel oil<br>(A complex residuum from atmospheric distillation of crude oil. It consists of hydrocarbons having carbon numbers predominantly greater than $C_{11}$ and boiling above approximately 200 °C. This stream is likely to contain 5 wt % or more of four- to six-membered condensed ring aromatic hydrocarbons.) | 649-019-00-1 | 269-777-3 | 68333-22-2 | |

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| Clarified oils (petroleum), hydrodesulphurised catalytic cracked; Heavy fuel oil<br>(A complex combination of hydrocarbons obtained by treating catalytic cracked clarified oil with hydrogen to convert organic sulfur to hydrogen sulfide which is removed. It consists of hydrocarbons having carbon numbers predominantly greater than $C_{20}$ and boiling above approximately 350 °C. This stream is likely to contain 5 wt % or more of four- to six-membered condensed ring aromatic hydrocarbons.) | 649-020-00-7 | 269-782-0 | 68333-26-6 | |
| Distillates (petroleum), hydrodesulphurised intermediate catalytic cracked; Heavy fuel oil<br>(A complex combination of hydrocarbons obtained by treating intermediate catalytic cracked distillates with hydrogen to convert organic sulfur to hydrogen sulfide which is removed. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_{11}$ through $C_{30}$ and boiling in the range of approximately 205 to 450 °C. It contains a relatively large proportion of tricyclic aromatic hydrocarbons.) | 649-021-00-2 | 269-783-6 | 68333-27-7 | |
| Distillates (petroleum), hydrodesulphurised heavy catalytic cracked; Heavy fuel oil<br>(A complex combination of hydrocarbons obtained by treatment of heavy catalytic cracked distillates with hydrogen to convert organic sulfur to hydrogen sulfide which is removed. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_{15}$ through $C_{35}$ and boiling in the range of approximately 260 to 500 °C. This stream is likely to contain 5 wt % or more of four- to six-membered condensed ring aromatic hydrocarbons.) | 649-022-00-8 | 269-784-1 | 68333-28-8 | |
| Fuel oil, residues-straight-run gas oils, high-sulfur; Heavy fuel oil | 649-023-00-3 | 270-674-0 | 68476-32-4 | |
| Fuel oil, residual; Heavy fuel oil<br>(The liquid product from various refinery streams, usually residues. The composition is complex and varies with the source of the crude oil.) | 649-024-00-9 | 270-675-6 | 68476-33-5 | |
| Residues (petroleum), catalytic reformer fractionator residue distillation; Heavy fuel oil<br>(A complex residuum from the distillation of catalytic reformer fractionator residue. It boils above approximately 399 °C.) | 649-025-00-4 | 270-792-2 | 68478-13-7 | |
| Residues (petroleum), heavy coker gas oil and vacuum gas oil; Heavy fuel oil<br>(A complex combination of hydrocarbons produced as the residual fraction from the distillation of heavy coker gas oil and vacuum gas oil. It predominantly consists of hydrocarbons having carbon numbers predominantly greater than $C_{13}$ and boiling above approximately 230 °C.) | 649-026-00-X | 270-796-4 | 68478-17-1 | |
| Residues (petroleum), heavy coker and light vacuum; Heavy fuel oil<br>(A complex combination of hydrocarbons produced as the residual fraction from the distillation of heavy coker gas oil and light vacuum gas oil. It consists predominantly of hydrocarbons having carbon numbers predominantly greater than $C_{13}$ and boiling above approximately 230 °C.) | 649-027-00-5 | 270-983-0 | 68512-61-8 | |

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| Residues (petroleum), light vacuum; Heavy fuel oil<br>(A complex residuum from the vacuum distillation of the residuum from the atmospheric distillation of crude oil. It consists of hydrocarbons having carbon numbers predominantly greater than $C_{13}$ and boiling above approximately 230 °C.) | 649-028-00-0 | 270-984-6 | 68512-62-9 | |
| Residues (petroleum), steam-cracked light; Heavy fuel oil<br>(A complex residuum from the distillation of the products from a steam-cracking process. It consists predominantly of aromatic and unsaturated hydrocarbons having carbon numbers greater than $C_7$ and boiling in the range of approximately 101 to 555 °C.) | 649-029-00-6 | 271-013-9 | 68513-69-9 | |
| Fuel oil, No 6; Heavy fuel oil<br>(A distillate oil having a minimum viscosity of 197 $10^{-6}$ $m^2s^{-1}$ at 37,7 °C to a maximum of 197 $10^{-5}$ $m^2s^{-1}$ at 37,7 °C.) | 649-030-00-1 | 271-384-7 | 68553-00-4 | |
| Residues (petroleum), topping plant, low-sulfur; Heavy fuel oil<br>(A low-sulfur complex combination of hydrocarbons produced as the residual fraction from the topping plant distillation of crude oil. It is the residuum after the straight-run gasoline cut, kerosene cut and gas oil cut have been removed.) | 649-031-00-7 | 271-763-7 | 68607-30-7 | |
| Gas oils (petroleum), heavy atmospheric; Heavy fuel oil<br>(A complex combination of hydrocarbons obtained by the distillation of crude oil. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_7$ through $C_{35}$ and boiling in the range of approximately 121 to 510 °C.) | 649-032-00-2 | 272-184-2 | 68783-08-4 | |
| Residues (petroleum), coker scrubber, Condensed-ring-arom.-contg.; Heavy fuel oil<br>(A very complex combination of hydrocarbons produced as the residual fraction from the distillation of vacuum residuum and the products from a thermal cracking process. It consists predominantly of hydrocarbons having carbon numbers predominantly greater than $C_{20}$ and boiling above approximately 350 °C. This stream is likely to contain 5 wt % or more of four- to six-membered condensed ring aromatic hydrocarbons.) | 649-033-00-8 | 272-187-9 | 68783-13-1 | |
| Distillates (petroleum), petroleum residues vacuum; Heavy fuel oil<br>(A complex combination of hydrocarbons produced by the vacuum distillation of the residuum from the atmospheric distillation of crude oil.) | 649-034-00-3 | 273-263-4 | 68955-27-1 | |
| Residues (petroleum), steam-cracked, resinous; Heavy fuel oil<br>(A complex residuum from the distillation of steam-cracked petroleum residues.) | 649-035-00-9 | 273-272-3 | 68955-36-2 | |
| Distillates (petroleum), intermediate vacuum; Heavy fuel oil<br>(A complex combination of hydrocarbons produced by the vacuum distillation of the residuum from atmospheric distillation of crude oil. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_{14}$ through $C_{42}$ and boiling in the range of approximately 250 to 545 °C. This stream is likely to contain 5 wt % or more of four- to six-membered condensed ring aromatic hydrocarbons.) | 649-036-00-4 | 274-683-0 | 70592-76-6 | |

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| Distillates (petroleum), light vacuum; Heavy fuel oil<br>(A complex combination of hydrocarbons produced by the vacuum distillation of the residuum from atmospheric distillation of crude oil. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_{11}$ through $C_{35}$ and boiling in the range of approximately 250 to 545 °C.) | 649-037-00-X | 247-684-6 | 70592-77-7 | |
| Distillates (petroleum), vacuum; Heavy fuel oil<br>(A complex combination of hydrocarbons produced by the vacuum distillation of the residuum from atmospheric distillation of crude oil. It consists of hydrocarbons having numbers predominantly in the range of $C_{15}$ through $C_{50}$ and boiling in the range of approximately 270 to 600 °C. This stream is likely to contain 5 wt % or more of four- to six-membered condensed ring aromatic hydrocarbons.) | 649-038-00-5 | 274-685-1 | 70592-78-8 | |
| Gas oils (petroleum), hydrodesulphurised coker heavy vacuum; Heavy fuel oil<br>(A complex combination of hydrocarbons obtained by hydrodesulphurisation of heavy coker distillate stocks. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range $C_{18}$ to $C_{44}$ and boiling in the range of approximately 304 to 548 °C. Likely to contain 5 wt % or more of four- to six-membered condensed ring aromatic hydrocarbons.) | 649-039-00-0 | 285-555-9 | 85117-03-9 | |
| Residues (petroleum), steam-cracked, distillates; Heavy fuel oil<br>(A complex combination of hydrocarbons obtained during the production of refined petroleum tar by the distillation of steam cracked tar. It consists predominantly of aromatic and other hydrocarbons and organic sulfur compounds.) | 649-040-00-6 | 292-657-7 | 90669-75-3 | |
| Residues (petroleum), vacuum, light; Heavy fuel oil<br>(A complex residuum from the vacuum distillation of the residuum from atmospheric distillation of crude oil. It consists predominantly of hydrocarbons having carbon numbers predominantly greater than $C_{24}$ and boiling above approximately 390 °C.) | 649-041-00-1 | 292-658-2 | 90669-76-4 | |
| Fuel oil, heavy, high-sulphur; Heavy fuel oil<br>(A complex combination of hydrocarbons obtained by the distillation of crude petroleum. It consists predominantly of aliphatic, aromatic and cycloaliphatic hydrocarbons having carbon numbers predominantly higher than $C_{25}$ and boiling above approximately 400 °C.) | 649-042-00-7 | 295-396-7 | 92045-14-2 | |
| Residues (petroleum), catalytic cracking; Heavy fuel oil<br>(A complex combination of hydrocarbons produced as the residual fraction from the distillation of the products from a catalytic cracking process. It consists predominantly of hydrocarbons having carbon numbers predominantly greater than $C_{11}$ and boiling above approximately 200 °C.) | 649-043-00-2 | 295-511-0 | 92061-97-7 | |
| Distillates (petroleum), intermediate catalytic cracked, thermally degraded; Heavy fuel oil<br>(A complex combination of hydrocarbons produced by the distillation of products from a catalytic cracking process which has been used as a heat transfer fluid. It consists predominantly of hydrocarbons boiling in the range of approximately 220 to 450 °C. This stream is likely to contain organic sulfur compounds.) | 649-044-00-8 | 295-990-6 | 92201-59-7 | |

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|---|---|---|---|---|
| Residual oils (petroleum); Heavy fuel oil<br>(A complex combination of hydrocarbons, sulfur compounds and metal-containing organic compounds obtained as the residue from refinery fractionation cracking processes. It produces a finished oil with a viscosity above 2 $10^{-6}$ $m^2.s^{-1}$ at 100 °C.) | 649-045-00-3 | 298-754-0 | 93821-66-0 | |
| Residues, steam cracked, thermally treated; Heavy fuel oil<br>(A complex combination of hydrocarbons obtained by the treatment and distillation of raw steam-cracked naphtha. It consists predominantly of unsaturated hydrocarbons boiling in the range above approximately 180 °C.) | 649-046-00-9 | 308-733-0 | 98219-64-8 | |
| Distillates (petroleum), hydrodesulphurised full-range middle; Heavy fuel oil<br>(A complex combination of hydrocarbons obtained by treating a petroleum stock with hydrogen. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of $C_9$ through $C_{25}$ and boiling in the range of approximately 150 to 400 °C.) | 649-047-00-4 | 309-863-0 | 101316-57-8 | |
| Residues (petroleum), catalytic reformer fractionator; Heavy fuel oil<br>(A complex combination of hydrocarbons produced as the residual fraction from distillation of the product from a catalytic reforming process. It consists of predominantly aromatic hydrocarbons having carbon numbers predominantly in the range of $C_{10}$ through $C_{25}$ and boiling in the range of approximately 160 to 400 °C. This stream is likely to contain 5 wt % or more of four- or six-membered condensed ring aromatic hydrocarbons.) | 649-048-00-X | 265-069-3 | 64741-67-9 | |
| Petroleum; Crude oil<br>(A complex combination of hydrocarbons. It consists predominantly of aliphatic, alicyclic and aromatic hydrocarbons. It may also contain small amounts of nitrogen, oxygen and sulfur compounds. This category encompasses light, medium, and heavy petroleums, as well as the oils extended from tar sands. Hydrocarbonaceous materials requiring major chemical changes for their recovery or conversion to petroleum refinery feedstocks such as crude shale oils; upgraded shale oils and liquid coal fuels are not included in this definition.) | 649-049-00-5 | 232-298-5 | 8002-05-9 | |
| Gases (petroleum), catalytic cracked naphtha depropaniser overhead, $C_3$-rich acid-free; Petroleum gas<br>(A complex combination of hydrocarbons obtained from fractionation of catalytic cracked hydrocarbons and treated to remove acidic impurities. It consists of hydrocarbons having carbon numbers in the range of $C_2$ through $C_4$, predominantly $C_3$.) | 649-062-00-6 | 270-755-0 | 68477-73-6 | K |
| Gases (petroleum), catalytic cracker; Petroleum gas<br>(A complex combination of hydrocarbons produced by the distillation of the products from a catalytic cracking process. It consists predominantly of aliphatic hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_6$.) | 649-063-00-1 | 270-756-6 | 68477-74-7 | K |
| Gases (petroleum), catalytic cracker, $C_{1-5}$-rich; Petroleum gas<br>(A complex combination of hydrocarbons produced by the distillation of products from a catalytic cracking process. It consists of aliphatic hydrocarbons having carbon numbers in the range of $C_1$ through $C_6$, predominantly $C_1$ through $C_5$.) | 649-064-00-7 | 270-757-1 | 68477-75-8 | K |

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| Gases (petroleum), catalytic polymd. naphtha stabiliser overhead, $C_{2-4}$-rich; Petroleum gas<br>(A complex combination of hydrocarbons obtained from the fractionation stabilisation of catalytic polymerised naphtha. It consists of aliphatic hydrocarbons having carbon numbers in the range of $C_2$ through $C_6$, predominantly $C_2$ through $C_4$.) | 649-065-00-2 | 270-758-7 | 68477-76-9 | K |
| Gases (petroleum), catalytic reformer, $C_{1-4}$-rich; Petroleum gas<br>(A complex combination of hydrocarbons produced by distillation of products from a catalytic reforming process. It consists of hydrocarbons having carbon numbers in the range of $C_1$ through $C_6$, predominantly $C_1$ through $C_4$.) | 649-066-00-8 | 270-760-8 | 68477-79-2 | K |
| Gases (petroleum), $C_{3-5}$ olefinic-paraffinic alkylation feed; Petroleum gas<br>(A complex combination of olefinic and paraffinic hydrocarbons having carbon numbers in the range of $C_3$ through $C_5$ which are used as alkylation feed. Ambient temperatures normally exceed the critical temperature of these combinations.) | 649-067-00-3 | 270-765-5 | 68477-83-8 | K |
| Gases (petroleum), $C_4$-rich; Petroleum gas<br>(A complex combination of hydrocarbons produced by distillation of products from a catalytic fractionation process. It consists of aliphatic hydrocarbons having carbon numbers in the range of $C_3$ through $C_5$, predominantly $C_4$.) | 649-068-00-9 | 270-767-6 | 68477-85-0 | K |
| Gases (petroleum), deethaniser overheads; Petroleum gas<br>(A complex combination of hydrocarbons produced from distillation of the gas and gasoline fractions from the catalytic cracking process. It contains predominantly ethane and ethylene.) | 649-069-00-4 | 270-768-1 | 68477-86-1 | K |
| Gases (petroleum), deisobutaniser tower overheads; Petroleum gas<br>(A complex combination of hydrocarbons produced by the atmospheric distillation of a butane-butylene stream. It consists of aliphatic hydrocarbons having carbon numbers predominantly in the range of $C_3$ through $C_4$.) | 649-070-00-X | 270-769-7 | 68477-87-2 | K |
| Gases (petroleum), depropaniser dry, propene-rich; Petroleum gas<br>(A complex combination of hydrocarbons produced by the distillation of products from the gas and gasoline fractions of a catalytic cracking process. It consists predominantly of propylene with some ethane and propane.) | 649-071-00-5 | 270-772-3 | 68477-90-7 | K |
| Gases (petroleum), depropaniser overheads; Petroleum gas<br>(A complex combination of hydrocarbons produced by distillation of products from the gas and gasoline fractions of a catalytic cracking process. It consists of aliphatic hydrocarbons having carbon numbers predominantly in the range of $C_2$ through $C_4$.) | 649-072-00-0 | 270-773-9 | 68477-91-8 | K |
| Gases (petroleum), gas recovery plant depropaniser overheads; Petroleum gas<br>(A complex combination of hydrocarbons obtained by fractionation of miscellaneous hydrocarbon streams. It consists predominantly of hydrocarbons having carbon numbers in the range of $C_1$ through $C_4$, predominantly propane.) | 649-073-00-6 | 270-777-0 | 68477-94-1 | K |

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| Gases (petroleum), Girbatol unit feed; Petroleum gas<br>(A complex combination of hydrocarbons that is used as the feed into the Girbatol unit to remove hydrogen sulfide. It consists of aliphatic hydrocarbons having carbon numbers predominantly in the range of $C_2$ through $C_4$.) | 649-074-00-1 | 270-778-6 | 68477-95-2 | K |
| Gases (petroleum), isomerised naphtha fractionator, $C_4$-rich, hydrogen sulfide-free; Petroleum gas | 649-075-00-7 | 270-782-8 | 68477-99-6 | K |
| Tail gas (petroleum), catalytic cracked clarified oil and thermal cracked vacuum residue fractionation reflux drum; Petroleum gas<br>(A complex combination of hydrocarbons obtained from fractionation of catalytic cracked clarified oil and thermal cracked vacuum residue. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_6$.) | 649-076-00-2 | 270-802-5 | 68478-21-7 | K |
| Tail gas (petroleum), catalytic cracked naphtha stabilisation absorber; Petroleum gas<br>(A complex combination of hydrocarbons obtained from the stabilisation of catalytic cracked naphtha. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_6$.) | 649-077-00-8 | 270-803-0 | 68478-22-8 | K |
| Tail gas (petroleum), catalytic cracker, catalytic reformer and hydrodesulphuriser combined fractionater; Petroleum gas<br>(A complex combination of hydrocarbons obtained from the fractionation of products from catalytic cracking, catalytic reforming and hydrodesulphurising processes treated to remove acidic impurities. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_5$.) | 649-078-00-3 | 270-804-6 | 68478-24-0 | K |
| Tail gas (petroleum), catalytic reformed naphtha fractionation stabiliser; Petroleum gas<br>(A complex combination of hydrocarbons obtained from the fractionation stabilisation of catalytic reformed naphtha. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_4$.) | 649-079-00-9 | 270-806-7 | 68478-26-2 | K |
| Tail gas (petroleum), saturate gas plant mixed stream, $C_4$-rich; Petroleum gas<br>(A complex combination of hydrocarbons obtained from the fractionation stabilisation of straight-run naphtha, distillation tail gas and catalytic reformed naphtha stabiliser tail gas. It consists of hydrocarbons having carbon numbers in the range of $C_3$ through $C_6$, predominantly butane and isobutane.) | 649-080-00-4 | 270-813-5 | 68478-32-0 | K |
| Tail gas (petroleum), saturate gas recovery plant, $C_{1-2}$-rich; Petroleum gas<br>(A complex combination of hydrocarbons obtained from fractionation of distillate tail gas, straight-run naphtha, catalytic reformed naphtha stabiliser tail gas. It consists predominantly of hydrocarbons having carbon numbers in the range of $C_1$ through $C_5$, predominantly methane and ethane.) | 649-081-00-X | 270-814-0 | 68478-33-1 | K |
| Tail gas (petroleum), vacuum residues thermal cracker; Petroleum gas<br>(A complex combination of hydrocarbons obtained from the thermal cracking of vacuum residues. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_5$.) | 649-082-00-5 | 270-815-6 | 68478-34-2 | K |

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| Hydrocarbons, $C_{3-4}$-rich, petroleum distillate; Petroleum gas<br>(A complex combination of hydrocarbons produced by distillation and condensation of crude oil. It consists of hydrocarbons having carbon numbers in the range of $C_3$ through $C_5$, predominantly $C_3$ through $C_4$.) | 649-083-00-0 | 270-990-9 | 68512-91-4 | K |
| Gases (petroleum), full-range straight-run naphtha dehexaniser off; Petroleum gas<br>(A complex combination of hydrocarbons obtained by the fractionation of the full-range straight-run naphtha. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_2$ through $C_6$.) | 649-084-00-6 | 271-000-8 | 68513-15-5 | K |
| Gases (petroleum), hydrocracking depropaniser off, hydrocarbon-rich; Petroleum gas<br>(A complex combination of hydrocarbon produced by the distillation of products from a hydrocracking process. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_4$. It may also contain small amounts of hydrogen and hydrogen sulfide.) | 649-085-00-1 | 271-001-3 | 68513-16-6 | K |
| Gases (petroleum), light straight-run naphtha stabiliser off; Petroleum gas<br>(A complex combination of hydrocarbons obtained by the stabilisation of light straight-run naphtha. It consists of saturated aliphatic hydrocarbons having carbon numbers predominantly in the range of $C_2$ through $C_6$.) | 649-086-00-7 | 271-002-9 | 68513-17-7 | K |
| Residues (petroleum), alkylation splitter, $C_4$-rich; Petroleum gas<br>(A complex residuum from the distillation of streams from various refinery operations. It consists of hydrocarbons having carbon numbers in the range of $C_4$ through $C_5$, predominantly butane, and boiling in the range of approximately - 11,7 to 27,8 °C.) | 649-087-00-2 | 271-010-2 | 68513-66-6 | K |
| Hydrocarbons, $C_{1-4}$, sweetened; Petroleum gas<br>(A complex combination of hydrocarbons obtained by subjecting hydrocarbon gases to a sweetening process to convert mercaptans or to remove acidic impurities. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_4$ and boiling in the range of approximately - 164 to - 0,5 °C.) | 649-089-00-3 | 271-038-5 | 68514-36-3 | K |
| Hydrocarbons, $C_{1-3}$; Petroleum gas<br>(A complex combination of hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_3$ and boiling in the range of approximately - 164 to - 42 °C.) | 649-090-00-9 | 271-259-7 | 68527-16-2 | K |
| Hydrocarbons, $C_{1-4}$, debutaniser fraction; Petroleum gas | 649-091-00-4 | 271-261-8 | 68527-19-5 | K |
| Gases (petroleum), $C_{1-5}$, wet; Petroleum gas<br>(A complex combination of hydrocarbons produced by the distillation of crude oil and/or the cracking of tower gas oil. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_5$.) | 649-092-00-X | 271-624-0 | 68602-83-5 | K |
| Hydrocarbons, $C_{2-4}$; Petroleum gas | 649-093-00-5 | 271-734-9 | 68606-25-7 | K |
| Hydrocarbons, $C_3$; Petroleum gas | 649-094-00-0 | 271-735-4 | 68606-26-8 | K |

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| Gases (petroleum), alkylation feed; Petroleum gas<br>(A complex combination of hydrocarbons produced by the catalytic cracking of gas oil. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_3$ through $C_4$.) | 649-095-00-6 | 271-737-5 | 68606-27-9 | K |
| Gases (petroleum), depropaniser bottoms fractionation off; Petroleum gas<br>(A complex combination of hydrocarbons obtained from the fractionation of depropaniser bottoms. It consists predominantly of butane, isobutane and butadiene.) | 649-096-00-1 | 271-742-2 | 68606-34-8 | K |
| Gases (petroleum), refinery blend; Petroleum gas<br>(A complex combination obtained from various processes. It consists of hydrogen, hydrogen sulfide and hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_5$.) | 649-097-00-7 | 272-183-7 | 68783-07-3 | K |
| Gases (petroleum), catalytic cracking; Petroleum gas<br>(A complex combination of hydrocarbons produced by the distillation of the products from a catalytic cracking process. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of $C_3$ through $C_5$.) | 649-098-00-2 | 272-203-4 | 68783-64-2 | K |
| Gases (petroleum), $C_{2-4}$, sweetened; Petroleum gas<br>(A complex combination of hydrocarbons obtained by subjecting a petroleum distillate to a sweetening process to convert mercaptans or to remove acidic impurities. It consists predominantly of saturated and unsaturated hydrocarbons having carbon numbers predominantly in the range of $C_2$ through $C_4$ and boiling in the range of approximately - 51 to - 34 °C.) | 649-099-00-8 | 272-205-5 | 68783-65-3 | K |
| Gases (petroleum), crude oil fractionation off; Petroleum gas<br>(A complex combination of hydrocarbons produced by the fractionation of crude oil. It consists of saturated aliphatic hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_5$.) | 649-100-00-1 | 272-871-7 | 68918-99-0 | K |
| Gases (petroleum), dehexaniser off; Petroleum gas<br>(A complex combination of hydrocarbons obtained by the fractionation of combined naphtha streams. It consists of saturated aliphatic hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_5$.) | 649-101-00-7 | 272-872-2 | 68919-00-6 | K |
| Gases (petroleum), light straight run gasoline fractionation stabiliser off; Petroleum gas<br>(A complex combination of hydrocarbons obtained by the fractionation of light straight-run gasoline. It consists of saturated aliphatic hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_5$.) | 649-102-00-2 | 272-878-5 | 68919-05-1 | K |
| Gases (petroleum), naphtha unifiner desulphurisation stripper off; Petroleum gas<br>(A complex combination of hydrocarbons produced by a naphtha unifiner desulphurisation process and stripped from the naphtha product. It consists of saturated aliphatic hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_4$.) | 649-103-00-8 | 272-879-0 | 68919-06-2 | K |

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| Gases (petroleum), straight-run naphtha catalytic reforming off; Petroleum gas<br>(A complex combination of hydrocarbons obtained by the catalytic reforming of straight-run naphtha and fractionation of the total effluent. It consists of methane, ethane, and propane.) | 649-104-00-3 | 272-882-7 | 68919-09-5 | K |
| Gases (petroleum), fluidised catalytic cracker splitter overheads; Petroleum gas<br>(A complex combination of hydrocarbons produced by the fractionation of the charge to the $C_3$-$C_4$ splitter. It consists predominantly of $C_3$ hydrocarbons.) | 649-105-00-9 | 272-893-7 | 68919-20-0 | K |
| Gases (petroleum), straight-run stabiliser off; Petroleum gas<br>(A complex combination of hydrocarbons obtained from the fractionation of the liquid from the first tower used in the distillation of crude oil. It consists of saturated aliphatic hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_4$.) | 649-106-00-4 | 272-883-2 | 68919-10-8 | K |
| Gases (petroleum), catalytic cracked naphtha debutaniser; Petroleum gas<br>(A complex combination of hydrocarbons obtained from fractionation of catalytic cracked naphtha. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_4$.) | 649-107-00-X | 273-169-3 | 68952-76-1 | K |
| Tail gas (petroleum), catalytic cracked distillate and naphtha stabiliser; Petroleum gas<br>(A complex combination of hydrocarbons obtained by the fractionation of catalytic cracked naphtha and distillate. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_4$.) | 649-108-00-5 | 273-170-9 | 68952-77-2 | K |
| Tail gas (petroleum), thermal-cracked distillate, gas oil and naphtha absorber; Petroleum gas<br>(A complex combination of hydrocarbons obtained from the separation of thermal-cracked distillates, naphtha and gas oil. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_6$.) | 649-109-00-0 | 273-175-6 | 68952-81-8 | K |
| Tail gas (petroleum), thermal cracked hydrocarbon fractionation stabiliser, petroleum coking; Petroleum gas<br>(A complex combination of hydrocarbons obtained from the fractionation stabilisation of thermal cracked hydrocarbons from a petroleum coking process. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_6$.) | 649-110-00-6 | 273-176-1 | 68952-82-9 | K |
| Gases (petroleum, light steam-cracked, butadiene conc.; Petroleum gas<br>(A complex combination of hydrocarbons produced by the distillation of products from a thermal cracking process. It consists of hydrocarbons having a carbon number predominantly of $C_4$.) | 649-111-00-1 | 273-265-5 | 68955-28-2 | K |

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| Gases (petroleum), straight-run naphtha catalytic reformer stabiliser overhead; Petroleum gas<br>(A complex combination of hydrocarbons obtained by the catalytic reforming of straight-run naphtha and the fractionation of the total effluent. It consists of saturated aliphatic hydrocarbons having carbon numbers predominantly in the range of $C_2$ through $C_4$.) | 649-112-00-7 | 273-270-2 | 68955-34-0 | K |
| Hydrocarbons, $C_4$; Petroleum gas | 649-113-00-2 | 289-339-5 | 87741-01-3 | K |
| Alkanes, $C_{1-4}$, $C_3$-rich; Petroleum gas | 649-114-00-8 | 292-456-4 | 90622-55-2 | K |
| Gases (petroleum), steam-cracker $C_3$-rich; Petroleum gas<br>(A complex combination of hydrocarbons produced by the distillation of products from a steam cracking process. It consists predominantly of propylene with some propane and boils in the range of approximately - 70 to 0 °C.) | 649-115-00-3 | 295-404-9 | 92045-22-2 | K |
| Hydrocarbons, $C_4$, steam-cracker distillate; Petroleum gas<br>(A complex combination of hydrocarbons produced by the distillation of the products of a steam cracking process. It consists predominantly of hydrocarbons having a carbon number of $C_4$, predominantly 1-butene and 2-butene, containing also butane and isobutene and boiling in the range of approximately - 12 to 5 °C.) | 649-116-00-9 | 295-405-4 | 92045-23-3 | K |
| Petroleum gases, liquefied, sweetened, $C_4$ fraction; Petroleum gas<br>(A complex combination of hydrocarbons obtained by subjecting a liquified petroleum gas mix to a sweetening process to oxidise mercaptans or to remove acidic impurities. It consists predominantly of $C_4$ saturated and unsaturated hydrocarbons.) | 649-117-00-4 | 295-463-0 | 92045-80-2 | K |
| Hydrocarbons, $C_4$, 1,3-butadiene-and isobutene-free; Petroleum gas | 649-118-00-X | 306-004-1 | 95465-89-7 | K |
| Raffinates (petroleum), steam-cracked $C_4$ fraction cuprous ammonium acetate extraction, $C_{3-5}$ and $C_{3-5}$ unsaturated., butadiene-free; Petroleum gas | 649- 119 -00-5 | 307-769-4 | 97722-19-5 | K |
| Gases (petroleum), amine system feed; Refinery gas<br>(The feed gas to the amine system for removal of hydrogen sulphide. It consists primarily of hydrogen. Carbon monoxide, carbon dioxide, hydrogen sulfide and aliphatic hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_5$ may also be present.) | 649-120-00-0 | 270-746-1 | 68477-65-6 | K |
| Gases (petroleum), benzene unit hydrodesulphuriser off; Refinery gas<br>(Off gases produced by the benzene unit. It consists primarily of hydrogen. Carbon monoxide and hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_6$, including benzene, may also be present.) | 649-121-00-6 | 270-747-7 | 68477-66-7 | K |
| Gases (petroleum), benzene unit recycle, hydrogen-rich; Refinery gas<br>(A complex combination of hydrocarbons obtained by recycling the gases of the benzene unit. It consists primarily of hydrogen with various small amounts of carbon monoxide and hydrocarbons having carbon numbers in the range of $C_1$ through $C_6$.) | 649-122-00-1 | 270-748-2 | 68477-67-8 | K |

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| Gases (petroleum), blend oil, hydrogen-nitrogen-rich; Refinery gas<br>(A complex combination of hydrocarbons obtained by distillation of a blend oil. It consists primarily of hydrogen and nitrogen with various small amounts of carbon monoxide, carbon dioxide, and aliphatic hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_5$.) | 649-123-00-7 | 270-749-8 | 68477-68-9 | K |
| Gases (petroleum), catalytic reformed naphtha stripper overheads; Refinery gas<br>(A complex combination of hydrocarbons obtained from stabilisation of catalytic reformed naphtha. It consists of hydrogen and saturated hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_4$.) | 649-124-00-2 | 270-759-2 | 68477-77-0 | K |
| Gases (petroleum), $C_{6-8}$ catalytic reformer recycle; Refinery gas<br>(A complex combination of hydrocarbons produced by distillation of products from catalytic reforming of $C_6$-$C_8$ feed and recycled to conserve hydrogen. It consists primarily of hydrogen. It may also contain various small amounts of carbon monoxide, carbon dioxide, nitrogen, and hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_6$.) | 649-125-00-8 | 270-761-3 | 68477-80-5 | K |
| Gases (petroleum), $C_{6-8}$ catalytic reformer; Refinery gas<br>(A complex combination of hydrocarbons produced by distillation of products from catalytic reforming of $C_6$-$C_8$ feed. It consists of hydrocarbons having carbon numbers in the range of $C_1$ through $C_5$ and hydrogen.) | 649-126-00-3 | 270-762-9 | 68477-81-6 | K |
| Gases (petroleum), $C_{6-8}$ catalytic reformer recycle, hydrogen-rich; Refinery gas | 649-127-00-9 | 270-763-4 | 68477-82-7 | K |
| Gases (petroleum), $C_2$-return stream; Refinery gas<br>(A complex combination of hydrocarbons obtained by the extraction of hydrogen from a gas stream which consists primarily of hydrogen with small amounts of nitrogen, carbon monoxide, methane, ethane, and ethylene. It contains predominantly hydrocarbons such as methane, ethane, and ethylene with small amounts of hydrogen, nitrogen and carbon monoxide.) | 649-128-00-4 | 270-766-0 | 68477-84-9 | K |
| Gases (petroleum), dry sour, gas-concentration-unit-off; Refinery gas<br>(The complex combination of dry gases from a gas concentration unit. It consists of hydrogen, hydrogen sulphide and hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_3$.) | 649-129-00-X | 270-774-4 | 68477-92-9 | K |
| Gases (petroleum), gas concentration reabsorber distillation; Refinery gas<br>(A complex combination of hydrocarbons produced by distillation of products from combined gas streams in a gas concentration reabsorber. It consists predominantly of hydrogen, carbon monoxide, carbon dioxide, nitrogen, hydrogen sulphide and hydrocarbons having carbon numbers in the range of $C_1$ through $C_3$.) | 649-130-00-5 | 270-776-5 | 68477-93-0 | K |
| Gases (petroleum), hydrogen absorber off; Refinery gas<br>(A complex combination obtained by absorbing hydrogen from a hydrogen rich stream. It consists of hydrogen, carbon monoxide, nitrogen, and methane with small amounts of $C_2$ hydrocarbons.) | 649-131-00-0 | 270-779-1 | 68477-96-3 | K |

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| Gases (petroleum), hydrogen-rich; Refinery gas<br>(A complex combination separated as a gas from hydrocarbon gases by chilling. It consists primarily of hydrogen with various small amounts of carbon monoxide, nitrogen, methane, and $C_2$ hydrocarbons.) | 649-132-00-6 | 270-780-7 | 68477-97-4 | K |
| Gases (petroleum), hydrotreater blend oil recycle, hydrogen-nitrogen-rich; Refinery gas<br>(A complex combination obtained from recycled hydrotreated blend oil. It consists primarily of hydrogen and nitrogen with various small amounts of carbon monoxide, carbon dioxide and hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_5$.) | 649-133-00-1 | 270-781-2 | 68477-98-5 | K |
| Gases (petroleum), recycle, hydrogen-rich; Refinery gas<br>(A complex combination obtained from recycled reactor gases. It consists primarily of hydrogen with various small amounts of carbon monoxide, carbon dioxide, nitrogen, hydrogen sulphide, and saturated aliphatic hydrocarbons having carbon numbers in the range of $C_1$ through $C_5$.) | 649-134-00-7 | 270-783-3 | 68478-00-2 | K |
| Gases (petroleum), reformer make-up, hydrogen-rich; Refinery gas<br>(A complex combination obtained from the reformers. It consists primarily of hydrogen with various small amounts of carbon monoxide and aliphatic hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_5$.) | 649-135-00-2 | 270-784-9 | 68478-01-3 | K |
| Gases (petroleum), reforming hydrotreater; Refinery gas<br>(A complex combination obtained from the reforming hydrotreating process. It consists primarily of hydrogen, methane, and ethane with various small amounts of hydrogen sulphide and aliphatic hydrocarbons having carbon numbers predominantly in the range $C_3$ through $C_5$.) | 649-136-00-8 | 270-785-4 | 68478-02-4 | K |
| Gases (petroleum), reforming hydrotreater, hydrogen-methane-rich; Refinery gas<br>(A complex combination obtained from the reforming hydrotreating process. It consists primarily of hydrogen and methane with various small amounts of carbon monoxide, carbon dioxide, nitrogen and saturated aliphatic hydrocarbons having carbon numbers predominantly in the range of $C_2$ through $C_5$.) | 649-137-00-3 | 270-787-5 | 68478-03-5 | K |
| Gases (petroleum), reforming hydrotreater make-up, hydrogen-rich; Refinery gas<br>(A complex combination obtained from the reforming hydrotreating process. It consists primarily of hydrogen with various small amounts of carbon monoxide and aliphatic hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_5$.) | 649-138-00-9 | 270-788-0 | 68478-04-6 | K |
| Gases (petroleum), thermal cracking distillation; Refinery gas<br>(A complex combination produced by distillation of products from a thermal cracking process. It consists of hydrogen, hydrogen sulphide, carbon monoxide, carbon dioxide and hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_6$.) | 649-139-00-4 | 270-789-6 | 68478-05-7 | K |

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|---|---|---|---|---|
| Tail gas (petroleum), catalytic cracker refractionation absorber; Refinery gas<br>(A complex combination of hydrocarbons obtained from refractionation of products from a catalytic cracking process. It consists of hydrogen and hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_3$.) | 649-140-00-X | 270-805-1 | 68478-25-1 | K |
| Tail gas (petroleum), catalytic reformed naphtha separator; Refinery gas<br>(A complex combination of hydrocarbons obtained from the catalytic reforming of straight-run naphtha. It consists of hydrogen and hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_6$.) | 649-141-00-5 | 270-807-2 | 68478-27-3 | K |
| Tail gas (petroleum), catalytic reformed naphtha stabiliser; Refinery gas<br>(A complex combination of hydrocarbons obtained from the stabilisation of catalytic reformed naphtha. It consists of hydrogen and hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_6$.) | 649-142-00-0 | 270-808-8 | 68478-28-4 | K |
| Tail gas (petroleum), cracked distillate hydrotreater separator; Refinery gas<br>(A complex combination of hydrocarbons obtained by treating cracked distillates with hydrogen in the presence of a catalyst. It consists of hydrogen and saturated aliphatic hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_5$.) | 649-143-00-6 | 270-809-3 | 68478-29-5 | K |
| Tail gas (petroleum), hydrodesulphurised straight-run naphtha separator; Refinery gas<br>(A complex combination of hydrocarbons obtained from hydrodesulphurisation of straight-run naphtha. It consists of hydrogen and saturated aliphatic hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_6$.) | 649-144-00-1 | 270-810-9 | 68478-30-8 | K |
| Gases (petroleum), catalytic reformed straight-run naphtha stabiliser overheads; Refinery gas<br>(A complex combination of hydrocarbons obtained from the catalytic reforming of straight-run naphtha followed by fractionation of the total effluent. It consists of hydrogen, methane, ethane and propane.) | 649-145-00-7 | 270-999-8 | 68513-14-4 | K |
| Gases (petroleum), reformer effluent high-pressure flash drum off; Refinery gas<br>(A complex combination produced by the high-pressure flashing of the effluent from the reforming reactor. It consists primarily of hydrogen with various small amounts of methane, ethane, and propane.) | 649-146-00-2 | 271-003-4 | 68513-18-8 | K |
| Gases (petroleum), reformer effluent low-pressure flash drum off; Refinery gas<br>(A complex combination produced by low-pressure flashing of the effluent from the reforming reactor. It consists primarily of hydrogen with various small amounts of methane, ethane, and propane.) | 649-147-00-8 | 271-005-5 | 68513-19-9 | K |

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| Gases (petroleum), oil refinery gas distillation off; Refinery gas<br>(A complex combination separated by distillation of a gas stream containing hydrogen, carbon monoxide, carbon dioxide and hydrocarbons having carbon numbers in the range of $C_1$ through $C_6$ or obtained by cracking ethane and propane. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_2$, hydrogen, nitrogen, and carbon monoxide.) | 649-148-00-3 | 271-258-1 | 68527-15-1 | K |
| Gases (petroleum), benzene unit hydrotreater depentaniser overheads; Refinery gas<br>(A complex combination produced by treating the feed from the benzene unit with hydrogen in the presence of a catalyst followed by depentanising. It consists primarily of hydrogen, ethane and propane with various small amounts of nitrogen, carbon monoxide, carbon dioxide and hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_6$. It may contain trace amounts of benzene.) | 649-149-00-9 | 271-623-5 | 68602-82-4 | K |
| Gases (petroleum), secondary absorber off, fluidised catalytic cracker overheads fractionator; Refinery gas<br>(A complex combination produced by the fractionation of the overhead products from the catalytic cracking process in the fluidised catalytic cracker. It consists of hydrogen, nitrogen, and hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_3$.) | 649-150-00-4 | 271-625-6 | 68602-84-6 | K |
| Petroleum products, refinery gases; Refinery gas<br>(A complex combination which consists primarily of hydrogen with various small amounts of methane, ethane and propane.) | 649-151-00-X | 271-750-6 | 68607-11-4 | K |
| Gases (petroleum), hydrocracking low-pressure separator; Refinery gas<br>(A complex combination obtained by the liquid-vapour separation of the hydrocracking process reactor effluent. It consists predominantly of hydrogen and saturated hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_3$.) | 649-152-00-5 | 272-182-1 | 68783-06-2 | K |
| Gases (petroleum), refinery; Refinery gas<br>(A complex combination obtained from various petroleum refining operations. It consists of hydrogen and hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_3$.) | 649-153-00-0 | 272-338-9 | 68814-67-5 | K |
| Gases (petroleum), platformer products separator off; Refinery gas<br>(A complex combination obtained from the chemical reforming of naphthenes to aromatics. It consists of hydrogen and saturated aliphatic hydrocarbons having carbon numbers predominantly in the range of $C_2$ through $C_4$.) | 649-154-00-6 | 272-343-6 | 68814-90-4 | K |
| Gases (petroleum), hydrotreated sour kerosine depentaniser stabiliser off; Refinery gas<br>(The complex combination obtained from the depentaniser stabilisation of hydrotreated kerosine. It consists primarily of hydrogen, methane, ethane, and propane with various small amounts of nitrogen, hydrogen sulphide, carbon monoxide and hydrocarbons having carbon numbers predominantly in the range of $C_4$ through $C_5$.) | 649-155-00-1 | 272-775-5 | 68911-58-0 | K |

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|---|---|---|---|---|
| Gases (petroleum), hydrotreated sour kerosine flash drum; Refinery gas<br>(A complex combination obtained from the flash drum of the unit treating sour kerosine with hydrogen in the presence of a catalyst. It consists primarily of hydrogen and methane with various small amounts of nitrogen, carbon monoxide, and hydro-carbons having carbon numbers predominantly in the range of $C_2$ through $C_5$.) | 649-156-00-7 | 272-776-0 | 68911-59-1 | K |
| Gases (petroleum), distillate unifiner desulphurisation stripper off; Refinery gas<br>(A complex combination stripped from the liquid product of the unifiner desulphurisation process. It consists of hydrogen sulphide, methane, ethane, and propane.) | 649-157-00-2 | 272-873-8 | 68919-01-7 | K |
| Gases (petroleum), fluidised catalytic cracker fractionation off; Refinery gas<br>(A complex combination produced by the fractionation of the overhead product of the fluidised catalytic cracking process. It consists of hydrogen, hydrogen sulphide, nitrogen, and hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_5$.) | 649-158-00-8 | 272-874-3 | 68919-02-8 | K |
| Gases (petroleum), fluidised catalytic cracker scrubbing secondary absorber off; Refinery gas<br>(A complex combination produced by scrubbing the overhead gas from the fluidised catalytic cracker. It consists of hydrogen, nitrogen, methane, ethane and propane.) | 649-159-00-3 | 272-875-9 | 68919-03-9 | K |
| Gases (petroleum), heavy distillate hydrotreater desulphurisation stripper off; Refinery gas<br>(A complex combination stripped from the liquid product of the heavy distillate hydrotreater desulphurisation process. It consists of hydrogen, hydrogen sulphide, and saturated aliphatic hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_5$.) | 649-160-00-9 | 272-876-4 | 68919-04-0 | K |
| Gases (petroleum), platformer stabiliser off, light ends fractionation; Refinery gas<br>(A complex combination obtained by the fractionation of the light ends of the platinum reactors of the platformer unit. It consists of hydrogen, methane, ethane and propane.) | 649-161-00-4 | 272-880-6 | 68919-07-3 | K |
| Gases (petroleum), preflash tower off, crude distillation; Refinery gas<br>(A complex combination produced from the first tower used in the distillation of crude oil. It consists of nitrogen and saturated aliphatic hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_5$.) | 649-162-00-X | 272-881-1 | 68919-08-4 | K |
| Gases (petroleum), tar stripper off; Refinery gas<br>(A complex combination obtained by the fractionation of reduced crude oil. It consists of hydrogen and hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_4$.) | 649-163-00-5 | 272-884-8 | 68919-11-9 | K |
| Gases (petroleum), unifiner stripper off; Refinery gas<br>(A combination of hydrogen and methane obtained by fractionation of the products from the unifiner unit.) | 649-164-00-0 | 272-885-3 | 68919-12-0 | K |

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|---|---|---|---|---|
| Tail gas (petroleum), catalytic hydrodesulphurised naphtha separator; Refinery gas<br>(A complex combination of hydrocarbons obtained from the hydrodesulphurisation of naphtha. It consists of hydrogen, methane, ethane, and propane.) | 649-165-00-6 | 273-173-5 | 68952-79-4 | K |
| Tail gas (petroleum), straight-run naphtha hydrodesulphuriser; Refinery gas<br>(A complex combination obtained from the hydrodesulphurisation of straight-run naphtha. It consists of hydrogen and hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_5$.) | 649-166-00-1 | 273-174-0 | 68952-80-7 | K |
| Gases (petroleum), sponge absorber off, fluidised catalytic cracker and gas oil desulphuriser overhead fractionation; Refinery gas<br>(A complex combination obtained by the fractionation of products from the fluidised catalytic cracker and gas oil desulphuriser. It consists of hydrogen and hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_4$.) | 649-167-00-7 | 273-269-7 | 68955-33-9 | K |
| Gases (petroleum), crude distillation and catalytic cracking; Refinery gas<br>(A complex combination produced by crude distillation and catalytic cracking processes. It consists of hydrogen, hydrogen sulphide, nitrogen, carbon monoxide and paraffinic and olefinic hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_6$.) | 649-168-00-2 | 273-563-5 | 68989-88-8 | K |
| Gases (petroleum), gas oil diethanolamine scrubber off; Refinery gas<br>(A complex combination produced by desulphurisation of gas oils with diethanolamine. It consists predominantly of hydrogen sulphide, hydrogen and aliphatic hydrocarbons having carbon numbers in the range of $C_1$ through $C_5$.) | 649-169-00-8 | 295-397-2 | 92045-15-3 | K |
| Gases (petroleum), gas oil hydrodesulphurisation effluent; Refinery gas<br>(A complex combination obtained by separation of the liquid phase from the effluent from the hydrogenation reaction. It consists predominantly of hydrogen, hydrogen sulphide and aliphatic hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_3$.) | 649-170-00-3 | 295-398-8 | 92045-16-4 | K |
| Gases (petroleum), gas oil hydrodesulphurisation purge; Refinery gas<br>(A complex combination of gases obtained from the reformer and from the purges from the hydrogenation reactor. It consists predominantly of hydrogen and aliphatic hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_4$.) | 649-171-00-9 | 295-399-3 | 92045-17-5 | K |
| Gases (petroleum), hydrogenator effluent flash drum off; Refinery gas<br>(A complex combination of gases obtained from flash of the effluents after the hydrogenation reaction. It consists predominantly of hydrogen and aliphatic hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_6$.) | 649-172-00-4 | 295-400-7 | 92045-18-6 | K |

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|---|---|---|---|---|
| Gases (petroleum), naphtha steam cracking high-pressure residual; Refinery gas<br>(A complex combination obtained as a mixture of the non-condensable portions from the product of a naphtha steam cracking process as well as residual gases obtained during the preparation of subsequent products. It consists predominantly of hydrogen and paraffinic and olefinic hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_5$ with which natural gas may also be mixed.) | 649-173-00-X | 295-401-2 | 92045-19-7 | K |
| Gases (petroleum), residue visbaking off; Refinery gas<br>(A complex combination obtained from viscosity reduction of residues in a furnace. It consists predominantly of hydrogen sulphide and paraffinic and olefinic hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_5$.) | 649-174-00-5 | 295-402-8 | 92045-20-0 | K |
| Foots oil (petroleum), acid-treated; Foots oil<br>(A complex combination of hydrocarbons obtained by treatment of Foot's oil with sulphuric acid. It consists predominantly of branched-chain hydrocarbons with carbon numbers predominantly in the range of $C_{20}$ through $C_{50}$.) | 649-175-00-0 | 300-225-7 | 93924-31-3 | L |
| Foots oil (petroleum), clay-treated; Foots oil<br>(A complex combination of hydrocarbons obtained by treatment of Foot's oil with natural or modified clay in either a contacting or percolation process to remove the trace amounts of polar compounds and impurities present. It consists predominantly of branched chain hydrocarbons with carbon numbers predominantly in the range of $C_{20}$ through $C_{50}$.) | 649-176-00-6 | 300-226-2 | 93924-32-4 | L |
| Gases (petroleum), $C_{3-4}$; Petroleum gas<br>(A complex combination of hydrocarbons produced by distillation of products from the cracking of crude oil. It consists of hydrocarbons having carbon numbers in the range of $C_3$ through $C_4$, predominantly of propane and propylene, and boiling in the range of approximately - 51 to - 1 °C.) | 649-177-00-1 | 268-629-5 | 68131-75-9 | K |
| Tail gas (petroleum), catalytic cracked distillate and catalytic cracked naphtha fractionation absorber; Petroleum gas<br>(The complex combination of hydrocarbons from the distillation of the products from catalytic cracked distillates and catalytic cracked naphtha. It consists predominantly of hydrocarbons having carbon numbers in the range of $C_1$ through $C_4$.) | 649-178-00-7 | 269-617-2 | 68307-98-2 | K |
| Tail gas (petroleum), catalytic polymerisation naphtha fractionation stabiliser; Petroleum gas<br>(A complex combination of hydrocarbons from the fractionation stabilisation products from polymerisation of naphtha. It consists predominantly of hydrocarbons having carbon numbers in the range of $C_1$ through $C_4$.) | 649-179-00-2 | 269-618-8 | 68307-99-3 | K |
| Tail gas (petroleum), catalytic reformed naphtha fractionation stabiliser, hydrogen sulphide-free; Petroleum gas<br>(A complex combination of hydrocarbons obtained from fractionation stabilisation of catalytic reformed naphtha and from which hydrogen sulphide has been removed by amine treatment. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_4$.) | 649-180-00-8 | 269-619-3 | 68308-00-9 | K |

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| Tail gas (petroleum), cracked distillate hydrotreater stripper; Petroleum gas<br>(A complex combination of hydrocarbons obtained by treating thermal cracked distillates with hydrogen in the presence of a catalyst. It consists predominantly of saturated hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_6$.) | 649-181-00-3 | 269-620-9 | 68308-01-0 | K |
| Tail gas (petroleum), straight-run distillate hydrodesulphuriser, hydrogen sulphide-free; Petroleum gas<br>(A complex combination of hydrocarbons obtained from catalytic hydrodesulphurisation of straight run distillates and from which hydrogen sulphide has been removed by amine treatment. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_4$.) | 649-182-00-9 | 269-630-3 | 68308-10-1 | K |
| Tail gas (petroleum), gas oil catalytic cracking absorber; Petroleum gas<br>(A complex combination of hydrocarbons obtained from the distillation of products from the catalytic cracking of gas oil. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_5$.) | 649-183-00-4 | 269-623-5 | 68308-03-2 | K |
| Tail gas (petroleum), gas recovery plant; Petroleum gas<br>(A complex combination of hydrocarbons from the distillation of products from miscellaneous hydrocarbon streams. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_5$.) | 649-184-00-X | 269-624-0 | 68308-04-3 | K |
| Tail gas (petroleum), gas recovery plant deethaniser; Petroleum gas<br>(A complex combination of hydrocarbons from the distillation of products from miscellaneous hydrocarbon streams. It consists of hydrocarbon having carbon numbers predominantly in the range of $C_1$ through $C_4$.) | 649-185-00-5 | 269-625-6 | 68308-05-4 | K |
| Tail gas (petroleum), hydrodesulphurised distillate and hydrodesulphurised naphtha fractionator, acid-free; Petroleum gas<br>(A complex combination of hydrocarbons obtained from fractionation of hydrodesulphurised naphtha and distillate hydrocarbon streams and treated to remove acidic impurities. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_5$.) | 649-186-00-0 | 269-626-1 | 68308-06-5 | K |
| Tail gas (petroleum), hydrodesulphurised vacuum gas oil stripper, hydrogen sulphide-free; Petroleum gas<br>(A complex combination of hydrocarbons obtained from stripping stabilisation of catalytic hydrodesulphurised vacuum gas oil and from which hydrogen sulphide has been removed by amine treatment. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_6$.) | 649-187-00-6 | 269-627-7 | 68308-07-6 | K |
| Tail gas (petroleum), light straight-run naphtha stabiliser, hydrogen sulphide-free; Petroleum gas<br>(A complex combination of hydrocarbons obtained from fractionation stabilisation of light straight-run naphtha and from which hydrogen sulphide has been removed by amine treatment. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_5$.) | 649-188-00-1 | 269-629-8 | 68308-09-8 | K |

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| Tail gas (petroleum), propane-propylene alkylation feed prep deethaniser; Petroleum gas<br>(A complex combination of hydrocarbons obtained from the distillation of the reaction products of propane with propylene. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_4$.) | 649-189-00-7 | 269-631-9 | 68308-11-2 | K |
| Tail gas (petroleum), vacuum gas oil hydrodesulphuriser, hydrogen sulphide-free; Petroleum gas<br>(A complex combination of hydrocarbons obtained from catalytic hydrodesulphurisation of vacuum gas oil and from which hydrogen sulphide has been removed by amine treatment. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_6$.) | 649-190-00-2 | 269-632-4 | 68308-12-3 | K |
| Gases (petroleum), catalytic cracked overheads; Petroleum gas<br>(A complex combination of hydrocarbons produced by the distillation of products from the catalytic cracking process. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_3$ through $C_5$ and boiling in the range of approximately - 48 °C to 32 °C.) | 649-191-00-8 | 270-071-2 | 68409-99-4 | K |
| Alkanes, $C_{1-2}$; Petroleum gas | 649-193-00-9 | 270-651-5 | 68475-57-0 | K |
| Alkanes, $C_{2-3}$; Petroleum gas | 649-194-00-4 | 270-652-0 | 68475-58-1 | K |
| Alkanes, $C_{3-4}$; Petroleum gas | 649-195-00-X | 270-653-6 | 68475-59-2 | K |
| Alkanes, $C_{4-5}$; Petroleum gas | 649-196-00-5 | 270-654-1 | 68475-60-5 | K |
| Fuel gases; Petroleum gas<br>(A combination of light gases. It consists predominantly of hydrogen and/or low molecular weight hydrocarbons.) | 649-197-00-0 | 270-667-2 | 68476-26-6 | K |
| Fuel gases, crude oil of distillates; Petroleum gas<br>(A complex combination of light gases produced by distillation of crude oil and by catalytic reforming of naphtha. It consists of hydrogen and hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_4$ and boiling in the range of approximately - 217 °C to - 12 °C.) | 649-198-00-6 | 270-670-9 | 68476-29-9 | K |
| Hydrocarbons, $C_{3-4}$; Petroleum gas | 649-199-00-1 | 270-681-9 | 68476-40-4 | K |
| Hydrocarbons, $C_{4-5}$; Petroleum gas | 649-200-00-5 | 270-682-4 | 68476-42-6 | K |
| Hydrocarbons, $C_{2-4}$, $C_3$-rich; Petroleum gas | 649-201-00-0 | 270-689-2 | 68476-49-3 | K |
| Petroleum gases, liquefied; Petroleum gas<br>(A complex combination of hydrocarbons produced by the distillation of crude oil. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_3$ through $C_7$ and boiling in the range of approximately - 40 °C to 80 °C.) | 649-202-00-6 | 270-704-2 | 68476-85-7 | K |

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| Petroleum gases, liquefied, sweetened; Petroleum gas<br>(A complex combination of hydrocarbons obtained by subjecting liquefied petroleum gas mix to a sweetening process to convert mercaptans or to remove acidic impurities. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_3$ through $C_7$ and boiling in the range of approximately - 40 °C to 80 °C.) | 649-203-00-1 | 270-705-8 | 68476-86-8 | K |
| Gases (petroleum), $C_{3-4}$, isobutane-rich; Petroleum gas<br>(A complex combination of hydrocarbons from the distillation of saturated and unsaturated hydrocarbons usually ranging in carbon numbers from $C_3$ through $C_6$, predominantly butane and isobutane. It consists of saturated and unsaturated hydrocarbons having carbon numbers in the range of $C_3$ through $C_4$, predominantly isobutane.) | 649-204-00-7 | 270-724-1 | 68477-33-8 | K |
| Distillates (petroleum), $C_{3-6}$, piperylene-rich; Petroleum gas<br>(A complex combination of hydrocarbons from the distillation of saturated and unsaturated aliphatic hydrocarbons usually ranging in the carbon numbers $C_3$ through $C_6$. It consists of saturated and unsaturated hydrocarbons having carbon numbers in the range of $C_3$ through $C_6$, predominantly piperylenes.) | 649-205-00-2 | 270-726-2 | 68477-35-0 | K |
| Gases (petroleum), butane splitter overheads; Petroleum gas<br>(A complex combination of hydrocarbons obtained from the distillation of the butane stream. It consists of aliphatic hydrocarbons having carbon numbers predominantly in the range of $C_3$ through $C_4$.) | 649-206-00-8 | 270-750-3 | 68477-69-0 | K |
| Gases (petroleum), $C_{2-3}$; Petroleum gas<br>(A complex combination of hydrocarbons produced by the distillation of products from a catalytic fractionation process. It contains predominantly ethane, ethylene, propane, and propylene.) | 649-207-00-3 | 270-751-9 | 68477-70-3 | K |
| Gases (petroleum), catalytic-cracked gas oil depropaniser bottoms, $C_4$-rich acid-free; Petroleum gas<br>(A complex combination of hydrocarbons obtained from fractionation of catalytic cracked gas oil hydrocarbon stream and treated to remove hydrogen sulphide and other acidic components. It consists of hydrocarbons having carbon numbers in the range of $C_3$ through $C_5$, predominantly $C_4$.) | 649-208-00-9 | 270-752-4 | 68477-71-4 | K |
| Gases (petroleum), catalytic-cracked naphtha debutaniser bottoms, $C_{3-5}$-rich; Petroleum gas<br>(A complex combination of hydrocarbons obtained from the stabilisation of catalytic cracked naphtha. It consists of aliphatic hydrocarbons having carbon numbers predominantly in the range of $C_3$ through $C_5$.) | 649-209-00-4 | 270-754-5 | 68477-72-5 | K |
| Tail gas (petroleum), isomerised naphtha fractionation stabiliser; Petroleum gas<br>(A complex combination of hydrocarbons obtained from the fractionation stabilisation products from isomerised naphtha. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_4$.) | 649-210-00-X | 269-628-2 | 68308-08-7 | K |

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| Foots oil (petroleum), carbon-treated; Foot's oil<br>(A complex combination of hydrocarbons obtained by the treatment of Foot's oil with activated carbon for the removal of trace constituents and impurities. It consists predominantly of saturated straight chain hydrocarbons having carbon numbers predominantly greater than $C_{12}$.) | 649-211-00-5 | 308-126-0 | 97862-76-5 | L |
| Distillates (petroleum), sweetened middle; Gas oil — unspecified<br>(A complex combination of hydrocarbons obtained by subjecting a petroleum distillate to a sweetening process to convert mercaptans or to remove acidic impurities. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_9$ through $C_{20}$ and boiling in the range of approximately 150 °C to 345 °C.) | 649-212-00-0 | 265-088-7 | 64741-86-2 | N |
| Gas oils (petroleum), solvent-refined; Gas oil — unspecified<br>(A complex combination of hydrocarbons obtained as the raffinate from a solvent extraction process. It consists predominantly of aliphatic hydrocarbons having carbon numbers predominantly in the range of $C_{11}$ through $C_{25}$ and boiling in the range of approximately 205 °C to 400 °C.) | 649-213-00-6 | 265-092-9 | 64741-90-8 | N |
| Distillates (petroleum), solvent-refined middle; Gas oil — unspecified<br>(A complex combination of hydrocarbons obtained as the raffinate from a solvent extraction process. It consists predominantly of aliphatic hydrocarbons having carbon numbers predominantly in the range of $C_9$ through $C_{20}$ and boiling in the range of approximately 150 °C to 345 °C.) | 649-214-00-1 | 265-093-4 | 64741-91-9 | N |
| Gas oils (petroleum), acid-treated; Gas oil — unspecified<br>(A complex combination of hydrocarbons obtained as a raffinate from a sulphuric acid treating process. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_{13}$ through $C_{25}$ and boiling in the range of approximately 230 °C to 400 °C.) | 649-215-00-7 | 265-112-6 | 64742-12-7 | N |
| Distillates (petroleum), acid-treated middle; Gas oil — unspecified<br>(A complex combination of hydrocarbons obtained as a raffinate from a sulphuric acid treating process. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_{11}$ through $C_{20}$ and boiling in the range of approximately 205 °C to 345 °C.) | 649-216-00-2 | 265-113-1 | 64742-13-8 | N |
| Distillates (petroleum), acid-treated light; Gas oil — unspecified<br>(A complex combination of hydrocarbons obtained as a raffinate from a sulphuric acid treating process. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_9$ through $C_{16}$ and boiling in the range of approximately 150 °C to 290 °C.) | 649-217-00-8 | 265-114-7 | 64742-14-9 | N |
| Gas oils (petroleum), chemically neutralised; Gas oil — unspecified<br>(A complex combination of hydrocarbons produced by a treating process to remove acidic materials. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_{13}$ through $C_{25}$ and boiling in the range of approximately 230 °C to 400 °C.) | 649-218-00-3 | 265-129-9 | 64742-29-6 | N |

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| Distillates (petroleum), chemically neutralised middle; Gas oil — unspecified<br>(A complex combination of hydrocarbons produced by a treating process to remove acidic materials. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_{11}$ through $C_{20}$ and boiling in the range of approximately 205 °C to 345 °C.) | 649-219-00-9 | 265-130-4 | 64742-30-9 | N |
| Distillates (petroleum), clay-treated middle; Gas oil — unspecified<br>(A complex combination of hydrocarbons resulting from treatment of a petroleum fraction with natural or modified clay, usually in a percolation process to remove the trace amounts of polar compounds and impurities present. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_9$ through $C_{20}$ and boiling in the range of approximately 150 °C to 345 °C.) | 649-220-00-4 | 265-139-3 | 64742-38-7 | N |
| Distillates (petroleum), hydrotreated middle; Gas oil — unspecified<br>(A complex combination of hydrocarbons obtained by treating a petroleum fraction with hydrogen in the presence of a catalyst. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_{11}$ through $C_{25}$ and boiling in the range of approximately 205 °C to 400 °C.) | 649-221-00-X | 265-148-2 | 64742-46-7 | N |
| Gas oils (petroleum), hydrodesuphurised; Gas oil — unspecified<br>(A complex combination of hydrocarbons obtained from a petroleum stock by treating with hydrogen to convert organic sulphur to hydrogen sulphide which is removed. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of $C_{13}$ through $C_{25}$ and boiling in the range of approximately 230 °C to 400 °C.) | 649-222-00-5 | 265-182-8 | 64742-79-6 | N |
| Distillates (petroleum), hydrodesulphurised middle; Gas oil — unspecified<br>(A complex combination of hydrocarbons obtained from a petroleum stock by treating with hydrogen to convert organic sulphur to hydrogen sulphide which is removed. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_{11}$ through $C_{25}$ and boiling in the range of approximately 205 °C to 400 °C.) | 649-223-00-0 | 265-183-3 | 64742-80-9 | N |
| Distillates (petroleum), catalytic reformer fractionator residue, high-boiling; Gas oil — unspecified<br>(A complex combination of hydrocarbons from the distillation of catalytic reformer fractionator residue. It boils in the range of approximately 343 °C to 399 °C.) | 649-228-00-8 | 270-719-4 | 68477-29-2 | N |
| Distillates (petroleum), catalytic reformer fractionator residue, intermediate-boiling; Gas oil — unspecified<br>(A complex combination of hydrocarbons from the distillation of catalytic reformer fractionator residue. It boils in the range of approximately 288 °C to 371 °C.) | 649-229-00-3 | 270-721-5 | 68477-30-5 | N |
| Distillates (petroleum), catalytic reformer fractionator residue, low-boiling; Gas oil — unspecified<br>(The complex combination of hydrocarbons from the distillation of catalytic reformer fractionator residue. It boils approximately below 288 °C.) | 649-230-00-9 | 270-722-0 | 68477-31-6 | N |

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| Distillates (petroleum), highly refined middle; Gas oil — unspecified<br>(A complex combination of hydrocarbons obtained by the subjection of a petroleum fraction to several of the following steps: filtration, centrifugation, atmospheric distillation, vacuum distillation, acidification, neutralisation and clay treatment. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of $C_{10}$ through $C_{20}$.) | 649-231-00-4 | 292-615-8 | 90640-93-0 | N |
| Distillates (petroleum) catalytic reformer, heavy aromatic concentrate; Gas oil — unspecified<br>(A complex combination of hydrocarbons obtained from the distillation of a catalytically reformed petroleum cut. It consists predominantly of aromatic hydrocarbons having carbon numbers predominantly in the range of $C_{10}$ through $C_{16}$ and boiling in the range of approximately 200 °C to 300 °C.) | 649-232-00-X | 295-294-2 | 91995-34-5 | N |
| Gas oils, paraffinic; Gas oil — unspecified<br>(A distillate obtained from the redistillation of a complex combination of hydrocarbons obtained by the distillation of the effluents from a severe catalytic hydrotreatment of paraffins. It boils in the range of approximately 190 °C to 330 °C.) | 649-233-00-5 | 300-227-8 | 93924-33-5 | N |
| Naphtha (petroleum), solvent-refined hydrodesulphurised heavy; Gas oil — unspecified | 649-234-00-0 | 307-035-3 | 97488-96-5 | N |
| Hydrocarbons, $C_{16-20}$, hydrotreated middle distillate, distillation lights; Gas oil — unspecified<br>(A complex combination of hydrocarbons obtained as first runnings from the vacuum distillation of effluents from the treatment of a middle distillate with hydrogen. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of $C_{16}$ through $C_{20}$ and boiling in the range of approximately 290 °C to 350 °C. It produces a finished oil having a viscosity of 2 $10^{-6}$ $m^2.s^{-1}$ at 100 °C.) | 649-235-00-6 | 307-659-6 | 97675-85-9 | N |
| Hydrocarbons, $C_{12-20}$, hydrotreated paraffinic, distillation lights; Gas oil — unspecified<br>(A complex combination of hydrocarbons obtained as first runnings from the vacuum distillation of effluents from the treatment of heavy paraffins with hydrogen in the presence of a catalyst. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of $C_{12}$ through $C_{20}$ and boiling in the range of approximately 230 °C to 350 °C. It produces a finished oil having a viscosity of 2 $10^{-6}$ $m^2.s^{-1}$ at 100 °C.) | 649-236-00-1 | 307-660-1 | 97675-86-0 | N |
| Hydrocarbons, $C_{11-17}$, solvent-extd. light naphthenic; Gas oil — unspecified<br>(A complex combination of hydrocarbons obtained by extraction of the aromatics from a light naphthenic distillate having a viscosity of 2,2 $10^{-6}$ $m^2.s^{-1}$ at 40 °C. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of $C_{11}$ through $C_{17}$ and boiling in the range of approximately 200 °C to 300 °C.) | 649-237-00-7 | 307-757-9 | 97722-08-2 | N |
| Gas oils, hydrotreated; Gas oil — unspecified<br>(A complex combination of hydrocarbons obtained from the redistillation of the effluents from the treatment of paraffins with hydrogen in the presence of a catalyst. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of $C_{17}$ through $C_{27}$ and boiling in the range of approximately 330 °C to 340 °C.) | 649-238-00-2 | 308-128-1 | 97862-78-7 | N |

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| Distillates (petroleum), carbon-treated light paraffinic; Gas oil — unspecified<br>(A complex combination of hydrocarbons obtained by the treatment of a petroleum oil fraction with activated charcoal for the removal of traces of polar constituents and impurities. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of $C_{12}$ through $C_{28}$.) | 649-239-00-8 | 309-667-5 | 100683-97-4 | N |
| Distillates (petroleum), intermediate paraffinic, carbon-treated; Gas oil — unspecified<br>(A complex combination of hydrocarbons obtained by the treatment of petroleum with activated charcoal for the removal of trace polar constituents and impurities. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of $C_{16}$ through $C_{36}$.) | 649-240-00-3 | 309-668-0 | 100683-98-5 | N |
| Distillates (petroleum), intermediate paraffinic, clay-treated; Gas oil — unspecified<br>(A complex combination of hydrocarbons obtained by the treatment of petroleum with bleaching earth for the removal of trace polar constituents and impurities. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of $C_{16}$ through $C_{36}$.) | 649-241-00-9 | 309-669-6 | 100683-99-6 | N |
| Alkanes, $C_{12-26}$-branched and linear; | 649-242-00-4 | 292-454-3 | 90622-53-0 | N |
| Lubricating greases; Grease<br>(A complex combination of hydrocarbons having carbon numbers predominantly in the range of $C_{12}$ through $C_{50}$. May contain organic salts of alkali metals, alkaline earth metals, and/or aluminium compounds.) | 649-243-00-X | 278-011-7 | 74869-21-9 | N |
| Slack wax (petroleum); Slack wax<br>(A complex combination of hydrocarbons obtained from a petroleum fraction by solvent crystallisation (solvent dewaxing) or as a distillation fraction from a very waxy crude. It consists predominantly of saturated straight and branched chain hydrocarbons having carbon numbers predominantly greater than $C_{20}$.) | 649-244-00-5 | 265-165-5 | 64742-61-6 | N |
| Slack wax (petroleum), acid-treated; Slack wax<br>(A complex combination of hydrocarbons obtained as a raffinate by treatment of a petroleum slack wax fraction with sulphuric acid treating process. It consists predominantly of saturated straight and branched chain hydrocarbons having carbon numbers predominantly greater than $C_{20}$.) | 649-245-00-0 | 292-659-8 | 90669-77-5 | N |
| Slack wax (petroleum), clay-treated; Slack wax<br>(A complex combination of hydrocarbons obtained by treatment of a petroleum slack wax fraction with natural or modified clay in either a contacting or percolation process. It consists predominantly of saturated straight and branched hydrocarbons having carbon numbers predominantly greater than $C_{20}$.) | 649-246-00-6 | 292-660-3 | 90669-78-6 | N |
| Slack wax (petroleum), hydrotreated; Slack wax<br>(A complex combination of hydrocarbons obtained by treating slack wax with hydrogen in the presence of a catalyst. It consists predominantly of saturated straight and branched chain hydrocarbons having carbon numbers predominantly greater than $C_{20}$.) | 649-247-00-1 | 295-523-6 | 92062-09-4 | N |

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| Slack wax (petroleum), low-melting; Slack wax<br>(A complex combination of hydrocarbons obtained from a petroleum fraction by solvent deparaffination. It consists predominantly of saturated straight and branched chain hydrocarbons having carbon numbers predominantly greater than $C_{12}$.) | 649-248-00-7 | 295-524-1 | 92062-10-7 | N |
| Slack wax (petroleum), low-melting, hydrotreated; Slack wax<br>(A complex combination of hydrocarbons obtained by treatment of low-melting petroleum slack wax with hydrogen in the presence of a catalyst. It consists predominantly of saturated straight and branched chain hydrocarbons having carbon numbers predominantly greater than $C_{12}$.) | 649-249-00-2 | 295-525-7 | 92062-11-8 | N |
| Slack wax (petroleum), low-melting, carbon-treated; Slack wax<br>(A complex combination of hydrocarbons obtained by the treatment of low-melting slack wax with activated carbon for the removal of trace polar constituents and impurities. It consists predominantly of saturated straight and branched chain hydrocarbons having carbon numbers predominantly greater than $C_{12}$.) | 649-250-00-8 | 308-155-9 | 97863-04-2 | N |
| Slack wax (petroleum), low-melting, clay-treated; Slack wax<br>(A complex combination of hydrocarbons obtained by the treatment of low-melting petroleum slack wax with bentonite for removal of trace polar constituents and impurities. It consists predominantly of saturated straight and branched chain hydrocarbons having carbon numbers predominantly greater than $C_{12}$.) | 649-251-00-3 | 308-156-4 | 97863-05-3 | N |
| Slack wax (petroleum), low-melting, silicic acid-treated; Slack wax<br>(A complex combination of hydrocarbons obtained by the treatment of low-melting petroleum slack wax with silicic acid for the removal of trace polar constituents and impurities. It consists predominantly of saturated straight and branched chain hydrocarbons having carbon numbers predominantly greater than $C_{12}$.) | 649-252-00-9 | 308-158-5 | 97863-06-4 | N |
| Slack wax (petroleum), carbon-treated; Slack wax<br>(A complex combination of hydrocarbons obtained by treatment of petroleum slack wax with activated charcoal for the removal of trace polar constituents and impurities.) | 649-253-00-4 | 309-723-9 | 100684-49-9 | N |
| Petrolatum; Petrolatum<br>(A complex combination of hydrocarbons obtained as a semi-solid from dewaxing paraffinic residual oil. It consists predominantly of saturated crystalline and liquid hydrocarbons having carbon numbers predominantly greater than $C_{25}$.) | 649-254-00-X | 232-373-2 | 8009-03-8 | N |
| Petrolatum (petroleum), oxidised; Petrolatum<br>(A complex combination of organic compounds, predominantly high molecular weight carboxylic acids, obtained by the air oxidation of petrolatum.) | 649-255-00-5 | 265-206-7 | 64743-01-7 | N |

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| Petrolatum (petroleum), alumina-treated; Petrolatum<br>(A complex combination of hydrocarbons obtained when petrolatum is treated with $Al_2O_3$ to remove polar components and impurities. It consists predominantly of saturated, crystalline, and liquid hydrocarbons having carbon numbers predominantly greater than $C_{25}$.) | 649-256-00-0 | 285-098-5 | 85029-74-9 | N |
| Petrolatum (petroleum), hydrotreated; Petrolatum<br>(A complex combination of hydrocarbons obtained as a semi-solid from dewaxed paraffinic residual oil treated with hydrogen in the presence of a catalyst. It consists predominantly of saturated, microcrystalline, and liquid hydrocarbons having carbon numbers predominantly greater than $C_{20}$.) | 649-257-00-6 | 295-459-9 | 92045-77-7 | N |
| Petrolatum (petroleum), carbon-treated; Petrolatum<br>(A complex combination of hydrocarbons obtained by the treatment of petroleum petrolatum with activated carbon for the removal of trace polar constituents and impurities. It consists predominantly of saturated hydrocarbons having carbon numbers predominantly greater than $C_{20}$.) | 649-258-00-1 | 308-149-6 | 97862-97-0 | N |
| Petrolatum (petroleum), silicic acid-treated; Petrolatum<br>(A complex combination of hydrocarbons obtained by the treatment of petroleum petrolatum with silicic acid for the removal of trace polar constituents and impurities. It consists predominantly of saturated hydrocarbons having carbon numbers predominantly greater than $C_{20}$.) | 649-259-00-7 | 308-150-1 | 97862-98-1 | N |
| Petrolatum (petroleum), clay-treated; Petrolatum<br>(A complex combination of hydrocarbons obtained by treatment of petrolatum with bleaching earth for the removal of traces of polar constituents and impurities. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of greater than $C_{25}$.) | 649-260-00-2 | 309-706-6 | 100684-33-1 | N |
| Gasoline, natural; Low boiling point naphtha<br>(A complex combination of hydrocarbons separated from natural gas by processes such as refrigeration or absorption. It consists predominantly of saturated aliphatic hydrocarbons having carbon numbers predominantly in the range of $C_4$ through $C_8$ and boiling in the range of approximately - 20 °C to 120 °C.) | 649-261-00-8 | 232-349-1 | 8006-61-9 | P |
| Naphtha; Low boiling point naphtha<br>(Refined, partly refined, or unrefined petroleum products by the distillation of natural gas. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_5$ through $C_6$ and boiling in the range of approximately 100 °C to 200 °C.) | 649-262-00-3 | 232-443-2 | 8030-30-6 | P |
| Ligroine; Low boiling point naphtha<br>(A complex combination of hydrocarbons obtained by the fractional distillation of petroleum. This fraction boils in a range of approximately 20 °C to 135 °C.) | 649-263-00-9 | 232-453-7 | 8032-32-4 | P |

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| Naphtha (petroleum), heavy straight-run; Low boiling point naphtha<br>(A complex combination of hydrocarbons produced by distillation of crude oil. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_6$ through $C_{12}$ and boiling in the range of approximately 65 °C to 230 °C.) | 649-264-00-4 | 265-041-0 | 64741-41-9 | P |
| Naphtha (petroleum), full-range straight-run; Low boiling point naphtha<br>(A complex combination of hydrocarbons produced by distillation of crude oil. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_4$ through $C_{11}$ and boiling in the range of approximately - 20 °C to 220 °C.) | 649-265-00-X | 265-042-6 | 64741-42-0 | P |
| Naphtha (petroleum), light straight-run; Low boiling point naphtha<br>(A complex combination of hydrocarbons produced by distillation of crude oil. It consists predominantly of aliphatic hydrocarbons having carbon numbers predominantly in the range of $C_4$ through $C_{10}$ and boiling in the range of approximately - 20 °C to 180 °C.) | 649-266-00-5 | 265-046-8 | 64741-46-4 | P |
| Solvent naphtha (petroleum), light aliph.; Low boiling point naphtha<br>(A complex combination of hydrocarbons obtained from the distillation of crude oil or natural gasoline. It consists predominantly of saturated hydrocarbons having carbon numbers predominantly in the range of $C_5$ through $C_{10}$ and boiling in the range of approximately 35 °C to 160 °C.) | 649-267-00-0 | 265-192-2 | 64742-89-8 | P |
| Distillates (petroleum), straight-run light; Low boiling point naphtha<br>(A complex combination of hydrocarbons produced by the distillation of crude oil. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_2$ through $C_7$ and boiling in the range of approximately - 88 °C to 99 °C.) | 649-268-00-6 | 270-077-5 | 68410-05-9 | P |
| Gasoline, vapour-recovery; Low boiling point naphtha<br>(A complex combination of hydrocarbons separated from the gases from vapour recovery systems by cooling. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_4$ through $C_{11}$ and boiling in the range of approximately - 20 °C to 196 °C.) | 649-269-00-1 | 271-025-4 | 68514-15-8 | P |
| Gasoline, straight-run, topping-plant; Low boiling point naphtha<br>(A complex combination of hydrocarbons produced from the topping plant by the distillation of crude oil. It boils in the range of approximately 36,1 °C to 193,3 °C.) | 649-270-00-7 | 271-727-0 | 68606-11-1 | P |
| Naphtha (petroleum), unsweetened; Low boiling point naphtha<br>(A complex combination of hydrocarbons produced from the distillation of naphtha streams from various refinery processes. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_5$ through $C_{12}$ and boiling in the range of approximately 0 °C to 230 °C.) | 649-271-00-2 | 272-186-3 | 68783-12-0 | P |

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| Distillates (petroleum), light straight-run gasoline fractionation stabiliser overheads; Low boiling point naphtha<br>(A complex combination of hydrocarbons having carbon numbers predominantly in the range of $C_3$ through $C_6$.) | 649-272-00-8 | 272-931-2 | 68921-08-4 | P |
| Naphtha (petroleum), heavy straight run, arom.-contg.; Low boiling point naphtha<br>(A complex combination of hydrocarbons obtained from a distillation process of crude petroleum. It consists predominantly of hydrocarbons having carbon numbers in the range of $C_8$ through $C_{12}$ and boiling in the range of approximately 130 °C to 210 °C.) | 649-273-00-3 | 309-945-6 | 101631-20-3 | P |
| Naphtha (petroleum), full-range alkylate; Low boiling point modified naphtha<br>(A complex combination of hydrocarbons produced by distillation of the reaction products of isobutane with monoolefinic hydrocarbons usually ranging in carbon numbers from $C_3$ through $C_5$. It consists of predominantly branched chain saturated hydro-carbons having carbon numbers predominantly in the range of $C_7$ through $C_{12}$ and boiling in the range of approximately 90 °C to 220 °C.) | 649-274-00-9 | 265-066-7 | 64741-64-6 | P |
| Naphtha (petroleum), heavy alkylate; Low boiling point modified naphtha<br>(A complex combination of hydrocarbons produced by distillation of the reaction products of isobutane with monoolefinic hydrocarbons usually ranging in carbon numbers from $C_3$ to $C_5$. It consists of predominantly branched chain saturated hydrocarbons having carbon numbers predominantly in the range of $C_9$ through $C_{12}$ and boiling in the range of approximately 150 °C to 220 °C.) | 649-275-00-4 | 265-067-2 | 64741-65-7 | P |
| Naphtha (petroleum), light alkylate; Low boiling point modified naphtha<br>(A complex combination of hydrocarbons produced by distillation of the reaction products of isobutane with monoolefinic hydrocarbons usually ranging in carbon numbers from $C_3$ through $C_5$. It consists of predominantly branched chain saturated hydro-carbons having carbon numbers predominantly in the range of $C_7$ through $C_{10}$ and boiling in the range of approximately 90 °C to 160 °C.) | 649-276-00-X | 265-068-8 | 64741-66-8 | P |
| Naphtha (petroleum), isomerisation; Low boiling point modified naphtha<br>(A complex combination of hydrocarbons obtained from catalytic isomerisation of straight chain paraffinic $C_4$ through $C_6$ hydrocarbons. It consists predominantly of saturated hydrocarbons such as isobutane, isopentane, 2,2-dimethylbutane, 2-methylpentane, and 3-methylpentane.) | 649-277-00-5 | 265-073-5 | 64741-70-4 | P |
| Naphtha (petroleum), solvent-refined light; Low boiling point modified naphtha<br>(A complex combination of hydrocarbons obtained as the raffinate from a solvent extraction process. It consists predominantly of aliphatic hydrocarbons having carbon numbers predominantly in the range of $C_5$ through $C_{11}$ and boiling in the range of approximately 35 °C to 190 °C.) | 649-278-00-0 | 265-086-6 | 64741-84-0 | P |

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| Naphtha (petroleum), solvent-refined heavy; Low boiling point modified naphtha<br>(A complex combination of hydrocarbons obtained as the raffinate from a solvent extraction process. It consists predominantly of aliphatic hydrocarbons having carbon numbers predominantly in the range of $C_7$ through $C_{12}$ and boiling in the range of approximately 90 °C to 230 °C.) | 649-279-00-6 | 265-095-5 | 64741-92-0 | P |
| Raffinates (petroleum), catalytic reformer ethylene glycol-water countercurrent extracts; Low boiling point modified naphtha<br>(A complex combination of hydrocarbons obtained as the raffinate from the UDEX extraction process on the catalytic reformer stream. It consists of saturated hydrocarbons having carbon numbers predominantly in the range of $C_6$ through $C_9$.) | 649-280-00-1 | 270-088-5 | 68410-71-9 | P |
| Raffinates (petroleum), reformer, Lurgi unit-separated; Low boiling point modified naphtha<br>(The complex combination of hydrocarbons obtained as a raffinate from a Lurgi separation unit. It consists predominantly of non-aromatic hydrocarbons with various small amounts of aromatic hydrocarbons having carbon numbers predominantly in the range of $C_6$ through $C_8$.) | 649-281-00-7 | 270-349-3 | 68425-35-4 | P |
| Naphtha (petroleum), full-range alkylate, butane-contg.; Low boiling point modified naphtha<br>(A complex combination of hydrocarbons produced by the distillation of the reaction products of isobutane with monoolefinic hydrocarbons usually ranging in carbon numbers from $C_3$ through $C_5$. It consists of predominantly branched chain saturated hydrocarbons having carbon numbers predominantly in the range of $C_7$ through $C_{12}$ with some butanes and boiling in the range of approximately 35 °C to 200 °C.) | 649-282-00-2 | 271-267-0 | 68527-27-5 | P |
| Distillates (petroleum), naphtha steam cracking-derived, solvent-refined light hydrotreated; Low boiling point modified naphtha<br>(A complex combination of hydrocarbons obtained as the raffinates from a solvent extraction process of hydrotreated light distillate from steam-cracked naphtha.) | 649-283-00-8 | 295-315-5 | 91995-53-8 | P |
| Naphtha (petroleum), $C_{4-12}$ butane-alkylate, isooctane-rich; Low boiling point modified naphtha<br>(A complex combination of hydrocarbons obtained by alkylation of butanes. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of $C_4$ through $C_{12}$, rich in isooctane, and boiling in the range of approximately 35 °C to 210 °C.) | 649-284-00-3 | 295-430-0 | 92045-49-3 | P |
| Hydrocarbons, hydrotreated light naphtha distillates, solvent-refined; Low boiling point modified naphtha<br>(A combination of hydrocarbons obtained from the distillation of hydrotreated naphtha followed by a solvent extraction and distillation process. It consists predominantly of saturated hydrocarbons boiling in the range of approximately 94 °C to 99 °C.) | 649-285-00-9 | 295-436-3 | 92045-55-1 | P |
| Naphtha (petroleum), isomerisation, $C_6$-fraction; Low boiling point modified naphtha<br>(A complex combination of hydrocarbons obtained by distillation of a gasoline which has been catalytically isomerised. It consists predominantly of hexane isomers boiling in the range of approximately 60 °C to 66 °C.) | 649-286-00-4 | 295-440-5 | 92045-58-4 | P |

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| Hydrocarbons, $C_{6-7}$, naphtha-cracking, solvent-refined; Low boiling point modified naphtha<br>(A complex combination of hydrocarbons obtained by the sorption of benzene from a catalytically fully hydrogenated benzene-rich hydrocarbon cut that was distillatively obtained from prehydrogenated cracked naphtha. It consists predominantly of paraffinic and naphthenic hydrocarbons having carbon numbers predominantly in the range of $C_6$ through $C_7$ and boiling in the range of approximately 70 °C to 100 °C.) | 649-287-00-X | 295-446-8 | 92045-64-2 | P |
| Hydrocarbons, $C_6$-rich, hydrotreated light naphtha distillates, solvent-refined; Low boiling point modified naphtha<br>(A complex combination of hydrocarbons obtained by distillation of hydrotreated naphtha followed by solvent extraction. It consists predominantly of saturated hydrocarbons and boiling in the range of approximately 65 °C to 70 °C.) | 649-288-00-5 | 309-871-4 | 101316-67-0 | P |
| Naphtha (petroleum), heavy catalytic cracked; Low boiling point cat-cracked naphtha<br>(A complex combination of hydrocarbons produced by a distillation of products from a catalytic cracking process. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_6$ through $C_{12}$ and boiling in the range of approximately 65 °C to 230 °C. It contains a relatively large proportion of unsaturated hydrocarbons.) | 649-289-00-0 | 265-055-7 | 64741-54-4 | P |
| Naphtha (petroleum), light catalytic cracked; Low boiling point cat-cracked naphtha<br>(A complex combination of hydrocarbons produced by the distillation of products from a catalytic cracking process. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_4$ through $C_{11}$ and boiling in the range of approximately - 20 °C to 190 °C. It contains a relatively large proportion of unsaturated hydrocarbons.) | 649-290-00-6 | 265-056-2 | 64741-55-5 | P |
| Hydrocarbons, $C_{3-11}$, catalytic cracker distillates; Low boiling point cat-cracked naphtha<br>(A complex combination of hydrocarbons produced by the distillations of products from a catalytic cracking process. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_3$ through $C_{11}$ and boiling in a range approximately up to 204 °C.) | 649-291-00-1 | 270-686-6 | 68476-46-0 | P |
| Naphtha (petroleum), catalytic cracked light distilled; Low boiling point cat-cracked naphtha<br>(A complex combination of hydrocarbons produced by the distillation of products from a catalytic cracking process. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_5$.) | 649-292-00-7 | 272-185-8 | 68783-09-5 | P |
| Distillates (petroleum), naphtha steam cracking-derived, hydrotreated light arom.; Low boiling point cat-cracked naphtha<br>(A complex combination of hydrocarbons obtained by treating a light distillate from steam-cracked naphtha. It consists predominantly of aromatic hydrocarbons.) | 649-293-00-2 | 295-311-3 | 91995-50-5 | P |

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| Naphtha (petroleum), heavy catalytic cracked, sweetened; Low boiling point cat-cracked naphtha<br>(A complex combination of hydrocarbons obtained by subjecting a catalytic cracked petroleum distillate to a sweetening process to convert mercaptans or to remove acidic impurities. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of $C_6$ through $C_{12}$ and boiling in the range of approximately 60 °C to 200 °C.) | 649-294-00-8 | 295-431-6 | 92045-50-6 | P |
| Naphtha (petroleum), light catalytic cracked sweetened; Low boiling point cat-cracked naphtha<br>(A complex combination of hydrocarbons obtained by subjecting naphtha from a catalytic cracking process to a sweetening process to convert mercaptans or to remove acidic impurities. It consists predominantly of hydrocarbons boiling in a range of approximately 35 °C to 210 °C.) | 649-295-00-3 | 295-441-0 | 92045-59-5 | P |
| Hydrocarbons, $C_{8-12}$, catalytic-cracking, chem. neutralised; Low boiling point cat-cracked naphtha<br>(A complex combination of hydrocarbons produced by the distillation of a cut from the catalytic cracking process, having undergone an alkaline washing. It consists predominantly of hydrocarbons having carbon numbers in the range of $C_8$ through $C_{12}$ and boiling in the range of approximately 130 °C to 210 °C.) | 649-296-00-9 | 295-794-0 | 92128-94-4 | P |
| Hydrocarbons, $C_{8-12}$, catalytic cracker distillates; Low boiling point cat-cracked naphtha<br>(A complex combination of hydrocarbons obtained by distillation of products from a catalytic cracking process. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of $C_8$ through $C_{12}$ and boiling in the range of approximately 140 °C to 210 °C.) | 649-297-00-4 | 309-974-4 | 101794-97-2 | P |
| Hydrocarbons, $C_{8-12}$, catalytic cracking, chem. neutralised, sweetened; Low boiling point cat-cracked naphtha | 649-298-00-X | 309-987-5 | 101896-28-0 | P |
| Naphtha (petroleum), light catalytic reformed; Low boiling point cat-reformed naphtha<br>(A complex combination of hydrocarbons produced from the distillation of products from a catalytic reforming process. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_5$ through $C_{11}$ and boiling in the range of approximately 35 °C to 190 °C. It contains a relatively large proportion of aromatic and branched chain hydrocarbons. This stream may contain 10 % vol. or more benzene.) | 649-299-00-5 | 265-065-1 | 64741-63-5 | P |
| Naphtha (petroleum), heavy catalytic reformed; Low boiling point cat-reformed naphtha<br>(A complex combination of hydrocarbons produced from the distillation of products from a catalytic reforming process. It consists of predominantly aromatic hydrocarbons having numbers predominantly in the range of $C_7$ through $C_{12}$ and boiling in the range of approximately 90 °C to 230 °C.) | 649-300-00-9 | 265-070-9 | 64741-68-0 | P |

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| Distillates (petroleum), catalytic reformed depentaniser; Low boiling point cat-reformed naphtha<br>(A complex combination of hydrocarbons from the distillation of products from a catalytic reforming process. It consists predominantly of aliphatic hydrocarbons having carbon numbers predominantly in the range of $C_3$ through $C_6$ and boiling in the range of approximately - 49 °C to 63 °C.) | 649-301-00-4 | 270-660-4 | 68475-79-6 | P |
| Hydrocarbons, $C_{2-6}$, $C_{6-8}$ catalytic reformer; Low boiling point cat-reformed naphtha | 649-302-00-X | 270-687-1 | 68476-47-1 | P |
| Residues (petroleum), $C_{6-8}$ catalytic reformer; Low boiling point cat-reformed naphtha<br>(A complex residuum from the catalytic reforming of $C_{6-8}$ feed. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_2$ through $C_6$.) | 649-303-00-5 | 270-794-3 | 68478-15-9 | P |
| Naphtha (petroleum), light catalytic reformed, arom.-free; Low boiling point cat-reformed naphtha<br>(A complex combination of hydrocarbons obtained from distillation of products from a catalytic reforming process. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of $C_5$ through $C_8$ and boiling in the range of approximately 35 °C to 120 °C. It contains a relatively large proportion of branched chain hydrocarbons with the aromatic components removed.) | 649-304-00-0 | 270-993-5 | 68513-03-1 | P |
| Distillates (petroleum), catalytic reformed straight-run naphtha overheads; Low boiling point cat-reformed naphtha<br>(A complex combination of hydrocarbons obtained by the catalytic reforming of straight-run naphtha followed by the fractionation of the total effluent. It consists of saturated aliphatic hydrocarbons having carbon numbers predominantly in the range of $C_2$ through $C_6$.) | 649-305-00-6 | 271-008-1 | 68513-63-3 | P |
| Petroleum products, hydrofiner-powerformer reformates; Low boiling point cat-reformed naphtha<br>(The complex combination of hydrocarbons obtained in a hydrofiner-powerformer process and boiling in a range of approximately 27 °C to 210 °C.) | 649-306-00-1 | 271-058-4 | 68514-79-4 | P |
| Naphtha (petroleum, full-range reformed; Low boiling point cat-reformed naphtha<br>(A complex combination of hydrocarbons produced by the distillation of the products from a catalytic reforming process. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_5$ through $C_{12}$ and boiling in the range of approximately 35 °C to 230 °C.) | 649-307-00-7 | 272-895-8 | 68919-37-9 | P |
| Naphtha (petroleum), catalytic reformed; Low boiling point cat-reformed naphtha<br>(A complex combination of hydrocarbons produced by the distillation of products from a catalytic reforming process. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_4$ through $C_{12}$ and boiling in the range of approximately 30 °C to 220 °C. It contains a relatively large proportion of aromatic and branched chain hydrocarbons. This stream may contain 10 % vol. or more benzene.) | 649-308-00-2 | 273-271-8 | 68955-35-1 | P |

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| Distillates (petroleum), catalytic reformed hydrotreated light, $C_{8-12}$ arom. fraction; Low boiling point cat-reformed naphtha<br>(A complex combination of alkylbenzenes obtained by the catalytic reforming of petroleum naphtha. It consists predominantly of alkylbenzenes having carbon numbers predominantly in the range of $C_8$ through $C_{10}$ and boiling in the range of approximately 160 °C to 180 °C.) | 649-309-00-8 | 285-509-8 | 85116-58-1 | P |
| Aromatic hydrocarbons, $C_8$, catalytic reforming-derived; Low boiling point cat-reformed naphtha | 649-310-00-3 | 295-279-0 | 91995-18-5 | P |
| Aromatic hydrocarbons, $C_{7-12}$, $C_8$-rich; Low boiling point cat-reformed naphtha<br>(A complex combination of hydrocarbons obtained by separation from the platformate-containing fraction. It consists predominantly of aromatic hydrocarbons having carbon numbers predominantly in the range of $C_7$ through $C_{12}$ (primarily $C_8$) and can contain nonaromatic hydrocarbons, both boiling in the range of approximately 130 °C to 200 °C.) | 649-311-00-9 | 297-401-8 | 93571-75-6 | P |
| Gasoline, $C_{5-11}$, high-octane stabilised reformed; Low boiling point cat-reformed naphtha<br>(A complex high octane combination of hydrocarbons obtained by the catalytic dehydrogenation of a predominantly naphthenic naphtha. It consists predominantly of aromatics and non-aromatics having carbon numbers predominantly in the range of $C_5$ through $C_{11}$ and boiling in the range of approximately 45 °C to 185 °C.) | 649-312-00-4 | 297-458-9 | 93572-29-3 | P |
| Hydrocarbons, $C_{7-12}$, $C_{>9}$-arom.-rich, reforming heavy fraction; Low boiling point cat-reformed naphtha<br>(A complex combination of hydrocarbons obtained by separation from the platformate-containing fraction. It consists predominantly of nonaromatic hydrocarbons having carbon numbers predominantly in the range of $C_7$ through $C_{12}$ and boiling in the range of approximately 120 °C to 210 °C and $C_9$ and higher aromatic hydrocarbons.) | 649-313-00-X | 297-465-7 | 93572-35-1 | P |
| Hydrocarbons, $C_{5-11}$, nonaroms.-rich, reforming light fraction; Low boiling point cat-reformed naphtha<br>(A complex combination of hydrocarbons obtained by separation from the platformate-containing fraction. It consists predominantly of nonaromatic hydrocarbons having carbon numbers predominantly in the range of $C_5$ to $C_{11}$ and boiling in the range of approximately 35 °C to 125 °C, benzene and toluene.) | 649-314-00-5 | 297-466-2 | 93572-36-2 | P |
| Foots oil (petroleum), silicic acid-treated; Foots oil<br>(A complex combination of hydrocarbons obtained by the treatment of Foots oil with silicic acid for removal of trace constituents and impurities. It consists predominantly of straight chain hydrocarbons having carbon numbers predominantly greater than $C_{12}$.) | 649-315-00-0 | 308-127-6 | 97862-77-6 | L |

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| Naphtha (petroleum), light thermal cracked; Low boiling point thermally cracked naphtha<br>(A complex combination of hydrocarbons from distillation of products from a thermal cracking process. It consists predominantly of unsaturated hydrocarbons having carbon numbers predominantly in the range of $C_4$ through $C_8$ and boiling in the range of approximately – 10 °C to 130 °C.) | 649-316-00-6 | 265-075-6 | 64741-74-8 | P |
| Naphtha (petroleum), heavy thermal cracked; Low boiling point thermally cracked naphtha<br>(A complex combination of hydrocarbons from distillation of products from a thermal cracking process. It consists predominantly of unsaturated hydrocarbons having carbon numbers predominantly in the range of $C_6$ through $C_{12}$ and boiling in the range of approximately 65 °C to 220 °C.) | 649-317-00-1 | 265-085-0 | 64741-83-9 | P |
| Distillates (petroleum), heavy aromatic; Low boiling point thermally cracked naphtha<br>(The complex combination of hydrocarbons from the distillation of products from the thermal cracking of ethane and propane. This higher boiling fraction consists predominantly of $C_5$-$C_7$ aromatic hydrocarbons with some unsaturated aliphatic hydrocarbons having a carbon number predominantly of $C_5$. This stream may contain benzene.) | 649-318-00-7 | 267-563-4 | 67891-79-6 | P |
| Distillates (petroleum), light aromatic; Low boiling point thermally cracked naphtha<br>(The complex combination of hydrocarbons from the distillation of products from the thermal cracking of ethane and propane. This lower boiling fraction consists predominantly of $C_5$-$C_7$ aromatic hydrocarbons with some unsaturated aliphatic hydrocarbons having a carbon number predominantly of $C_5$. This stream may contain benzene.) | 649-319-00-2 | 267-565-5 | 67891-80-9 | P |
| Distillates (petroleum), naphtha-raffinate pyrolyzate-derived, gasoline-blending; Low boiling point thermally cracked naphtha<br>(The complex combination of hydrocarbons obtained by the pyrolysis fractionation at 816 °C of naphtha and raffinate. It consists predominantly of hydrocarbons having a carbon number of $C_9$ and boiling at approximately 204 °C.) | 649-320-00-8 | 270-344-6 | 68425-29-6 | P |
| Aromatic hydrocarbons, $C_{6-8}$, naphtha-raffinate pyrolyzate-derived; Low boiling point thermally cracked naphtha<br>(A complex combination of hydrocarbons obtained by the fractionation pyrolysis at 816 °C of naphtha and raffinate. It consists predominantly of aromatic hydrocarbons having carbon numbers predominantly in the range of $C_6$ through $C_8$, including benzene.) | 649-321-00-3 | 270-658-3 | 68475-70-7 | P |
| Distillates (petroleum), thermal cracked naphtha and gas oil; Low boiling point thermally cracked naphtha<br>(A complex combination of hydrocarbons produced by distillation of thermally cracked naphtha and/or gas oil. It consists predominantly of olefinic hydrocarbons having a carbon number of $C_5$ and boiling in the range of approximately 33 °C to 60 °C.) | 649-322-00-9 | 271-631-9 | 68603-00-9 | P |

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| Distillates (petroleum), thermal cracked naphtha and gas oil, $C_5$-dimer-contg.; Low boiling point thermally cracked naphtha<br>(A complex combination of hydrocarbons produced by the extractive distillation of thermal cracked naphtha and/or gas oil. It consists predominantly of hydrocarbons having a carbon number of $C_5$ with some dimerised $C_5$ olefins and boiling in the range of approximately 33 °C to 184 °C.) | 649-323-00-4 | 271-632-4 | 68603-01-0 | P |
| Distillates (petroleum), thermal cracked naphtha and gas oil, extractive; Low boiling point thermally cracked naphtha<br>(A complex combination of hydrocarbons produced by the extractive distillation of thermal cracked naphtha and/or gas oil. It consists of paraffinic and olefinic hydrocarbons predominantly isoamylenes such as 2-methyl-1-butene and 2-methyl-2-butene and boiling in the range of approximately 31 °C to 40 °C.) | 649-324-00-X | 271-634-5 | 68603-03-2 | P |
| Distillates (petroleum), light thermal cracked, debutanised aromatic; Low boiling point thermally cracked naphtha<br>(A complex combination of hydrocarbons produced by the distillation of products from a thermal cracking process. It consists predominantly of aromatic hydrocarbons, primarily benzene.) | 649-325-00-5 | 273-266-0 | 68955-29-3 | P |
| Naphtha (petroleum), light thermal cracked, sweetened; Low boiling point thermally cracked naphtha<br>(A complex combination of hydrocarbons obtained by subjecting a petroleum distillate from the high temperature thermal cracking of heavy oil fractions to a sweetening process to convert mercaptans. It consists predominantly of aromatics, olefins and saturated hydrocarbons boiling in the range of approximately 20 °C to 100 °C.) | 649-326-00-0 | 295-447-3 | 92045-65-3 | P |
| Naphtha (petroleum), hydrotreated heavy; Low boiling point hydrogen treated naphtha<br>(A complex combination of hydrocarbons obtained by treating a petroleum fraction with hydrogen in the presence of a catalyst. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_6$ through $C_{13}$ and boiling in the range of approximately 65 °C to 230 °C.) | 649-327-00-6 | 265-150-3 | 64742-48-9 | P |
| Naphtha (petroleum), hydrotreated light; Low boiling point hydrogen treated naphtha<br>(A complex combination of hydrocarbons obtained by treating a petroleum fraction with hydrogen in the presence of a catalyst. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_4$ through $C_{11}$ and boiling in the range of approximately - 20 °C to 190 °C.) | 649-328-00-1 | 265-151-9 | 64742-49-0 | P |
| Naphtha (petroleum), hydrodesulphurised light; Low boiling point hydrogen treated naphtha<br>(A complex combination of hydrocarbons obtained from a catalytic hydrodesulphurisation process. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_4$ through $C_{11}$ and boiling in the range of approximately - 20 °C to 190 °C.) | 649-329-00-7 | 265-178-6 | 64742-73-0 | P |

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| Naphtha (petroleum), hydrodesulphurised heavy; Low boiling point hydrogen treated naphtha<br>(A complex combination of hydrocarbons obtained from a catalytic hydrodesulphurisation process. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_7$ through $C_{12}$ and boiling in the range of approximately 90 °C to 230 °C.) | 649-330-00-2 | 265-185-4 | 64742-82-1 | P |
| Distillates (petroleum), hydrotreated middle, intermediate boiling; Low boiling point hydrogen treated naphtha<br>(A complex combination of hydrocarbons obtained by the distillation of products from a middle distillate hydrotreating process. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_5$ through $C_{10}$ and boiling in the range of approximately 127 °C to 188 °C.) | 649-331-00-8 | 270-092-7 | 68410-96-8 | P |
| Distillates (petroleum), light distillate hydrotreating process, low-boiling; Low boiling point hydrogen treated naphtha<br>(A complex combination of hydrocarbons obtained by the distillation of products from the light distillate hydrotreating process. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_6$ through $C_9$ and boiling in the range of approximately 3 °C to 194 °C.) | 649-332-00-3 | 270-093-2 | 68410-97-9 | P |
| Distillates (petroleum), hydrotreated heavy naphtha, deisohexaniser overheads; Low boiling point hydrogen treated naphtha<br>(A complex combination of hydrocarbons obtained by distillation of the products from a heavy naphtha hydrotreating process. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_3$ through $C_6$ and boiling in the range of approximately - 49 °C to 68 °C.) | 649-333-00-9 | 270-094-8 | 68410-98-0 | P |
| Solvent naphtha (petroleum), light arom., hydrotreated; Low boiling point hydrogen treated naphtha<br>(A complex combination of hydrocarbons obtained by treating a petroleum fraction with hydrogen in the presence of a catalyst. It consists predominantly of aromatic hydrocarbons having carbon numbers predominantly in the range of $C_8$ through $C_{10}$ and boiling in the range of approximately 135 °C to 210 °C.) | 649-334-00-4 | 270-988-8 | 68512-78-7 | P |
| Naphtha (petroleum), hydrodesulphurised thermal cracked light; Low boiling point hydrogen treated naphtha<br>(A complex combination of hydrocarbons obtained by fractionation of hydrodesulphurised thermal cracker distillate. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of $C_5$ to $C_{11}$ and boiling in the range of approximately 23 °C to 195 °C.) | 649-335-00-X | 285-511-9 | 85116-60-5 | P |
| Naphtha (petroleum), hydrotreated light, cycloalkane-contg.; Low boiling point hydrogen treated naphtha<br>(A complex combination of hydrocarbons obtained from the distillation of a petroleum fraction. It consists predominantly of alkanes and cycloalkanes boiling in the range of approximately - 20 °C to 190 °C.) | 649-336-00-5 | 285-512-4 | 85116-61-6 | P |

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| Naphtha (petroleum), heavy steam-cracked, hydrogenated; Low boiling point hydrogen treated naphtha | 649-337-00-0 | 295-432-1 | 92045-51-7 | P |
| Naphtha (petroleum), hydrodesulphurised full-range; Low boiling point hydrogen treated naphtha<br>(A complex combination of hydrocarbons obtained from a catalytic hydrodesulphurisation process. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of $C_4$ through $C_{11}$ and boiling in the range of approximately 30 °C to 250 °C.) | 649-338-00-6 | 295-433-7 | 92045-52-8 | P |
| Naphtha (petroleum), hydrotreated light steam-cracked; Low boiling point hydrogen treated naphtha<br>(A complex combination of hydrocarbons obtained by treating a petroleum fraction, derived from a pyrolysis process, with hydrogen in the presence of a catalyst. It consists predominantly of unsaturated hydrocarbons having carbon numbers predominantly in the range of $C_5$ through $C_{11}$ and boiling in the range of approximately 35 °C to 190 °C.) | 649-339-00-1 | 295-438-4 | 92045-57-3 | P |
| Hydrocarbons, $C_{4-12}$, naphtha-cracking, hydrotreated; Low boiling point hydrogen treated naphtha<br>(A complex combination of hydrocarbons obtained by distillation from the product of naphtha steam cracking process and subsequent catalytic selective hydrogenation of gum formers. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_4$ through $C_{12}$ and boiling in the range of approximately 30 °C to 230 °C.) | 649-340-00-7 | 295-443-1 | 92045-61-9 | P |
| Solvent naphtha (petroleum), hydrotreated light naphthenic; Low boiling point hydrogen treated naphtha<br>(A complex combination of hydrocarbons obtained by treating a petroleum fraction with hydrogen in the presence of a catalyst. It consists predominantly of cycloparaffinic hydrocarbons having carbon numbers predominantly in the range of $C_6$ through $C_7$ and boiling in the range of approximately 73 °C to 85 °C.) | 649-341-00-2 | 295-529-9 | 92062-15-2 | P |
| Naphtha (petroleum), light steam-cracked, hydrogenated; Low boiling point hydrogen treated naphtha<br>(A complex combination of hydrocarbons produced from the separation and subsequent hydrogenation of the products of a steam-cracking process to produce ethylene. It consists predominantly of saturated and unsaturated paraffins, cyclic paraffins and cyclic aromatic hydrocarbons having carbon numbers predominantly in the range of $C_4$ through $C_{10}$ and boiling in the range of approximately 50 °C to 200 °C. The proportion of benzene hydrocarbons may vary up to 30 % wt and the stream may also contain small amounts of sulphur and oxygenated compounds.) | 649-342-00-8 | 296-942-7 | 93165-55-0 | P |
| Hydrocarbons, $C_{6-11}$, hydrotreated, dearomatised; Low boiling point hydrogen treated naphtha<br>(A complex combination of hydrocarbons obtained as solvents which have been subjected to hydrotreatment in order to convert aromatics to naphthenes by catalytic hydrogenation.) | 649-343-00-3 | 297-852-0 | 93763-33-8 | P |
| Hydrocarbons, $C_{9-12}$, hydrotreated, dearomatised; Low boiling point hydrogen treated naphtha<br>(A complex combination of hydrocarbons obtained as solvents which have been subjected to hydrotreatment in order to convert aromatics to naphthenes by catalytic hydrogenation.) | 649-344-00-9 | 297-853-6 | 93763-34-9 | P |

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| Stoddard solvent; Low boiling point naphtha — unspecified<br>(A colourless, refined petroleum distillate that is free from rancid or objectionable odours and that boils in a range of approximately 149 °C to 205 °C.) | 649-345-00-4 | 232-489-3 | 8052-41-3 | P |
| Natural gas condensates (petroleum); Low boiling point naphtha — unspecified<br>(A complex combination of hydrocarbons separated as a liquid from natural gas in a surface separator by retrograde condensation. It consists mainly of hydrocarbons having carbon numbers predominantly in the range of $C_2$ to $C_{20}$. It is a liquid at atmospheric temperature and pressure.) | 649-346-00-X | 265-047-3 | 64741-47-5 | P |
| Natural gas (petroleum), raw liquid mix; Low boiling point naphtha — unspecified<br>(A complex combination of hydrocarbons separated as a liquid from natural gas in a gas recycling plant by processes such as refrigeration or absorption. It consists mainly of saturated aliphatic hydrocarbons having carbon numbers in the range of $C_2$ through $C_8$.) | 649-347-00-5 | 265-048-9 | 64741-48-6 | P |
| Naphtha (petroleum), light hydrocracked; Low boiling point naphtha — unspecified<br>(A complex combination of hydrocarbons from distillation of the products from a hydrocracking process. It consists predominantly of saturated hydrocarbons having carbon numbers predominantly in the range of $C_4$ through $C_{10}$, and boiling in the range of approximately – 20 °C to 180 °C.) | 649-348-00-0 | 265-071-4 | 64741-69-1 | P |
| Naphtha (petroleum) heavy hydrocracked; Low boiling point naphtha — unspecified<br>(A complex combination of hydrocarbons from distillation of the products from a hydrocracking process. It consists predominantly of saturated hydrocarbons having carbon numbers predominantly in the range of $C_6$ through $C_{12}$, and boiling in the range of approximately 65 °C to 230 °C.) | 649-349-00-6 | 265-079-8 | 64741-78-2 | P |
| Naphtha (petroleum), sweetened; Low boiling point naphtha — unspecified<br>(A complex combination of hydrocarbons obtained by subjecting a petroleum naphtha to a sweetening process to convert mercaptans or to remove acidic impurities. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_4$ through $C_{12}$ and boiling in the range of approximately - 10 °C to 230 °C.) | 649-350-00-1 | 265-089-2 | 64741-87-3 | P |
| Naphtha (petroleum), acid-treated; Low boiling point naphtha — unspecified<br>(A complex combination of hydrocarbons obtained as a raffinate from a sulphuric acid treating process. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_7$ through $C_{12}$ and boiling in the range of approximately 90 °C to 230 °C.) | 649-351-00-7 | 265-115-2 | 64742-15-0 | P |

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| Naphtha (petroleum), chemically neutralised heavy; Low boiling point naphtha — unspecified<br>(A complex combination of hydrocarbons produced by a treating process to remove acidic materials. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_6$ through $C_{12}$ and boiling in the range of approximately 65 °C to 230 °C.) | 649-352-00-2 | 265-122-0 | 64742-22-9 | P |
| Naphtha (petroleum), chemically neutralised light; Low boiling point naphtha — unspecified<br>(A complex combination of hydrocarbons produced by a treating process to remove acidic materials. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_4$ through $C_{11}$ and boiling in the range of approximately - 20 °C to 190 °C.) | 649-353-00-8 | 265-123-6 | 64742-23-0 | P |
| Naphtha (petroleum), catalytic dewaxed; Low boiling point naphtha — unspecified<br>(A complex combination of hydrocarbons obtained from the catalytic dewaxing of a petroleum fraction. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of $C_5$ through $C_{12}$ and boiling in the range of approximately 35 °C to 230 °C.) | 649-354-00-3 | 265-170-2 | 64742-66-1 | P |
| Naphtha (petroleum), light steam-cracked; Low boiling point naphtha — unspecified<br>(A complex combination of hydrocarbons obtained by the distillation of the products from a steam cracking process. It consists predominantly of unsaturated hydrocarbons having carbon numbers predominantly in the range of $C_4$ through $C_{11}$ and boiling in the range of approximately - 20 °C to 190 °C. This stream is likely to contain 10 % vol. or more benzene.) | 649-355-00-9 | 265-187-5 | 64742-83-2 | P |
| Solvent naphtha (petroleum), light aromatic; Low boiling point naphtha — unspecified<br>(A complex combination of hydrocarbons obtained from distillation of aromatic streams. It consists predominantly of aromatic hydrocarbons having carbon numbers predominantly in the range of $C_8$ through $C_{10}$ and boiling in the range of approximately 135 °C to 210 °C.) | 649-356-00-4 | 265-199-0 | 64742-95-6 | P |
| Aromatic hydrocarbons, $C_{6-10}$, acid-treated, neutralised; Low boiling point naphtha — unspecified | 649-357-00-X | 268-618-5 | 68131-49-7 | P |
| Distillates (petroleum), $C_{3-5}$, 2-methyl-2-butene-rich; Low boiling point naphtha — unspecified<br>(A complex combination of hydrocarbons from the distillation of hydrocarbons usually ranging in carbon numbers from $C_3$ through $C_5$, predominantly isopentane and 3-methyl-1-butene. It consists of saturated and unsaturated hydrocarbons having carbon numbers in the range of $C_3$ through $C_5$, predominantly 2-methyl-2-butene.) | 649-358-00-5 | 270-725-7 | 68477-34-9 | P |
| Distillates (petroleum), polymd. steam-cracked petroleum distillates, $C_{5-12}$ fraction; Low boiling point naphtha — unspecified<br>(A complex combination of hydrocarbons obtained from the distillation of polymerised steam-cracked petroleum distillate. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of $C_5$ through $C_{12}$.) | 649-359-00-0 | 270-735-1 | 68477-50-9 | P |

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| Distillates (petroleum), steam-cracked, $C_{5-12}$ fraction; Low boiling point naphtha — unspecified<br>(A complex combination of organic compounds obtained by the distillation of products from a steam cracking process. It consists of unsaturated hydrocarbons having carbon numbers predominantly in the range of $C_5$ through $C_{12}$.) | 649-360-00-6 | 270-736-7 | 68477-53-2 | P |
| Distillates (petroleum), steam-cracked, $C_{5-10}$ fraction, mixed with light steam-cracked petroleum naphtha $C_5$ fraction; Low boiling point naphtha — unspecified | 649-361-00-1 | 270-738-8 | 68477-55-4 | P |
| Extracts (petroleum), cold-acid, $C_{4-6}$; Low boiling point naphtha — unspecified<br>(A complex combination of organic compounds produced by cold acid unit extraction of saturated and unsaturated aliphatic hydrocarbons usually ranging in carbon numbers from $C_3$ through $C_6$, predominantly pentanes and amylenes. It consists predominantly of saturated and unsaturated hydrocarbons having carbon numbers in the range of $C_4$ through $C_6$, predominantly $C_5$.) | 649-362-00-7 | 270-741-4 | 68477-61-2 | P |
| Distillates (petroleum), depentaniser overheads; Low boiling point naphtha — unspecified<br>(A complex combination of hydrocarbons obtained from a catalytic cracked gas stream. It consists of aliphatic hydrocarbons having carbon numbers predominantly in the range of $C_4$ through $C_6$.) | 649-363-00-2 | 270-771-8 | 68477-894-4 | P |
| Residues (petroleum), butane splitter bottoms; Low boiling point naphtha — unspecified<br>(A complex residuum from the distillation of butane stream. It consists of aliphatic hydrocarbons having carbon numbers predominantly in the range of $C_4$ through $C_6$.) | 649-364-00-8 | 270-791-7 | 68478-12-6 | P |
| Residual oils (petroleum), deisobutaniser tower; Low boiling point naphtha — unspecified<br>(A complex residuum from the atmospheric distillation of the butane-butylene stream. It consists of aliphatic hydrocarbons having carbon numbers predominantly in the range of $C_4$ through $C_6$.) | 649-365-00-3 | 270-795-9 | 68478-16-0 | P |
| Naphtha (petroleum), full-range coker; Low boiling point naphtha — unspecified<br>(A complex combination of hydrocarbons produced by the distillation of products from a fluid coker. It consists predominantly of unsaturated hydrocarbons having carbon numbers predominantly in the range of $C_4$ through $C_{15}$ and boiling in the range of approximately 43 °C to 250 °C.) | 649-366-00-9 | 270-991-4 | 68513-02-0 | P |
| Naphtha (petroleum), steam-cracked middle aromatic; Low boiling point naphtha — unspecified<br>(A complex combination of hydrocarbons produced by the distillation of products from a steam-cracking process. It consists predominantly of aromatic hydrocarbons having carbon numbers predominantly in the range of $C_7$ through $C_{12}$ and boiling in the range of approximately 130 °C to 220 °C.) | 649-367-00-4 | 271-138-9 | 68516-20-1 | P |

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|---|---|---|---|---|
| Naphtha (petroleum), clay-treated full-range straight-run; Low boiling point naphtha — unspecified<br>(A complex combination of hydrocarbons resulting from treatment of full-range straight-run, naphtha with natural or modified clay, usually in a percolation process to remove the trace amounts of polar compounds and impurities present. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_4$ through $C_{11}$ and boiling in the range of approximately - 20 °C to 220 °C.) | 649-368-00-X | 271-262-3 | 68527-21-9 | P |
| Naphtha (petroleum), clay-treated light straight-run; Low boiling point naphtha — unspecified<br>(A complex combination of hydrocarbons resulting from treatment of light straight-run naphtha with a natural or modified clay, usually in a percolation process to remove the trace amounts of polar compounds and impurities, present. It consists of hydro-carbons having carbon numbers predominantly in the range of $C_7$ through $C_{10}$ and boiling in the range of approximately 93 °C to 180 °C.) | 649-369-00-5 | 271-263-9 | 68527-22-0 | P |
| Naphtha (petroleum), light steam-cracked arom.; Low boiling point naphtha — unspecified<br>(A complex combination of hydrocarbons produced by distillation of products from a steam-cracking process. It consists predominantly of aromatic hydrocarbons having carbon numbers predominantly in the range of $C_7$ through $C_9$, and boiling in the range of approximately 110 °C to 165 °C.) | 649-370-00-0 | 271-264-4 | 68527-23-1 | P |
| Naphtha (petroleum), light steam-cracked, debenzenised; Low boiling point naphtha — unspecified<br>(A complex combination of hydrocarbons produced by distillation of products from a steam-cracking process. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of $C_4$ through $C_{12}$ and boiling in the range of approximately 80 °C to 218 °C.) | 649-371-00-6 | 271-266-5 | 68527-26-4 | P |
| Naphtha (petroleum), aromatic-containing; Low boiling point naphtha — unspecified | 649-372-00-1 | 271-635-0 | 68603-08-7 | P |
| Gasoline, pyrolysis, debutaniser bottoms; low boiling point naphtha — unspecified<br>(A complex combination of hydrocarbons obtained from the fractionation of depropaniser bottoms. It consists of hydrocarbons having carbon numbers predominantly greater than $C_5$.) | 649-373-00-7 | 271-726-5 | 68606-10-0 | P |
| Naphtha (petroleum), light, sweetened; Low boiling point naphtha — unspecified<br>(A complex combination of hydrocarbons obtained by subjecting a petroleum distillate to a sweetening process to convert mercaptans or to remove acidic impurities. It consists predominantly of saturated and unsaturated hydrocarbons having carbon numbers predominantly in the range of $C_3$ through $C_6$ and boiling in the range of approximately - 20 °C to 100 °C.) | 649-374-00-2 | 272-206-0 | 68783-66-4 | P |
| Natural gas condensates; Low boiling point naphtha — unspecified<br>(A complex combination of hydrocarbons separated and/or condensed from natural gas during transportation and collected at the wellhead and/or from the production, gathering, transmission, and distribution pipelines in deeps, scrubbers, etc. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of $C_2$ through $C_8$.) | 649-375-00-8 | 272-896-3 | 68919-39-1 | J |

| Substances | Index No | EC No | CAS No | Notes |
|---|---|---|---|---|
| Distillates (petroleum), naphtha unifiner stripper; Low boiling point naphtha — unspecified<br>(A complex combination of hydrocarbons produced by stripping the products from the naphtha unifiner. It consists of saturated aliphatic hydrocarbons having carbon numbers predominantly in the range of $C_2$ through $C_6$.) | 649-376-00-3 | 272-932-8 | 68921-09-5 | P |
| Naphtha (petroleum), catalytic reformed light, aromatic-free fraction; Low boiling point naphtha — unspecified<br>(A complex combination of hydrocarbons remaining after removal of aromatic compounds from catalytic reformed light naphtha in a selective absorption process. It consists predominantly of paraffinic and cyclic compounds having carbon numbers predominantly in the range of $C_5$ to $C_8$ and boiling in the range of approximately 66 °C to 121 °C.) | 649-377-00-9 | 285-510-3 | 85116-59-2 | P |
| Gasoline; Low boiling point naphtha — unspecified<br>(A complex combination of hydrocarbons consisting primarily of paraffins, cycloparaffins, aromatic and olefinic hydrocarbons having carbon numbers predominantly greater than $C_3$ and boiling in the range of 30 °C to 260 °C.) | 649-378-00-4 | 289-220-8 | 86290-81-5 | P |
| Aromatic hydrocarbons, $C_{7-8}$, dealkylation products, distillation residues; Low boiling point naphtha — unspecified | 649-379-00-X | 292-698-0 | 90989-42-7 | P |
| Hydrocarbons, $C_{4-6}$, depentaniser lights, arom. hydrotreater; Low boiling point naphtha — unspecified<br>(A complex combination of hydrocarbons obtained as first runnings from the depentaniser column before hydrotreatment of the aromatic charges. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of $C_4$ through $C_6$, predominantly pentanes and pentenes, and boiling in the range of approximately 25 °C to 40 °C.) | 649-380-00-5 | 295-298-4 | 91995-38-9 | P |
| Distillates (petroleum), heat-soaked steam-cracked naphtha, $C_5$-rich; Low boiling point naphtha — unspecified<br>(A complex combination of hydrocarbons obtained by distillation of heat-soaked steam-cracked naphtha. It consists predominantly of hydrocarbons having carbon numbers in the range of $C_4$ through $C_6$, predominantly $C_5$.) | 649-381-00-0 | 295-302-4 | 91995-41-4 | P |
| Extracts (petroleum), catalytic reformed light naphtha solvent; low boiling point naphtha — unspecified<br>(A complex combination of hydrocarbons obtained as the extract from the solvent extraction of a catalytically reformed petroleum cut. It consists predominantly of aromatic hydrocarbons having carbon numbers predominantly in the range of $C_7$ through $C_8$ and boiling in the range of approximately 100 °C to 200 °C.) | 649-382-00-6 | 295-331-2 | 91995-68-5 | P |
| Naphtha (petroleum), hydrodesulphurised light, dearomatised; low boiling point naphtha — unspecified<br>(A complex combination of hydrocarbons obtained by distillation of hydrodesulphurised and dearomatised light petroleum fractions. It consists predominantly of $C_7$ paraffins and cycloparaffins boiling in a range of approximately 90 °C to 100 °C.) | 649-383-00-1 | 295-434-2 | 92045-53-9 | P |

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|---|---|---|---|---|
| Naphtha (petroleum), light, $C_5$-rich, sweetened; low boiling point naphtha — unspecified<br>(A complex combination of hydrocarbons obtained by subjecting a petroleum naphtha to a sweetening process to convert mercaptans or to remove acidic impurities. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_4$ through $C_5$, predominantly $C_5$, and boiling in the range of approximately - 10 °C to 35 °C.) | 649-384-00-7 | 295-442-6 | 92045-60-8 | P |
| Hydrocarbons, $C_{8-11}$, naphtha-cracking, toluene cut; low boiling point naphtha — unspecified<br>(A complex combination of hydrocarbons obtained by distillation from prehydrogenated cracked naphtha. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of $C_8$ through $C_{11}$ and boiling in the range of approximately 130 °C to 205 °C.) | 649-385-00-2 | 295-444-7 | 92045-62-0 | P |
| Hydrocarbons, $C_{4-11}$, naphtha-cracking; aromatic-free; low boiling point naphtha — unspecified<br>(A complex combination of hydrocarbons obtained from prehydrogenated cracked naphtha after distillative separation of benzene- and toluene-containing hydrocarbon cuts and a higher boiling fraction. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of $C_4$ through $C_{11}$ and boiling in the range of approximately 30 °C to 205 °C.) | 649-386-00-8 | 295-445-2 | 92045-63-1 | P |
| Naphtha (petroleum), light heat-soaked, steam-cracked; low boiling point naphtha — unspecified<br>(A complex combination of hydrocarbons obtained by the fractionation of steam cracked naphtha after recovery from a heat soaking process. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of $C_4$ through $C_6$ and boiling in the range of approximately 0 °C to 80 °C.) | 649-387-00-3 | 296-028-8 | 92201-97-3 | P |
| Distillates (petroleum), $C_6$-rich; low boiling point naphtha — unspecified<br>(A complex combination of hydrocarbons obtained from the distillation of a petroleum feedstock. It consists predominantly of hydrocarbons having carbon numbers of $C_5$ through $C_7$, rich in $C_6$, and boiling in the range of approximately 60 °C to 70 °C.) | 649-388-00-9 | 296-903-4 | 93165-19-6 | P |
| Gasoline, pyrolysis, hydrogenated; low boiling point naphtha — unspecified<br>(A distillation fraction from the hydrogenation of pyrolysis gasoline boiling in the range of approximately 20 °C to 200 °C.) | 649-389-00-4 | 302-639-3 | 94114-03-1 | P |
| Distillates (petroleum), steam-cracked, $C_{8-12}$ fraction, polymd., distillation lights; low boiling point naphtha — unspecified<br>(A complex combination of hydrocarbons obtained by distillation of the polymerised $C_8$ through $C_{12}$ fraction from steam-cracked petroleum distillates. It consists predominantly of aromatic hydrocarbons having carbon numbers predominantly in the range of $C_8$ through $C_{12}$.) | 649-390-00-X | 305-750-5 | 95009-23-7 | P |

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|---|---|---|---|---|
| Extracts (petroleum); heavy naphtha solvent, clay-treated; low boiling point naphtha — unspecified<br>(A complex combination of hydrocarbons obtained by the treatment of heavy naphthic solvent petroleum extract with bleaching earth. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of $C_6$ through $C_{10}$, and boiling in the range of approximately 80 °C to 180 °C.) | 649-391-00-5 | 308-261-5 | 97926-43-7 | P |
| Naphtha (petroleum), light steam-cracked, debenzenised, thermally treated; low boiling point naphtha — unspecified<br>(A complex combination of hydrocarbons obtained by the treatment and distillation of debenzenised light steam-cracked petroleum naphtha. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of $C_7$ through $C_{12}$ and boiling in the range of approximately 95 °C to 200 °C.) | 649-392-00-0 | 308-713-1 | 98219-46-6 | P |
| Naphtha (petroleum), light steam-cracked, thermally treated; low boiling point naphtha — unspecified<br>(A complex combination of hydrocarbons obtained by the treatment and distillation of light steam-cracked petroleum naphtha. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of $C_5$ through $C_6$ and boiling in the range of approximately 35 °C to 80 °C.) | 649-393-00-6 | 308-714-7 | 98219-47-7 | P |
| Distillates (petroleum), $C_{7-9}$, $C_8$-rich, hydrodesulphurised dearomatised; low boiling point naphtha — unspecified<br>(A complex combination of hydrocarbons obtained by the distillation of petroleum light fraction, hydrodesulphurised and dearomatised. It consists predominantly of hydrocarbons having carbon numbers in the range of $C_7$ through $C_9$, predominantly $C_8$ paraffins and cycloparaffins, boiling in the range of approximately 120 °C to 130 °C.) | 649-394-00-1 | 309-862-5 | 101316-56-7 | P |
| Hydrocarbons, $C_{6-8}$, hydrogenated sorption-dearomatised, toluene raffination; low boiling point naphtha — unspecified<br>(A complex combination of hydrocarbons obtained during the sorption of toluene from a hydrocarbon fraction from cracked gasoline treated with hydrogen in the presence of a catalyst. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of $C_6$ through $C_8$ and boiling in the range of approximately 80 °C to 135 °C.) | 649-395-00-7 | 309-870-9 | 101316-66-9 | P |
| Naphtha (petroleum), hydrodesulphurised full-range coker; low boiling point naphtha — unspecified<br>(A complex combination of hydrocarbons obtained by fractionation from hydrodesulphurised coker distillate. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of $C_5$ to $C_{11}$ and boiling in the range of approximately 23 °C to 196 °C.) | 649-396-00-2 | 309-879-8 | 101316-76-1 | P |
| Naphtha (petroleum), sweetened light; low boiling point naphtha — unspecified<br>(A complex combination of hydrocarbons obtained by subjecting a petroleum naphtha to a sweetening process to convert mercaptans or to remove acidic impurities. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of $C_5$ through $C_8$ and boiling in the range of approximately 20 °C to 130 °C.) | 649-397-00-8 | 309-976-5 | 101795-01-1 | P |

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|---|---|---|---|---|
| Hydrocarbons, $C_{3-6}$, $C_5$-rich, steam-cracked naphtha; low boiling point naphtha — unspecified<br>(A complex combination of hydrocarbons obtained by distillation of steam-cracked naphtha. It consists predominantly of hydrocarbons having carbon numbers in the range of $C_3$ through $C_6$, predominantly $C_5$.) | 649-398-00-3 | 310-012-0 | 102110-14-5 | P |
| Hydrocarbons, $C_5$-rich, dicyclopentadiene-containing; low boiling point naphtha — unspecified<br>(A complex combination of hydrocarbons obtained by distillation of the products from a steam-cracking process. It consists predominantly of hydrocarbons having carbon numbers of $C_5$ and dicyclopentadiene and boiling in the range of approximately 30 °C to 170 °C.) | 649-399-00-9 | 310-013-6 | 102110-15-6 | P |
| Residues (petroleum), steam-cracked light, aromatic; low boiling point naphtha — unspecified<br>(A complex combination of hydrocarbons obtained by the distillation of the products of steam cracking or similar processes after taking off the very light products resulting in a residue starting with hydrocarbons having carbon numbers greater than $C_5$. It consists predominantly of aromatic hydrocarbons having carbon numbers greater than $C_5$ and boiling above approximately 40 °C.) | 649-400-00-2 | 310-057-6 | 102110-55-4 | P |
| Hydrocarbons, $C_{\geq 5}$, $C_{5-6}$-rich; low boiling point naphtha — unspecified | 649-401-00-8 | 270-690-8 | 68476-50-6 | P |
| Hydrocarbons, $C_5$-rich; low boiling point naphtha — unspecified | 649-402-00-3 | 270-695-5 | 68476-55-1 | P |
| Aromatic hydrocarbons, $C_{8-10}$; Light oil redistillate, high boiling | 649-403-00-9 | 292-695-4 | 90989-39-2 | P |
| Distillates (petroleum), light catalytic cracked; Cracked gas oil<br>(A complex combination of hydrocarbons produced by the distillation of products from a catalytic cracking process. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_9$ through $C_{25}$ and boiling in the range of approximately 150 °C to 400 °C. It contains a relatively large proportion of bicyclic aromatic hydrocarbons.) | 649-435-00-3 | 265-060-4 | 64741-59-9 | |
| Distillates (petroleum), intermediate catalytic cracked; Cracked gas oil<br>(A complex combination of hydrocarbons produced by the distillation of products from a catalytic cracking process. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_{11}$ through $C_{30}$ and boiling in the range of approximately 205 °C to 450 °C. It contains a relatively large proportion of tricyclic aromatic hydrocarbons.) | 649-436-00-9 | 265-062-5 | 64741-60-2 | |
| Distillates (petroleum), light thermal cracked; Cracked gas oil<br>(A complex combination of hydrocarbons from the distillation of the products from a thermal cracking process. It consists predominantly of unsaturated hydrocarbons having carbon numbers predominantly in the range of $C_{10}$ through $C_{22}$ and boiling in the range of approximately 160 °C to 370 °C.) | 649-438-00-X | 265-084-5 | 64741-82-8 | |

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|---|---|---|---|---|
| Distillates (petroleum), hydrodesulphurised light catalytic cracked; Cracked gas oil<br>(A complex combination of hydrocarbons obtained by treating light catalytic cracked distillates with hydrogen to convert organic sulphur to hydrogen sulphide which is removed. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_9$ through $C_{25}$ and boiling in the range of approximately 150 °C to 400 °C. It contains a relatively large proportion of bicyclic aromatic hydrocarbons.) | 649-439-00-5 | 269-781-5 | 68333-25-5 | |
| Distillates (petroleum), light steam-cracked naphtha; Cracked gas oil<br>(A complex combination of hydrocarbons from the multiple distillation of products from a steam cracking process. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_{10}$ through $C_{18}$.) | 649-440-00-0 | 270-662-5 | 68475-80-9 | |
| Distillates (petroleum), cracked steam-cracked petroleum distillates; Cracked gas oil<br>(A complex combination of hydrocarbons produced by distilling cracked steam cracked distillate and/or its fractionation products. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_{10}$ to low molecular weight polymers.) | 649-441-00-6 | 270-727-8 | 68477-38-3 | |
| Gas oils (petroleum), steam-cracked; Cracked gas oil<br>(A complex combination of hydrocarbons produced by distillation of the products from a steam cracking process. It consists of hydrocarbons having carbon numbers predominantly greater than $C_9$ and boiling in the range of from approximately 205 °C to 400 °C.) | 649-442-00-1 | 271-260-2 | 68527-18-4 | |
| Distillates (petroleum), hydrodesulphurised thermal cracked middle; Cracked gas oil<br>(A complex combination of hydrocarbons obtained by fractionation from hydrodesulphurised thermal cracker distillate stocks. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of $C_{11}$ to $C_{25}$ and boiling in the range of from approximately 205 °C to 400 °C.) | 649-443-00-7 | 285-505-6 | 85116-53-6 | |
| Gas oils (petroleum), thermal-cracked, hydrodesulphurised; Cracked gas oil | 649-444-00-2 | 295-411-7 | 92045-29-9 | |
| Residues (petroleum), hydrogenated steam-cracked naphtha; Cracked gas oil<br>(A complex combination of hydrocarbons obtained as a residual fraction from the distillation of hydrotreated steam-cracked naphtha. It consists predominantly of hydrocarbons boiling in the range of approximately 200 °C to 350 °C.) | 649-445-00-8 | 295-514-7 | 92062-00-5 | |
| Residues (petroleum), steam-cracked naphtha distillation; Cracked gas oil<br>(A complex combination of hydrocarbons obtained as a column bottom from the separation of effluents from steam cracking naphtha at a high temperature. It boils in the range of approximately 147 °C to 300 °C and produces a finished oil having a viscosity of 18 $10^{-6}$ $m^2.s^{-1}$ at 50 °C.) | 649-446-00-3 | 295-517-3 | 92062-04-9 | |

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|---|---|---|---|---|
| Distillates (petroleum), light catalytic cracked, thermally degraded; Cracked gas oil<br>(A complex combination of hydrocarbons produced by the distillation of products from a catalytic cracking process which has been used as a heat transfer fluid. It consists predominantly of hydrocarbons boiling in the range of approximately 190 °C to 340 °C. This steam is likely to contain organic sulphur compounds.) | 649-447-00-9 | 295-991-1 | 92201-60-0 | |
| Residues (petroleum), steam-cracked, heat-soaked naphtha; Cracked gas oil<br>(A complex combination of hydrocarbons obtained as residue from the distillation of steam-cracked heat-soaked naphtha and boiling in the range of approximately 150 °C to 350 °C.) | 649-448-00-4 | 297-905-8 | 93763-85-0 | |
| Gas oils (petroleum), light vacuum, thermal-cracked hydrodesulphurised; Cracked gas oil<br>(A complex combination of hydrocarbons obtained by catalytic dehydrosulphurisation of thermal-cracked light vacuum petroleum. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of $C_{14}$ through $C_{20}$ and boiling in the range of approximately 270 °C to 370 °C.) | 649-450-00-5 | 308-278-8 | 97926-59-5 | |
| Distillates (petroleum), hydrodesulphurised middle coker; Cracked gas oil<br>(A complex combination of hydrocarbons by fractionation from hydrodesulphurised coker distillate stocks. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_{12}$ through $C_{21}$ and boiling in the range of approximately 200 °C to 360 °C.) | 649-451-00-0 | 309-865-1 | 101316-59-0 | |
| Distillates (petroleum), heavy steam-cracked; Cracked gas oil<br>(A complex combination of hydrocarbons obtained by distillation of steam cracking heavy residues. It consists predominantly of highly alkylated heavy aromatic hydrocarbons boiling in the range of approximately 250 °C to 400 °C.) | 649-452-00-6 | 309-939-3 | 101631-14-5 | |
| Distillates (petroleum), heavy hydrocracked; Base oil — unspecified<br>(A complex combination of hydrocarbons from the distillation of the products from a hydrocracking process. It consists predominantly of saturated hydrocarbons having carbon numbers in the range of $C_{15}$ through $C_{39}$ and boiling in the range of approximately 260 °C to 600 °C.) | 649-453-00-1 | 265-077-7 | 64741-76-0 | L |
| Distillates (petroleum), solvent-refined heavy paraffinic; Base oil — unspecified<br>(A complex combination of hydrocarbons obtained as the raffinate from a solvent extraction process. It consists predominantly of saturated hydrocarbons having carbon numbers predominantly in the range of $C_{20}$ through $C_{50}$ and produces a finished oil with a viscosity of at least 19 $10^{-6}$ $m^2.s^{-1}$ at 40 °C.) | 649-454-00-7 | 265-090-8 | 64741-88-4 | L |
| Distillates (petroleum), solvent-refined light paraffinic; Base oil — unspecified<br>(A complex combination of hydrocarbons obtained as the raffinate from a solvent extraction process. It consists predominantly of saturated hydrocarbons having carbon numbers predominantly in the range of $C_{15}$ through $C_{30}$ and produces a finished oil having a viscosity of less than 19 $10^{-6}$ $m^2.s^{-1}$ at 40 °C.) | 649-455-00-2 | 265-091-3 | 64741-89-5 | L |

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|---|---|---|---|---|
| Residual oils (petroleum), solvent deasphalted; Base oil — unspecified<br>(A complex combination of hydrocarbons obtained as the solvent soluble fraction from $C_3$-$C_4$ solvent deasphalting of a residuum. It consists of hydrocarbons having carbon numbers predominantly higher than $C_{25}$ and boiling above approximately 400 °C.) | 649-456-00-8 | 265-096-0 | 64741-95-3 | L |
| Distillates (petroleum), solvent-refined heavy naphthenic; Base oil — unspecified<br>(A complex combination of hydrocarbons obtained as the raffinate from a solvent extraction process. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_{20}$ through $C_{50}$ and produces a finished oil with a viscosity of at least 19 $10^{-6}$ $m^2.s^{-1}$ at 40 °C. It contains relatively few normal paraffins.) | 649-457-00-3 | 265-097-6 | 64741-96-4 | L |
| Distillates (petroleum), solvent-refined light naphthenic; Base oil — unspecified<br>(A complex combination of hydrocarbons obtained as the raffinate from a solvent extraction process. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_{15}$ through $C_{30}$ and produces a finished oil with a viscosity of less than 19 $10^{-6}$ $m^2.s^{-1}$ at 40 °C. It contains relatively few normal paraffins.) | 649-458-00-9 | 265-098-1 | 64741-97-5 | L |
| Residual oils (petroleum), solvent-refined; Base oil — unspecified<br>(A complex combination of hydrocarbons obtained as the solvent insoluble fraction from solvent refining of a residuum using a polar organic solvent such as phenol or furfural. It consists of hydrocarbons having carbon numbers predominantly greater than $C_{25}$ and boiling above approximately 400 °C.) | 649-459-00-4 | 265-101-6 | 64742-01-4 | L |
| Distillates (petroleum), clay-treated paraffinic; Base oil — unspecified<br>(A complex combination of hydrocarbons resulting from treatment of a petroleum fraction with natural or modified clay in either a contacting or percolation process to remove the trace amounts of polar compounds and impurities present. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_{20}$ through $C_{50}$ and produces a finished oil with a viscosity of at least 19 $10^{-6}$ $m^2.s^{-1}$ at 40 °C. It contains a relatively large proportion of saturated hydrocarbons.) | 649-460-00-X | 265-137-2 | 64742-36-5 | L |
| Distillates (petroleum), clay-treated light paraffinic; Base oil — unspecified<br>(A complex combination of hydrocarbons resulting from treatment of a petroleum fraction with natural or modified clay in either a contacting or percolation process to remove the trace amounts of polar compounds and impurities present. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_{15}$ through $C_{30}$ and produces a finished oil with a viscosity of less than 19 $10^{-6}$ $m^2.s^{-1}$ at 40 °C. It contains a relatively large proportion of saturated hydrocarbons.) | 649-461-00-5 | 265-138-8 | 64742-37-6 | L |

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|---|---|---|---|---|
| Residual oils (petroleum), clay-treated; Base oil — unspecified<br>(A complex combination of hydrocarbons obtained by the treatment of a residual oil with a natural or modified clay in either a contacting or percolation process to remove the trace amounts of polar compounds and impurities present. It consists of hydrocarbons having carbon numbers predominantly greater than $C_{25}$ and boiling above approximately 400 °C.) | 649-462-00-0 | 265-143-5 | 64742-41-2 | L |
| Distillates (petroleum), clay-treated heavy naphthenic; Base oil — unspecified<br>(A complex combination of hydrocarbons resulting from treatment of a petroleum fraction with a natural or modified clay in either a contacting or percolation process to remove the trace amounts of polar compounds and impurities present. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_{20}$ through $C_{50}$ and produces a finished oil with a viscosity of at least 19 $10^{-6}$ $m^2.s^{-1}$ at 40 °C. It contains relatively few normal paraffins.) | 649-463-00-6 | 265-146-1 | 64742-44-5 | L |
| Distillates (petroleum), clay-treated light naphthenic; Base oil — unspecified<br>(A complex combination of hydrocarbons resulting from treatment of a petroleum fraction with natural or modified clay in either a contacting or percolation process to remove the trace amounts of polar compounds and impurities present. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_{15}$ through $C_{30}$ and produces a finished oil with a viscosity of less than 19 $10^{-6}$ $m^2.s^{-1}$ at 40 °C. It contains relatively few normal paraffins.) | 649-464-00-1 | 265-147-7 | 64742-45-6 | L |
| Distillates (petroleum), hydrotreated heavy naphthenic; Base oil — unspecified<br>(A complex combination of hydrocarbons obtained by treating a petroleum fraction with hydrogen in the presence of a catalyst. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_{20}$ through $C_{50}$ and produces a finished oil with a viscosity of at least 19 $10^{-6}$ $m^2.s^{-1}$ at 40 °C. It contains relatively few normal paraffins.) | 649-465-00-7 | 265-155-0 | 64742-52-5 | L |
| Distillates (petroleum), hydrotreated light naphthenic; Base oil — unspecified<br>(A complex combination of hydrocarbons obtained by treating a petroleum fraction with hydrogen in the presence of a catalyst. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_{15}$ through $C_{30}$ and produces a finished oil with a viscosity of less than 19 $10^{-6}$ $m^2.s^{-1}$ at 40 °C. It contains relatively few normal paraffins.) | 649-466-00-2 | 265-156-6 | 64742-53-6 | L |
| Distillates (petroleum), hydrotreated heavy paraffinic; Base oil — unspecified<br>(A complex combination of hydrocarbons obtained by treating a petroleum fraction with hydrogen in the presence of a catalyst. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_{20}$ through $C_{50}$ and produces a finished oil of at least 19 $10^{-6}$ $m^2.s^{-1}$ at 40 °C. It contains a relatively large proportion of saturated hydrocarbons.) | 649-467-00-8 | 265-157-1 | 64742-54-7 | L |

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| Distillates (petroleum), hydrotreated light paraffinic; Base oil — unspecified<br>(A complex combination of hydrocarbons obtained by treating a petroleum fraction with hydrogen in the presence of a catalyst. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_{15}$ through $C_{30}$ and produces a finished oil with a viscosity of less than 19 $10^{-6}$ $m^2.s^{-1}$ at 40 °C. It contains a relatively large proportion of saturated hydrocarbons.) | 649-468-00-3 | 265-158-7 | 64742-55-8 | L |
| Distillates (petroleum), solvent-dewaxed light paraffinic; Base oil — unspecified<br>(A complex combination of hydrocarbons obtained by removal of normal paraffins from a petroleum fraction by solvent crystallisation. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of $C_{15}$ through $C_{30}$ and produces a finished oil with a viscosity of less than 19 $10^{-6}$ $m^2.s^{-1}$ at 40 °C.) | 649-469-00-9 | 265-159-2 | 64742-56-9 | L |
| Residual oils (petroleum), hydrotreated; Base oil — unspecified<br>(A complex combination of hydrocarbons obtained by treating a petroleum fraction with hydrogen in the presence of a catalyst. It consists of hydrocarbons having carbon numbers predominantly greater than $C_{25}$ and boiling above approximately 400 °C.) | 649-470-00-4 | 265-160-8 | 64742-57-0 | L |
| Residual oils (petroleum), solvent-dewaxed; Base oil — unspecified<br>(A complex combination of hydrocarbons obtained by removal of long, branched chain hydrocarbons from a residual oil by solvent crystallisation. It consists of hydrocarbons having carbon numbers predominantly greater than $C_{25}$ and boiling above approximately 400 °C.) | 649-471-00-X | 265-166-0 | 64742-62-7 | L |
| Distillates (petroleum), solvent-dewaxed heavy naphthenic; Base oil — unspecified<br>(A complex combination of hydrocarbons obtained by removal of normal paraffins from a petroleum fraction by solvent crystallisation. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_{20}$ through $C_{50}$ and produces a finished oil of not less than 19 $10^{-6}$ $m^2.s^{-1}$ at 40 °C. It contains relatively few normal paraffins.) | 649-472-00-5 | 265-167-6 | 64742-63-8 | L |
| Distillates (petroleum), solvent-dewaxed light naphthenic; Base oil — unspecified<br>(A complex combination of hydrocarbons obtained by removal of normal paraffins from a petroleum fraction by solvent crystallisation. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_{15}$ through $C_{30}$ and produces a finished oil with a viscosity of less than 19 $10^{-6}$ $m^2.s^{-1}$ at 40 °C. It contains relatively few normal paraffins.) | 649-473-00-0 | 265-168-1 | 64742-64-9 | L |
| Distillates (petroleum), solvent-dewaxed heavy paraffinic; Base oil — unspecified<br>(A complex combination of hydrocarbons obtained by removal of normal paraffins from a petroleum fraction by solvent crystallisation. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of $C_{20}$ through $C_{50}$ and produces a finished oil with a viscosity of not less than 19 $10^{-6}$ $m^2.s^{-1}$ at 40 °C.) | 649-474-00-6 | 265-169-7 | 64742-65-0 | L |

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| Naphthenic oils (petroleum), catalytic dewaxed heavy; Base oil — unspecified<br>(A complex combination of hydrocarbons obtained from a catalytic dewaxing process. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of $C_{20}$ through $C_{50}$ and produces a finished oil with a viscosity of at least 19 $10^{-6}$ $m^2.s^{-1}$ at 40 °C. It contains relatively few normal paraffins.) | 649-475-00-1 | 265-172-3 | 64742-68-3 | L |
| Naphthenic oils (petroleum), catalytic dewaxed light; Base oil — unspecified<br>(A complex combination of hydrocarbons obtained from a catalytic dewaxing process. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_{15}$ through $C_{30}$ and produces a finished oil with a viscosity of less than 19 $10^{-6}$ $m^2.s^{-1}$ at 40 °C. It contains relatively few normal paraffins.) | 649-476-00-7 | 265-173-9 | 64742-69-4 | L |
| Paraffin oils (petroleum), catalytic dewaxed heavy; Base oil — unspecified<br>(A complex combination of hydrocarbons obtained from a catalytic dewaxing process. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of $C_{20}$ through $C_{50}$ and produces a finished oil with a viscosity of at least 19 $10^{-6}$ $m^2.s^{-1}$ at 40 °C.) | 649-477-00-2 | 265-174-4 | 64742-70-7 | L |
| Paraffin oils (petroleum), catalytic dewaxed light; Base oil — unspecified<br>(A complex combination of hydrocarbons obtained from a catalytic dewaxing process. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of $C_{15}$ through $C_{30}$ and produces a finished oil with a viscosity of less than 19 $10^{-6}$ $m^2.s^{-1}$ at 40 °C.) | 649-478-00-8 | 265-176-5 | 64742-71-8 | L |
| Naphthenic oils (petroleum), complex dewaxed heavy; Base oil — unspecified<br>(A complex combination of hydrocarbons obtained by removing straight chain paraffin hydrocarbons as a solid by treatment with an agent such as urea. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_{20}$ through $C_{50}$ and produces a finished oil with a viscosity of at least 19 $10^{-6}$ $m^2.s^{-1}$ at 40 °C. It contains relatively few normal paraffins.) | 649-479-00-3 | 265-179-1 | 64742-75-2 | L |
| Naphthenic oils (petroleum), complex dewaxed light; Base oil — unspecified<br>(A complex combination of hydrocarbons obtained from a catalytic dewaxing process. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_{15}$ through $C_{30}$ and produces a finished oil having a viscosity less than 19 $10^{-6}$ $m^2.s^{-1}$ at 40 °C. It contains relatively few normal paraffins.) | 649-480-00-9 | 265-180-7 | 64742-76-3 | L |
| Lubricating oils (petroleum), $C_{20-50}$, hydrotreated neutral oil-based high-viscosity; Base oil — unspecified<br>(A complex combination of hydrocarbons obtained by treating light vacuum gas oil, heavy vacuum gas oil, and solvent deasphalted residual oil with hydrogen in the presence of a catalyst in a two stage process with dewaxing being carried out between the two stages. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of $C_{20}$ through $C_{50}$ and produces a finished oil having a viscosity of approximately 112 $10^{-6}$ $m^2.s^{-1}$ at 40 °C. It contains a relatively large proportion of saturated hydrocarbons.) | 649-481-00-4 | 276-736-3 | 72623-85-9 | L |

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| Lubricating oils (petroleum), $C_{15-30}$, hydrotreated neutral oil-based; Base oil — unspecified<br>(A complex combination of hydrocarbons obtained by treating light vacuum gas oil and heavy vacuum gas oil with hydrogen in the presence of a catalyst in a two stage process with dewaxing being carried out between the two stages. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of $C_{15}$ through $C_{30}$ and produces a finished oil having a viscosity of approximately 15 $10^{-6}$ $m^2.s^{-1}$ at 40 °C. It contains a relatively large proportion of saturated hydrocarbons.) | 649-482-00-X | 276-737-9 | 72623-86-0 | L |
| Lubricating oils (petroleum), $C_{20-50}$, hydrotreated neutral oil-based; Base oil — unspecified<br>(A complex combination of hydrocarbons obtained by treating light vacuum gas oil, heavy vacuum gas oil and solvent deasphalted residual oil with hydrogen in the presence of a catalyst in a two stage process with dewaxing being carried out between the two stages. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of $C_{20}$ through $C_{50}$ and produces a finished oil with a viscosity of approximately 32 $10^{-6}$ $m^2.s^{-1}$ at 40 °C. It contains a relatively large proportion of saturated hydrocarbons.) | 649-483-00-5 | 276-738-4 | 72623-87-1 | L |
| Lubricating oils; Base oil — unspecified<br>(A complex combination of hydrocarbons obtained from solvent extraction and dewaxing processes. It consists predominantly of saturated hydrocarbons having carbon numbers in the range of $C_{15}$ through $C_{50}$.) | 649-484-00-0 | 278-012-2 | 74869-22-0 | L |
| Distillates (petroleum), complex dewaxed heavy paraffinic; Base oil — unspecified<br>(A complex combination of hydrocarbons obtained by dewaxing heavy paraffinic distillate. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of $C_{20}$ through $C_{50}$ and produces a finished oil with a viscosity of equal to or greater than 19 $10^{-6}$ $m^2.s^{-1}$ at 40 °C. It contains relatively few normal paraffins.) | 649-485-00-6 | 292-613-7 | 90640-91-8 | L |
| Distillates (petroleum), complex dewaxed light paraffinic; Base oil — unspecified<br>(A complex combination of hydrocarbons obtained by dewaxing light paraffinic distillate. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of $C_{12}$ through $C_{30}$ and produces a finished oil with a viscosity of less than 19 $10^{-6}$ $m^2.s^{-1}$ at 40 °C. It contains relatively few normal paraffins.) | 649-486-00-1 | 292-614-2 | 90640-92-9 | L |
| Distillates (petroleum), solvent-dewaxed heavy paraffinic, clay-treated; Base oil — unspecified<br>(A complex combination of hydrocarbons obtained by treating dewaxed heavy paraffinic distillate with neutral or modified clay in either a contacting or percolation process. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of $C_{20}$ through $C_{50}$.) | 649-487-00-7 | 292-616-3 | 90640-94-1 | L |
| Hydrocarbons, $C_{20-50}$, solvent-dewaxed heavy paraffinic, hydrotreated; Base oil — unspecified<br>(A complex combination of hydrocarbons produced by treating dewaxed heavy paraffinic distillate with hydrogen in the presence of a catalyst. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of $C_{20}$ through $C_{50}$.) | 649-488-00-2 | 292-617-9 | 90640-95-2 | L |

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| Distillates (petroleum), solvent dewaxed light paraffinic, clay-treated; Base oil — unspecified<br>(A complex combination of hydrocarbons resulting from treatment of dewaxed light paraffinic distillate with natural or modified clay in either a contacting or percolation process. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of $C_{15}$ through $C_{30}$.) | 649-489-00-8 | 292-618-4 | 90640-96-3 | L |
| Distillates (petroleum), solvent dewaxed light paraffinic, hydrotreated; Base oil — unspecified<br>(A complex combination of hydrocarbons produced by treating a dewaxed light paraffinic distillate with hydrogen in the presence of a catalyst. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_{15}$ through $C_{30}$.) | 649-490-00-3 | 292-620-5 | 90640-97-4 | L |
| Residual oils (petroleum), hydrotreated solvent dewaxed; Base oil — unspecified | 649-491-00-9 | 292-656-1 | 90669-74-2 | L |
| Residual oils (petroleum), catalytic dewaxed; Base oil — unspecified | 649-492-00-4 | 294-843-3 | 91770-57-9 | L |
| Distillates (petroleum), dewaxed heavy paraffinic, hydrotreated; Base oil — unspecified<br>(A complex combination of hydrocarbons obtained from an intensive treatment of dewaxed distillate by hydrogenation in the presence of a catalyst. It consists predominantly of saturated hydrocarbons having carbon numbers in the range of $C_{25}$ through $C_{39}$ and produces a finished oil with a viscosity of approximately 44 $10^{-6}$ $m^2.s^{-1}$ at 50 °C.) | 649-493-00-X | 295-300-3 | 91995-39-0 | L |
| Distillates (petroleum), dewaxed light paraffinic, hydrotreated; Base oil — unspecified<br>(A complex combination of hydrocarbons obtained from an intensive treatment of dewaxed distillate by hydrogenation in the presence of a catalyst. It consists predominantly of saturated hydrocarbons having carbon numbers in the range of $C_{21}$ through $C_{29}$ and produces a finished oil with a viscosity of approximately 13 $10^{-6}$ $m^2.s^{-1}$ at 50 °C.) | 649-494-00-5 | 295-301-9 | 91995-40-3 | L |
| Distillates (petroleum), hydrocracked solvent-refined, dewaxed; Base oil — unspecified<br>(A complex combination of liquid hydrocarbons obtained by recrystallisation of dewaxed hydrocracked solvent-refined petroleum distillates.) | 649-495-00-0 | 295-306-6 | 91995-45-8 | L |
| Distillates (petroleum), solvent-refined light naphthenic, hydrotreated; Base oil — unspecified<br>(A complex combination of hydrocarbons obtained by treating a petroleum fraction with hydrogen in the presence of a catalyst and removing the aromatic hydrocarbons by solvent extraction. It consists predominantly of naphthenic hydrocarbons having carbon numbers predominantly in the range of $C_{15}$ through $C_{30}$ and produces a finished oil with a viscosity of between 13-15 $10^{-6}$ $m^2.s^{-1}$ at 40 °C.) | 649-496-00-6 | 295-316-0 | 91995-54-9 | L |
| Lubricating oils (petroleum) $C_{17-35}$, solvent-extd., dewaxed, hydrotreated; Base oil — unspecified | 649-497-00-1 | 295-423-2 | 92045-42-6 | L |

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| Lubricating oils (petroleum), hydrocracked nonarom. solvent-deparaffined; Base oil — unspecified | 649-498-00-7 | 295-424-8 | 92045-43-7 | L |
| Residual oils (petroleum), hydrocracked acid-treated solvent-dewaxed; Base oil — unspecified<br>(A complex combination of hydrocarbons produced by solvent removal of paraffins from the residue of the distillation of acid-treated, hydrocracked heavy paraffins and boiling approximately above 380 °C.) | 649-499-00-2 | 295-499-7 | 92061-86-4 | L |
| Paraffin oils (petroleum), solvent-refined dewaxed heavy; Base oil — unspecified<br>(A complex combination of hydrocarbons obtained from sulphur-containing paraffinic crude oil. It consists predominantly of a solvent refined deparaffinated lubricating oil with a viscosity of 65 $10^{-6}$ $m^2.s^{-1}$ at 50 °C.) | 649-500-00-6 | 295-810-6 | 92129-09-4 | L |
| Lubricating oils (petroleum), base oils, paraffinic; Base oil — unspecified<br>(A complex combination of hydrocarbons obtained by refining crude oil. It consists predominantly of aromatics, naphthenics and paraffinics and produces a finished oil with a viscosity of 23 $10^{-6}$ $m^2.s^{-1}$ at 40 °C.) | 649-501-00-1 | 297-474-6 | 93572-43-1 | L |
| Hydrocarbons, hydrocracked paraffinic distillation residues, solvent-dewaxed; Base oil — unspecified | 649-502-00-7 | 297-857-8 | 93763-38-3 | L |
| Hydrocarbons, $C_{20-50}$, residual oil hydrogenation vacuum distillate; Base oil — unspecified | 649-503-00-2 | 300-257-1 | 93924-61-9 | L |
| Distillates (petroleum), solvent-refined hydrotreated heavy; hydrogenated; Base oil — unspecified | 649-504-00-8 | 305-588-5 | 94733-08-1 | L |
| Distillates (petroleum), solvent-refined hydrocracked light; Base oil — unspecified<br>(A complex combination of hydrocarbons obtained by solvent dearomatisation of the residue of hydrocracked petroleum. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of $C_{18}$ through $C_{27}$ and boiling in the range of approximately 370 °C to 450 °C.) | 649-505-00-3 | 305-589-0 | 94733-09-2 | L |
| Lubricating oils (petroleum), $C_{18-40}$, solvent-dewaxed hydrocracked distillate-based; Base oil — unspecified<br>(A complex combination of hydrocarbons obtained by solvent deparaffination of the distillation residue from hydrocracked petroleum. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of $C_{18}$ through $C_{40}$ and boiling in the range of approximately 370 °C to 550 °C.) | 649-506-00-9 | 305-594-8 | 94733-15-0 | L |
| Lubricating oils (petroleum), $C_{18-40}$, solvent-dewaxed hydrogenated raffinate-based; Base oil — unspecified<br>(A complex combination of hydrocarbons obtained by solvent deparaffination of the hydrogenated raffinate obtained by solvent extraction of a hydrotreated petroleum distillate. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of $C_{18}$ through $C_{40}$ and boiling in the range of approximately 370 °C to 550 °C.) | 649-507-00-4 | 305-595-3 | 94733-16-1 | L |

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| Hydrocarbons, $C_{13-30}$, aromatic-rich, solvent-extracted naphthenic distillate; Base oil — unspecified | 649-508-00-X | 305-971-7 | 95371-04-3 | L |
| Hydrocarbons, $C_{16-32}$, arom.-rich, solvent-extracted naphthenic distillate; Base oil — unspecified | 649-509-00-5 | 305-972-2 | 95371-05-4 | L |
| Hydrocarbons, $C_{37-68}$, dewaxed deasphalted hydrotreated vacuum distillation residues; Base oil — unspecified | 649-510-00-0 | 305-974-3 | 95371-07-6 | L |
| Hydrocarbons, $C_{37-65}$, hydrotreated deasphalted vacuum distillation residues; Base oil — unspecified | 649-511-00-6 | 305-975-9 | 95371-08-7 | L |
| Distillates (petroleum), hydrocracked solvent-refined light; Base oil — unspecified<br>(A complex combination of hydrocarbons obtained by the solvent treatment of a distillate from hydrocracked petroleum distillates. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of $C_{18}$ through $C_{27}$ and boiling in the range of approximately 370 °C to 450 °C.) | 649-512-00-1 | 307-010-7 | 97488-73-8 | L |
| Distillates (petroleum), solvent-refined hydrogenated heavy; Base oil — unspecified<br>(A complex combination of hydrocarbons obtained by the treatment of a hydrogenated petroleum distillate with a solvent. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of $C_{19}$ through $C_{40}$ and boiling in the range of approximately 390 °C to 550 °C.) | 649-513-00-7 | 307-011-2 | 97488-74-9 | L |
| Lubricating oils (petroleum) $C_{18-27}$, hydrocracked solvent-dewaxed; Base oil — unspecified | 649-514-00-2 | 307-034-8 | 97488-95-4 | L |
| Hydrocarbons, $C_{17-30}$, hydrotreated solvent-deasphalted atmospheric distillation residue, distillation lights; Base oil — unspecified<br>(A complex combination of hydrocarbons obtained as first runnings from the vacuum distillation of effluents from the treatment of a solvent deasphalted short residue with hydrogen in the presence of a catalyst. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of $C_{17}$ through $C_{30}$ and boiling in the range of approximately 300 °C to 400 °C. It produces a finished oil having a viscosity of 4 $10^{-6}$ $m^2.s^{-1}$ at approximately 100 °C.) | 649-515-00-8 | 307-661-7 | 97675-87-1 | L |
| Hydrocarbons, $C_{17-40}$, hydrotreated solvent-deasphalted distillation residue, vacuum distillation lights; Base oil — unspecified<br>(A complex combination of hydrocarbons obtained as first runnings from the vacuum distillation of effluents from the catalytic hydrotreatment of a solvent deasphalted short residue having a viscosity of 8 $10^{-6}$ $m^2.s^{-1}$ at approximately 100 °C. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of $C_{17}$ through $C_{40}$ and boiling in the range of approximately 300 °C to 500 °C.) | 649-516-00-3 | 307-755-8 | 97722-06-0 | L |

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| Hydrocarbons, $C_{13-27}$, solvent-extracted light naphthenic; Base oil — unspecified<br>(A complex combination of hydrocarbons obtained by extraction of the aromatics from a light naphthenic distillate having a viscosity of 9,5 $10^{-6}$ $m^2.s^{-1}$ at 40 °C. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of $C_{13}$ through $C_{27}$ and boiling in the range of approximately 240 °C to 400 °C.) | 649-517-00-9 | 307-758-4 | 97722-09-3 | L |
| Hydrocarbons, $C_{14-29}$, solvent-extracted light naphthenic; Base oil — unspecified<br>(A complex combination of hydrocarbons obtained by extraction of the aromatics from a light naphthenic distillate having a viscosity of 16 $10^{-6}$ $m^2.s^{-1}$ at 40 °C. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of $C_{14}$ through $C_{29}$ and boiling in the range of approximately 250 °C to 425 °C.) | 649-518-00-4 | 307-760-5 | 97722-10-6 | L |
| Hydrocarbons, $C_{27-42}$, dearomatised; Base oil — unspecified | 649-519-00-X | 308-131-8 | 97862-81-2 | L |
| Hydrocarbons, $C_{17-30}$, hydrotreated distillates, distillation lights; Base oil — unspecified | 649-520-00-5 | 308-132-3 | 97862-82-3 | L |
| Hydrocarbons, $C_{27-45}$, naphthenic vacuum distillation; Base oil — unspecified | 649-521-00-0 | 308-133-9 | 97862-83-4 | L |
| Hydrocarbons, $C_{27-45}$, dearomatised; Base oil — unspecified | 649-522-00-6 | 308-287-7 | 97926-68-6 | L |
| Hydrocarbons, $C_{20-58}$, hydrotreated; Base oil — unspecified | 649-523-00-1 | 308-289-8 | 97926-70-0 | L |
| Hydrocarbons, $C_{27-42}$, naphthenic; Base oil — unspecified | 649-524-00-7 | 308-290-3 | 97926-71-1 | L |
| Residual oils (petroleum), carbon-treated solvent-dewaxed; Base oil — unspecified<br>(A complex combination of hydrocarbons obtained by the treatment of solvent-dewaxed petroleum residual oils with activated charcoal for the removal of trace polar constituents and impurities.) | 649-525-00-2 | 309-710-8 | 100684-37-5 | L |
| Residual oils (petroleum), clay-treated solvent-dewaxed; Base oil — unspecified<br>(A complex combination of hydrocarbons obtained by treatment of solvent-dewaxed petroleum residual oils with bleaching earth for the removal of trace polar constituents and impurities.) | 649-526-00-8 | 309-711-3 | 100684-38-6 | L |
| Lubricating oils (petroleum) $C_{25}$, solvent-extracted, deasphalted, dewaxed, hydrogenated; base oil — unspecified<br>(A complex combination of hydrocarbons obtained by solvent extraction and hydrogenation of vacuum distillation residues. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of greater than $C_{25}$ and produces a finished oil with a viscosity in the order of 32 $10^{-6}$ $m^2.s^{-1}$ to 37 $10^{-6}$ $m^2.s^{-1}$ at 100 °C.) | 649-527-00-3 | 309-874-0 | 101316-69-2 | L |
| Lubricating oils (petroleum) $C_{17-32}$, solvent-extracted, dewaxed, hydrogenated; Base oil — unspecified<br>(A complex combination of hydrocarbons obtained by solvent extraction and hydrogenation of atmospheric distillation residues. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of $C_{17}$ through $C_{32}$ and produces a finished oil with a viscosity in the order 17 $10^{-6}$ $m^2.s^{-1}$ to 23 $10^{-6}$ $m^2.s^{-1}$ at 40 °C.) | 649-528-00-9 | 309-875-6 | 101316-70-5 | L |

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| Lubricating oils (petroleum) $C_{20-35}$, solvent-extracted, dewaxed, hydrogenated; Base oil — unspecified<br>(A complex combination of hydrocarbons obtained by solvent extraction and hydrogenation of atmospheric distillation residues. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of $C_{20}$ through $C_{35}$ and produces a finished oil with a viscosity in the order of 37 $10^{-6}$ $m^2.s^{-1}$ to 44 $10^{-6}$ $m^2.s^{-1}$ at 40 °C.) | 649-529-00-4 | 309-876-1 | 101316-71-6 | L |
| Lubricating oils (petroleum) $C_{24-50}$, solvent-extracted, dewaxed, hydrogenated; Base oil — unspecified<br>(A complex combination of hydrocarbons obtained by solvent extraction and hydrogenation of atmospheric distillation residues. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of $C_{24}$ through $C_{50}$ and produces a finished oil with a viscosity in the order of 16 $10^{-6}$ $m^2.s^{-1}$ to 75 $10^{-6}$ $m^2.s^{-1}$ at 40 °C.) | 649-530-00-X | 309-877-7 | 101316-72-7 | L |
| Extracts (petroleum), heavy naphthenic distillate solvent, aromatic concentrate; Distillate aromatic extract (treated)<br>(An aromatic concentrate produced by adding water to heavy naphthenic distillate solvent extract and extraction solvent.) | 649-531-00-5 | 272-175-3 | 68783-00-6 | L |
| Extracts (petroleum), solvent-refined heavy paraffinic distillate solvent; Distillate aromatic extract (treated)<br>(A complex combination of hydrocarbons obtained as the extract from the re-extraction of solvent-refined heavy paraffinic distillate. It consists of saturated and aromatic hydrocarbons having carbon numbers predominantly in the range of $C_{20}$ through $C_{50}$.) | 649-532-00-0 | 272-180-0 | 68783-04-0 | L |
| Extracts (petroleum), heavy paraffinic distillates, solvent-deasphalted; Distillate aromatic extract (treated)<br>(A complex combination of hydrocarbons obtained as the extract from a solvent extraction of heavy paraffinic distillate.) | 649-533-00-6 | 272-342-0 | 68814-89-1 | L |
| Extracts (petroleum), heavy naphthenic distillate solvent, hydrotreated; Distillate aromatic extract (treated)<br>(A complex combination of hydrocarbons obtained by treating a heavy naphthenic distillate solvent extract with hydrogen in the presence of a catalyst. It consists predominantly of aromatic hydrocarbons having carbon numbers predominantly in the range of $C_{20}$ through $C_{50}$ and produces a finished oil of at least 19 $10^{-6}$ $m^2.s^{-1}$ at 40 °C.) | 649-534-00-1 | 292-631-5 | 90641-07-9 | L |
| Extracts (petroleum), heavy paraffinic distillate solvent, hydrotreated; Distillate aromatic extract (treated)<br>(A complex combination of hydrocarbons produced by treating a heavy paraffinic distillate solvent extract with hydrogen in the presence of a catalyst. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of $C_{21}$ through $C_{33}$ and boiling in the range of approximately 350 °C to 480 °C.) | 649-535-00-7 | 292-632-0 | 90641-08-0 | L |
| Extracts (petroleum), light paraffinic distillate solvent, hydrotreated; Distillate aromatic extract (treated)<br>(A complex combination of hydrocarbons produced by treating a light paraffinic distillate solvent extract with hydrogen in the presence of a catalyst. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of $C_{17}$ through $C_{26}$ and boiling in the range of approximately 280 °C to 400 °C.) | 649-536-00-2 | 292-633-6 | 90641-09-1 | L |

| Substances | Index No | EC No | CAS No | Notes |
|---|---|---|---|---|
| Extracts (petroleum), hydrotreated paraffinic light distillate solvent; Distillate aromatic extract (treated)<br>(A complex combination of hydrocarbons obtained as the extract from solvent extraction of intermediate paraffinic top solvent distillate that is treated with hydrogen in the presence of a catalyst. It consists predominantly of aromatic hydrocarbons having carbon numbers predominantly in the range of $C_{16}$ through $C_{36}$.) | 649-537-00-8 | 295-335-4 | 91995-73-2 | L |
| Extracts (petroleum), light naphthenic distillate solvent, hydrodesulphurised; Distillate aromatic extract (treated)<br>(A complex combination of hydrocarbons obtained by treating the extract, obtained from a solvent extraction process, with hydrogen in the presence of a catalyst under conditions primarily to remove sulphur compounds. It consists predominantly of aromatic hydrocarbons having carbon numbers predominantly in the range of $C_{15}$ through $C_{30}$. This stream is likely to contain 5 % wt or more of four- to six-membered condensed ring aromatic hydrocarbons.) | 649-538-00-3 | 295-338-0 | 91995-75-4 | L |
| Extracts (petroleum), light paraffinic distillate solvent, acid-treated; Distillate aromatic extract (treated)<br>(A complex combination of hydrocarbons obtained as a fraction of the distillation of an extract from the solvent extraction of light paraffinic top petroleum distillates that is subjected to a sulphuric acid refining. It consists predominantly of aromatic hydrocarbons having carbon numbers predominantly in the range of $C_{16}$ through $C_{32}$.) | 649-539-00-9 | 295-339-6 | 91995-76-5 | L |
| Extracts (petroleum), light paraffinic distillate solvent, hydrodesulphurised; Distillate aromatic extract (treated)<br>(A complex combination of hydrocarbons obtained by solvent extraction of a light paraffin distillate and treated with hydrogen to convert the organic sulphur to hydrogen sulphide which is eliminated. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of $C_{15}$ through $C_{40}$ and produces a finished oil having a viscosity of greater than $10^{-5}$ $m^2.s^{-1}$ at 40 °C.) | 649-540-00-4 | 295-340-1 | 91995-77-6 | L |
| Extracts (petroleum), light vacuum gas oil solvent, hydrotreated; Distillate aromatic extract (treated)<br>(A complex combination of hydrocarbons obtained by solvent extraction from light vacuum petroleum gas oils and treated with hydrogen in the presence of a catalyst. It consists predominantly of aromatic hydrocarbons having carbon numbers predominantly in the range of $C_{13}$ through $C_{30}$.) | 649-541-00-X | 295-342-2 | 91995-79-8 | L |
| Extracts (petroleum), heavy paraffinic distillate solvent, clay-treated; Distillate aromatic extract (treated)<br>(A complex combination of hydrocarbons resulting from treatment of a petroleum fraction with natural or modified clay in either a contact or percolation process to remove the trace amounts of polar compounds and impurities present. It consists predominantly of aromatic hydrocarbons having carbon numbers predominantly in the range of $C_{20}$ through $C_{50}$. This stream is likely to contain 5 % wt or more four- to six-membered ring aromatic hydrocarbons.) | 649-542-00-5 | 296-437-1 | 92704-08-0 | L |

| Substances | Index No | EC No | CAS No | Notes |
|---|---|---|---|---|
| Extracts (petroleum), heavy naphthenic distillate solvent, hydrodesulphurised; Distillate aromatic extract (treated)<br>(A complex combination of hydrocarbons obtained from a petroleum stock by treating with hydrogen to convert organic sulphur to hydrogen sulphide which is removed. It consists predominantly of aromatic hydrocarbons having carbon numbers predominantly in the range of $C_{15}$ through $C_{50}$ and produces a finished oil with a viscosity of greater than 19 $10^{-6}$ $m^2.s^{-1}$ at 40 °C.) | 649-543-00-0 | 297-827-4 | 93763-10-1 | L |
| Extracts (petroleum), solvent-dewaxed heavy paraffinic distillate solvent, hydrodesulphurised; Distillate aromatic extract (treated)<br>(A complex combination of hydrocarbons obtained from a solvent dewaxed petroleum stock by treating with hydrogen to convert organic sulphur to hydrogen sulphide which is removed. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of $C_{15}$ through $C_{50}$ and produces a finished oil with a viscosity of greater than 19 $10^{-6}$ $m^2.s^{-1}$ at 40 °C.) | 649-544-00-6 | 297-829-5 | 93763-11-2 | L |
| Extracts (petroleum), light paraffinic distillate solvent, carbon-treated; Distillate aromatic extract (treated)<br>(A complex combination of hydrocarbons obtained as a fraction from distillation of an extract recovered by solvent extraction of light paraffinic top petroleum distillate treated with activated charcoal to remove traces of polar constituents and impurities. It consists predominantly of aromatic hydrocarbons having carbon numbers predominantly in the range of $C_{16}$ through $C_{32}$.) | 649-545-00-1 | 309-672-2 | 100684-02-4 | L |
| Extracts (petroleum), light paraffinic distillate solvent, clay-treated; Distillate aromatic extract (treated)<br>(A complex combination of hydrocarbons obtained as a fraction from distillation of an extract recovered by solvent extraction of light paraffinic top petroleum distillates treated with bleaching earth to remove traces of polar constituents and impurities. It consists predominantly of aromatic hydrocarbons having carbon numbers predominantly in the range of $C_{16}$ through $C_{32}$.) | 649-546-00-7 | 309-673-8 | 100684-03-5 | L |
| Extracts (petroleum), light vacuum, gas oil solvent, carbon-treated; Distillate aromatic extract (treated)<br>(A complex combination of hydrocarbons obtained by solvent extraction of light vacuum petroleum gas oil treated with activated charcoal for the removal of trace polar constituents and impurities. It consists predominantly of aromatic hydrocarbons having carbon numbers predominantly in the range of $C_{13}$ through $C_{30}$.) | 649-547-00-2 | 309-674-3 | 100684-04-6 | L |
| Extracts (petroleum), light vacuum, gas oil solvent, clay-treated; Distillate aromatic extract (treated)<br>(A complex combination of hydrocarbons obtained by solvent extraction of light vacuum petroleum gas oils treated with bleaching earth for removal of trace polar constituents and impurities. It consists predominantly of aromatic hydrocarbons having carbon numbers predominantly in the range of $C_{13}$ through $C_{30}$.) | 649-548-00-8 | 309-675-9 | 100684-05-7 | L |
| Foots oil (petroleum); Foots oil<br>(A complex combination of hydrocarbons obtained as the oil fraction from a solvent deoiling or a wax sweating process. It consists predominantly of branched chain hydrocarbons having carbon numbers predominantly in the range of $C_{20}$ through $C_{50}$.) | 649-549-00-3 | 265-171-8 | 64742-67-2 | L |

| Substances | Index No | EC No | CAS No | Notes |
|---|---|---|---|---|
| Foots oil (petroleum), hydrotreated; Foots oil | 649-550-00-9 | 295-394-6 | 92045-12-0 | L |
| Refractory ceramic fibres; Special Purpose Fibres, with the exception of those specified elsewhere in Annex I to Directive 67/548/EEC; (Man-made vitreous (silicate) fibres with random orientation with alkaline oxide and alkali earth oxide ($Na_2O$ + $K_2O$ + CaO + MgO + BaO) content less or equal to 18 % by weight.) | 650-017-00-8 | | | R |

*Appendix 3*

**Point 29 — Mutagens: category 1**

*Appendix 4*

**Point 29 — Mutagens: category 2**

| Substances | Index No | EC No | CAS No | Notes |
|---|---|---|---|---|
| Hexamethylphosphoric triamide; hexamethylphosphoramide | 015-106-00-2 | 211-653-8 | 680-31-9 | |
| Diethyl sulphate | 016-027-00-6 | 200-589-6 | 64-67-5 | |
| Chromium (VI) trioxide | 024-001-00-0 | 215-607-8 | 1333-82-0 | E |
| Potassium dichromate | 024-002-00-6 | 231-906-6 | 7778-50-9 | E |
| Ammonium dichromate | 024-003-00-1 | 232-143-1 | 7789-09-5 | E |
| Sodium dichromate anhydrate | 024-004-00-7 | 234-190-3 | 10588-01-9 | E |
| Sodium dichromate, dihydrate | 024-004-01-4 | 234-190-3 | 7789-12-0 | E |
| Chromyl dichloride; chromic oxychloride | 024-005-00-2 | 239-056-8 | 14977-61-8 | |
| Potassium chromate | 024-006-00-8 | 232-140-5 | 7789-00-6 | |
| Sodium chromate | 024-018-00-3 | 231-889-5 | 7775-11-3 | E |
| Cadmium fluoride | 048-006-00-2 | 232-222-0 | 7790-79-6 | E |
| Cadmium chloride | 048-008-00-3 | 233-296-7 | 10108-64-2 | E |
| Cadmium sulphate | 048-009-00-9 | 233-331-6 | 10124-36-4 | E |
| Butane [containing ≥ 0,1 % Butadiene (203-450-8)] [1] | 601-004-01-8 | 203-448-7 [1] | 106-97-8 [1] | C, S |
| Isobutane [containing ≥ 0,1 % Butadiene (203-450-8)] [2] | | 20-857-2 [2] | 75-28-5 [2] | |
| 1,3-Butadiene buta-1,3-diene | 601-013-00-X | 203-450-8 | 106-99-0 | D |
| Benzene | 601-020-00-8 | 200-753-7 | 71-43-2 | E |
| Benzo[a]pyrene; benzo[d,e,f]chrysene | 601-032-00-3 | 200-028-5 | 50-32-8 | |
| 1,2-Dibromo-3-chloropropane | 602-021-00-6 | 202-479-3 | 96-12-8 | |
| Ethylene oxide; oxirane | 603-023-00-X | 200-849-9 | 75-21-8 | |
| Propylene oxide; 1,2-epoxypropane; Methyloxirane | 603-055-00-4 | 200-879-2 | 75-56-9 | E |
| 2,2'-Bioxirane; 1,2:3,4-diepoxybutane | 603-060-00-1 | 215-979-1 | 1464-53-5 | |
| Methyl acrylamidomethoxyacetate (containing ≥ 0,1 % acrylamide) | 607-190-00-X | 401-890-7 | 77402-03-0 | |
| Methyl acrylamidoglycolate (containing ≥ 0,1 % acrylamide) | 607-210-00-7 | 403-230-3 | 77402-05-2 | |
| 2-Nitrotoluene | 609-065-00-5 | 201-853-3 | 88-72-2 | E |
| 4,4'-oxydianiline [1] and its salts<br>p-aminophenyl ether [1] | 612-199-00-7 | 202-977-0 [1] | 101-80-4 [1] | E |
| Ethyleneimine; aziridine | 613-001-00-1 | 205-793-9 | 151-56-4 | |

| Substances | Index No | EC No | CAS No | Notes |
|---|---|---|---|---|
| Carbendazim (ISO)<br>methyl benzimidazol-2-ylcarbamate | 613-048-00-8 | 234-232-0 | 10605-21-7 | |
| Benomyl (ISO)<br>methyl 1-(butylcarbamoyl)benzimidazol-2-ylcarbamate | 613-049-00-3 | 241-775-7 | 17804-35-2 | |
| 1,3,5,-Tris(oxiranylmethyl)-1,3,5-triazine-2,4,6(1H,3H,5H)-trione; TGIC | 615-021-00-6 | 219-514-3 | 2451-62-9 | |
| Acrylamide | 616-003-00-0 | 201-173-7 | 79-06-1 | |
| 1,3,5-tris-[(2S and 2R)-2,3-epoxypropyl]-1,3,5-triazine-2,4,6-(1H,3H,5H)-trione | 616-091-00-0 | 423-400-0 | 59653-74-6 | E |
| Gases (petroleum), catalytic cracked naphtha depropaniser overhead, $C_3$-rich acid-free; Petroleum gas<br>(A complex combination of hydrocarbons obtained from fractionation of catalytic cracked hydrocarbons and treated to remove acidic impurities. It consists of hydrocarbons having carbon numbers in the range of $C_2$ through $C_4$, predominantly $C_3$.) | 649-062-00-6 | 270-755-0 | 68477-73-6 | H, K |
| Gases (petroleum), catalytic cracker; Petroleum gas<br>(A complex combination of hydrocarbons produced by the distillation of the products from a catalytic cracking process. It consists predominantly of aliphatic hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_6$.) | 649-063-00-1 | 270-756-6 | 68477-74-7 | H, K |
| Gases (petroleum), catalytic cracker, $C_{1-5}$-rich; Petroleum gas<br>(A complex combination of hydrocarbons produced by the distillation of products from a catalytic cracking process. It consists of aliphatic hydrocarbons having carbon numbers in the range of $C_1$ through $C_6$, predominantly $C_1$ through $C_5$.) | 649-064-00-7 | 270-757-1 | 68477-75-8 | H, K |
| Gases (petroleum), catalytic polymd. naphtha stabiliser overhead, $C_{2-4}$-rich; Petroleum gas<br>(A complex combination of hydrocarbons obtained from the fractionation stabilisation of catalytic polymerised naphtha. It consists of aliphatic hydrocarbons having carbon numbers in the range of $C_2$ through $C_6$, predominantly $C_2$ through $C_4$.) | 649-065-00-2 | 270-758-7 | 68477-76-9 | H, K |
| Gases (petroleum), catalytic reformer, $C_{1-4}$-rich; Petroleum gas<br>(A complex combination of hydrocarbons produced by distillation of products from a catalytic reforming process. It consists of hydrocarbons having carbon numbers in the range of $C_1$ through $C_6$, predominantly $C_1$ through $C_4$.) | 649-066-00-8 | 270-760-8 | 68477-79-2 | H, K |
| Gases (petroleum), $C_{3-5}$ olefinic-paraffinic alkylation feed; Petroleum gas<br>(A complex combination of olefinic and paraffinic hydrocarbons having carbon numbers in the range of $C_3$ through $C_5$ which are used as alkylation feed. Ambient temperatures normally exceed the critical temperature of these combinations.) | 649-067-00-3 | 270-765-5 | 68477-83-8 | H, K |

| Substances | Index No | EC No | CAS No | Notes |
|---|---|---|---|---|
| Gases (petroleum), $C_4$-rich; Petroleum gas<br>(A complex combination of hydrocarbons produced by distillation of products from a catalytic fractionation process. It consists of aliphatic hydrocarbons having carbon numbers in the range of $C_3$ through $C_5$, predominantly $C_4$.) | 649-068-00-9 | 270-767-6 | 68477-85-0 | H, K |
| Gases (petroleum), deethaniser overheads; Petroleum gas<br>(A complex combination of hydrocarbons produced from distillation of the gas and gasoline fractions from the catalytic cracking process. It contains predominantly ethane and ethylene.) | 649-069-00-4 | 270-768-1 | 68477-86-1 | H, K |
| Gases (petroleum), deisobutaniser tower overheads; Petroleum gas<br>(A complex combination of hydrocarbons produced by the atmospheric distillation of a butane-butylene stream. It consists of aliphatic hydrocarbons having carbon numbers predominantly in the range of $C_3$ through $C_4$.) | 649-070-00-X | 270-769-7 | 68477-87-2 | H, K |
| Gases (petroleum), depropaniser dry, propene-rich; Petroleum gas<br>(A complex combination of hydrocarbons produced by the distillation of products from the gas and gasoline fractions of a catalytic cracking process. It consists predominantly of propylene with some ethane and propane.) | 649-071-00-5 | 270-772-3 | 68477-90-7 | H, K |
| Gases (petroleum), depropaniser overheads; Petroleum gas<br>(A complex combination of hydrocarbons produced by distillation of products from the gas and gasoline fractions of a catalytic cracking process. It consists of aliphatic hydrocarbons having carbon numbers predominantly in the range of $C_2$ through $C_4$.) | 649-072-00-0 | 270-773-9 | 68477-91-8 | H, K |
| Gases (petroleum), gas recovery plant depropaniser overheads; Petroleum gas<br>(A complex combination of hydrocarbons obtained by fractionation of miscellaneous hydrocarbon streams. It consists predominantly of hydrocarbons having carbon numbers in the range of $C_1$ through $C_4$, predominantly propane.) | 649-073-00-6 | 270-777-0 | 68477-94-1 | H, K |
| Gases (petroleum), Girbatol unit feed; Petroleum gas<br>(A complex combination of hydrocarbons that is used as the feed into the Girbatol unit to remove hydrogen sulfide. It consists of aliphatic hydrocarbons having carbon numbers predominantly in the range of $C_2$ through $C_4$.) | 649-074-00-1 | 270-778-6 | 68477-95-2 | H, K |
| Gases (petroleum), isomerised naphtha fractionator, $C_4$-rich, hydrogen sulfide-free; Petroleum gas | 649-075-00-7 | 270-782-8 | 68477-99-6 | H, K |
| Tail gas (petroleum), catalytic cracked clarified oil and thermal cracked vacuum residue fractionation reflux drum; Petroleum gas<br>(A complex combination of hydrocarbons obtained from fractionation of catalytic cracked clarified oil and thermal cracked vacuum residue. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_6$.) | 649-076-00-2 | 270-802-5 | 68478-21-7 | H, K |

| Substances | Index No | EC No | CAS No | Notes |
|---|---|---|---|---|
| Tail gas (petroleum), catalytic cracked naphtha stabilisation absorber; Petroleum gas<br>(A complex combination of hydrocarbons obtained from the stabilisation of catalytic cracked naphtha. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_6$.) | 649-077-00-8 | 270-803-0 | 68478-22-8 | H, K |
| Tail gas (petroleum), catalytic cracker, catalytic reformer and hydrodesulphuriser combined fractionater; Petroleum gas<br>(A complex combination of hydrocarbons obtained from the fractionation of products from catalytic cracking, catalytic reforming and hydrodesulphurising processes treated to remove acidic impurities. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_5$.) | 649-078-00-3 | 270-804-6 | 68478-24-0 | H, K |
| Tail gas (petroleum), catalytic reformed naphtha fractionation stabiliser; Petroleum gas<br>(A complex combination of hydrocarbons obtained from the fractionation stabilisation of catalytic reformed naphtha. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_4$.) | 649-079-00-9 | 270-806-7 | 68478-26-2 | H, K |
| Tail gas (petroleum), saturate gas plant mixed stream, $C_4$-rich; Petroleum gas<br>(A complex combination of hydrocarbons obtained from the fractionation stabilisation of straight-run naphtha, distillation tail gas and catalytic reformed naphtha stabiliser tail gas. It consists of hydrocarbons having carbon numbers in the range of $C_3$ through $C_6$, predominantly butane and isobutane.) | 649-080-00-4 | 270-813-5 | 68478-32-0 | H, K |
| Tail gas (petroleum), saturate gas recovery plant, $C_{1-2}$-rich; Petroleum gas<br>(A complex combination of hydrocarbons obtained from fractionation of distillate tail gas, straight-run naphtha, catalytic reformed naphtha stabiliser tail gas. It consists predominantly of hydrocarbons having carbon numbers in the range of $C_1$ through $C_5$, predominantly methane and ethane.) | 649-081-00-X | 270-814-0 | 68478-33-1 | H, K |
| Tail gas (petroleum), vacuum residues thermal cracker; Petroleum gas<br>(A complex combination of hydrocarbons obtained from the thermal cracking of vacuum residues. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_5$.) | 649-082-00-5 | 270-815-6 | 68478-34-2 | H, K |
| Hydrocarbons, $C_{3-4}$-rich, petroleum distillate; Petroleum gas<br>(A complex combination of hydrocarbons produced by distillation and condensation of crude oil. It consists of hydrocarbons having carbon numbers in the range of $C_3$ through $C_5$, predominantly $C_3$ through $C_4$.) | 649-083-00-0 | 270-990-9 | 68512-91-4 | H, K |
| Gases (petroleum), full-range straight-run naphtha dehexaniser off; Petroleum gas<br>(A complex combination of hydrocarbons obtained by the fractionation of the full-range straight-run naphtha. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_2$ through $C_6$.) | 649-084-00-6 | 271-000-8 | 68513-15-5 | H, K |

| Substances | Index No | EC No | CAS No | Notes |
|---|---|---|---|---|
| Gases (petroleum), hydrocracking depropaniser off, hydrocarbon-rich; Petroleum gas<br>(A complex combination of hydrocarbon produced by the distillation of products from a hydrocracking process. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_4$. It may also contain small amounts of hydrogen and hydrogen sulfide.) | 649-085-00-1 | 271-001-3 | 68513-16-6 | H, K |
| Gases (petroleum), light straight-run naphtha stabiliser off; Petroleum gas<br>(A complex combination of hydrocarbons obtained by the stabilisation of light straight-run naphtha. It consists of saturated aliphatic hydrocarbons having carbon numbers predominantly in the range of $C_2$ through $C_6$.) | 649-086-00-7 | 271-002-9 | 68513-17-7 | H, K |
| Residues (petroleum), alkylation splitter, $C_4$-rich; Petroleum gas<br>(A complex residuum from the distillation of streams from various refinery operations. It consists of hydrocarbons having carbon numbers in the range of $C_4$ through $C_5$, predominantly butane, and boiling in the range of approximately - 11,7 °C to 27,8 °C.) | 649-087-00-2 | 271-010-2 | 68513-66-6 | H, K |
| Hydrocarbons, $C_{1-4}$; Petroleum gas<br>(A complex combination of hydrocarbons provided by thermal cracking and absorber operations and by distillation of crude oil. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_4$ and boiling in the range of approximately minus 164 °C to minus 0,5 °C.) | 649-088-00-8 | 271-032-2 | 68514-31-8 | H, K |
| Hydrocarbons, $C_{1-4}$, sweetened; Petroleum gas<br>(A complex combination of hydrocarbons obtained by subjecting hydrocarbon gases to a sweetening process to convert mercaptans or to remove acidic impurities. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_4$ and boiling in the range of approximately - 164 °C to - 0,5 °C.) | 649-089-00-3 | 271-038-5 | 68514-36-3 | H, K |
| Hydrocarbons, $C_{1-3}$; Petroleum gas<br>(A complex combination of hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_3$ and boiling in the range of approximately - 164 °C to - 42 °C.) | 649-090-00-9 | 271-259-7 | 68527-16-2 | H, K |
| Hydrocarbons, $C_{1-4}$, debutaniser fraction; Petroleum gas | 649-091-00-4 | 271-261-8 | 68527-19-5 | H, K |
| Gases (petroleum), $C_{1-5}$, wet; Petroleum gas<br>(A complex combination of hydrocarbons produced by the distillation of crude oil and/or the cracking of tower gas oil. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_5$.) | 649-092-00-X | 271-624-0 | 68602-83-5 | H, K |
| Hydrocarbons, $C_{2-4}$; Petroleum gas | 649-093-00-5 | 271-734-9 | 68606-25-7 | H, K |
| Hydrocarbons, $C_3$; Petroleum gas | 649-094-00-0 | 271-735-4 | 68606-26-8 | H, K |
| Gases (petroleum), alkylation feed; Petroleum gas<br>(A complex combination of hydrocarbons produced by the catalytic cracking of gas oil. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_3$ through $C_4$.) | 649-095-00-6 | 271-737-5 | 68606-27-9 | H, K |

| Substances | Index No | EC No | CAS No | Notes |
|---|---|---|---|---|
| Gases (petroleum), depropaniser bottoms fractionation off; Petroleum gas<br>(A complex combination of hydrocarbons obtained from the fractionation of depropaniser bottoms. It consists predominantly of butane, isobutane and butadiene.) | 649-096-00-1 | 271-742-2 | 68606-34-8 | H, K |
| Gases (petroleum), refinery blend; Petroleum gas<br>(A complex combination obtained from various processes. It consists of hydrogen, hydrogen sulfide and hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_5$.) | 649-097-00-7 | 272-183-7 | 68783-07-3 | H, K |
| Gases (petroleum), catalytic cracking; Petroleum gas<br>(A complex combination of hydrocarbons produced by the distillation of the products from a catalytic cracking process. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of $C_3$ through $C_5$.) | 649-098-00-2 | 272-203-4 | 68783-64-2 | H, K |
| Gases (petroleum), $C_{2-4}$, sweetened; Petroleum gas<br>(A complex combination of hydrocarbons obtained by subjecting a petroleum distillate to a sweetening process to convert mercaptans or to remove acidic impurities. It consists predominantly of saturated and unsaturated hydrocarbons having carbon numbers predominantly in the range of $C_2$ through $C_4$ and boiling in the range of approximately - 51 °C to - 34 °C.) | 649-099-00-8 | 272-205-5 | 68783-65-3 | H, K |
| Gases (petroleum), crude oil fractionation off; Petroleum gas<br>(A complex combination of hydrocarbons produced by the fractionation of crude oil. It consists of saturated aliphatic hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_5$.) | 649-100-00-1 | 272-871-7 | 68918-99-0 | H, K |
| Gases (petroleum), dehexaniser off; Petroleum gas<br>(A complex combination of hydrocarbons obtained by the fractionation of combined naphtha streams. It consists of saturated aliphatic hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_5$.) | 649-101-00-7 | 272-872-2 | 68919-00-6 | H, K |
| Gases (petroleum), light straight run gasoline fractionation stabiliser off; Petroleum gas<br>(A complex combination of hydrocarbons obtained by the fractionation of light straight-run gasoline. It consists of saturated aliphatic hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_5$.) | 649-102-00-2 | 272-878-5 | 68919-05-1 | H, K |
| Gases (petroleum), naphtha unifiner desulphurisation stripper off; Petroleum gas<br>(A complex combination of hydrocarbons produced by a naphtha unifiner desulphurisation process and stripped from the naphtha product. It consists of saturated aliphatic hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_4$.) | 649-103-00-8 | 272-879-0 | 68919-06-2 | H, K |
| Gases (petroleum), straight-run naphtha catalytic reforming off; Petroleum gas<br>(A complex combination of hydrocarbons obtained by the catalytic reforming of straight-run naphtha and fractionation of the total effluent. It consists of methane, ethane, and propane.) | 649-104-00-3 | 272-882-7 | 68919-09-5 | H, K |

| Substances | Index No | EC No | CAS No | Notes |
|---|---|---|---|---|
| Gases (petroleum), fluidised catalytic cracker splitter overheads; Petroleum gas<br>(A complex combination of hydrocarbons produced by the fractionation of the charge to the $C_3$-$C_4$ splitter. It consists predominantly of $C_3$ hydrocarbons.) | 649-105-00-9 | 272-893-7 | 68919-20-0 | H, K |
| Gases (petroleum), straight-run stabiliser off; Petroleum gas<br>(A complex combination of hydrocarbons obtained from the fractionation of the liquid from the first tower used in the distillation of crude oil. It consists of saturated aliphatic hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_4$.) | 649-106-00-4 | 272-883-2 | 68919-10-8 | H, K |
| Gases (petroleum), catalytic cracked naphtha debutaniser; Petroleum gas<br>(A complex combination of hydrocarbons obtained from fractionation of catalytic cracked naphtha. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_4$.) | 649-107-00-X | 273-169-3 | 68952-76-1 | H, K |
| Tail gas (petroleum), catalytic cracked distillate and naphtha stabiliser; Petroleum gas<br>(A complex combination of hydrocarbons obtained by the fractionation of catalytic cracked naphtha and distillate. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_4$.) | 649-108-00-5 | 273-170-9 | 68952-77-2 | H, K |
| Tail gas (petroleum), thermal-cracked distillate, gas oil and naphtha absorber; Petroleum gas<br>(A complex combination of hydrocarbons obtained from the separation of thermal-cracked distillates, naphtha and gas oil. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_6$.) | 649-109-00-0 | 273-175-6 | 68952-81-8 | H, K |
| Tail gas (petroleum), thermal cracked hydrocarbon fractionation stabiliser, petroleum coking; Petroleum gas<br>(A complex combination of hydrocarbons obtained from the fractionation stabilisation of thermal cracked hydrocarbons from a petroleum coking process. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_6$.) | 649-110-00-6 | 273-176-1 | 68952-82-9 | H, K |
| Gases (petroleum, light steam-cracked, butadiene concentrate; Petroleum gas<br>(A complex combination of hydrocarbons produced by the distillation of products from a thermal cracking process. It consists of hydrocarbons having a carbon number predominantly of $C_4$.) | 649-111-00-1 | 273-265-5 | 68955-28-2 | H, K |
| Gases (petroleum), straight-run naphtha catalytic reformer stabiliser overhead; Petroleum gas<br>(A complex combination of hydrocarbons obtained by the catalytic reforming of straight-run naphtha and the fractionation of the total effluent. It consists of saturated aliphatic hydrocarbons having carbon numbers predominantly in the range of $C_2$ through $C_4$.) | 649-112-00-7 | 273-270-2 | 68955-34-0 | H, K |

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|---|---|---|---|---|
| Hydrocarbons, $C_4$; Petroleum gas | 649-113-00-2 | 289-339-5 | 87741-01-3 | H, K |
| Alkanes, $C_{1-4}$, $C_3$-rich; Petroleum gas | 649-114-00-8 | 292-456-4 | 90622-55-2 | H, K |
| Gases (petroleum), steam-cracker $C_3$-rich; Petroleum gas<br>(A complex combination of hydrocarbons produced by the distillation of products from a steam cracking process. It consists predominantly of propylene with some propane and boils in the range of approximately - 70 °C to 0 °C.) | 649-115-00-3 | 295-404-9 | 92045-22-2 | H, K |
| Hydrocarbons, $C_4$, steam-cracker distillate; Petroleum gas<br>(A complex combination of hydrocarbons produced by the distillation of the products of a steam cracking process. It consists predominantly of hydrocarbons having a carbon number of $C_4$, predominantly 1-butene and 2-butene, containing also butane and isobutene and boiling in the range of approximately - 12 °C to 5 °C.) | 649-116-00-9 | 295-405-4 | 92045-23-3 | H, K |
| Petroleum gases, liquefied, sweetened, $C_4$ fraction; Petroleum gas<br>(A complex combination of hydrocarbons obtained by subjecting a liquified petroleum gas mix to a sweetening process to oxidise mercaptans or to remove acidic impurities. It consists predominantly of $C_4$ saturated and unsaturated hydrocarbons.) | 649-117-00-4 | 295-463-0 | 92045-80-2 | H, K, S |
| Raffinates (petroleum), steam-cracked $C_4$ fraction cuprous ammonium acetate extraction, $C_{3-5}$ and $C_{3-5}$ unsaturated., butadiene-free; Petroleum gas | 649-119 -00-5 | 307-769-4 | 97722-19-5 | H, K |
| Gases (petroleum), amine system feed; Refinery gas<br>(The feed gas to the amine system for removal of hydrogen sulphide. It consists primarily of hydrogen. Carbon monoxide, carbon dioxide, hydrogen sulfide and aliphatic hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_5$ may also be present.) | 649-120-00-0 | 270-746-1 | 68477-65-6 | H, K |
| Gases (petroleum), benzene unit hydrodesulphuriser off; Refinery gas<br>(Off gases produced by the benzene unit. It consists primarily of hydrogen. Carbon monoxide and hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_6$, including benzene, may also be present.) | 649-121-00-6 | 270-747-7 | 68477-66-7 | H, K |
| Gases (petroleum), benzene unit recycle, hydrogen-rich; Refinery gas<br>(A complex combination of hydrocarbons obtained by recycling the gases of the benzene unit. It consists primarily of hydrogen with various small amounts of carbon monoxide and hydrocarbons having carbon numbers in the range of $C_1$ through $C_6$.) | 649-122-00-1 | 270-748-2 | 68477-67-8 | H, K |
| Gases (petroleum), blend oil, hydrogen-nitrogen-rich; Refinery gas<br>(A complex combination of hydrocarbons obtained by distillation of a blend oil. It consists primarily of hydrogen and nitrogen with various small amounts of carbon monoxide, carbon dioxide, and aliphatic hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_5$.) | 649-123-00-7 | 270-749-8 | 68477-68-9 | H, K |

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|---|---|---|---|---|
| Gases (petroleum), catalytic reformed naphtha stripper overheads; Refinery gas<br>(A complex combination of hydrocarbons obtained from stabilisation of catalytic reformed naphtha. It consists of hydrogen and saturated hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_4$.) | 649-124-00-2 | 270-759-2 | 68477-77-0 | H, K |
| Gases (petroleum), $C_{6-8}$ catalytic reformer recycle; Refinery gas<br>(A complex combination of hydrocarbons produced by distillation of products from catalytic reforming of $C_6$-$C_8$ feed and recycled to conserve hydrogen. It consists primarily of hydrogen. It may also contain various small amounts of carbon monoxide, carbon dioxide, nitrogen, and hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_6$.) | 649-125-00-8 | 270-761-3 | 68477-80-5 | H, K |
| Gases (petroleum), $C_{6-8}$ catalytic reformer; Refinery gas<br>(A complex combination of hydrocarbons produced by distillation of products from catalytic reforming of $C_6$-$C_8$ feed. It consists of hydrocarbons having carbon numbers in the range of $C_1$ through $C_5$ and hydrogen.) | 649-126-00-3 | 270-762-9 | 68477-81-6 | H, K |
| Gases (petroleum), $C_{6-8}$ catalytic reformer recycle, hydrogen-rich; Refinery gas | 649-127-00-9 | 270-763-4 | 68477-82-7 | H, K |
| Gases (petroleum), $C_2$-return stream; Refinery gas<br>(A complex combination of hydrocarbons obtained by the extraction of hydrogen from a gas stream which consists primarily of hydrogen with small amounts of nitrogen, carbon monoxide, methane, ethane, and ethylene. It contains predominantly hydrocarbons such as methane, ethane, and ethylene with small amounts of hydrogen, nitrogen and carbon monoxide.) | 649-128-00-4 | 270-766-0 | 68477-84-9 | H, K |
| Gases (petroleum), dry sour, gas-concentration-unit-off; Refinery gas<br>(The complex combination of dry gases from a gas concentration unit. It consists of hydrogen, hydrogen sulphide and hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_3$.) | 649-129-00-X | 270-774-4 | 68477-92-9 | H, K |
| Gases (petroleum), gas concentration reabsorber distillation; Refinery gas<br>(A complex combination of hydrocarbons produced by distillation of products from combined gas streams in a gas concentration reabsorber. It consists predominantly of hydrogen, carbon monoxide, carbon dioxide, nitrogen, hydrogen sulphide and hydrocarbons having carbon numbers in the range of $C_1$ through $C_3$.) | 649-130-00-5 | 270-776-5 | 68477-93-0 | H, K |
| Gases (petroleum), hydrogen absorber off; Refinery gas<br>(A complex combination obtained by absorbing hydrogen from a hydrogen rich stream. It consists of hydrogen, carbon monoxide, nitrogen, and methane with small amounts of $C_2$ hydrocarbons.) | 649-131-00-0 | 270-779-1 | 68477-96-3 | H, K |
| Gases (petroleum), hydrogen-rich; Refinery gas<br>(A complex combination separated as a gas from hydrocarbon gases by chilling. It consists primarily of hydrogen with various small amounts of carbon monoxide, nitrogen, methane, and $C_2$ hydrocarbons.) | 649-132-00-6 | 270-780-7 | 68477-97-4 | H, K |

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|---|---|---|---|---|
| Gases (petroleum), hydrotreater blend oil recycle, hydrogen-nitrogen-rich; Refinery gas<br>(A complex combination obtained from recycled hydrotreated blend oil. It consists primarily of hydrogen and nitrogen with various small amounts of carbon monoxide, carbon dioxide and hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_5$.) | 649-133-00-1 | 270-781-2 | 68477-98-5 | H, K |
| Gases (petroleum), recycle, hydrogen-rich; Refinery gas<br>(A complex combination obtained from recycled reactor gases. It consists primarily of hydrogen with various small amounts of carbon monoxide, carbon dioxide, nitrogen, hydrogen sulphide, and saturated aliphatic hydrocarbons having carbon numbers in the range of $C_1$ through $C_5$.) | 649-134-00-7 | 270-783-3 | 68478-00-2 | H, K |
| Gases (petroleum), reformer make-up, hydrogen-rich; Refinery gas<br>(A complex combination obtained from the reformers. It consists primarily of hydrogen with various small amounts of carbon monoxide and aliphatic hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_5$.) | 649-135-00-2 | 270-784-9 | 68478-01-3 | H, K |
| Gases (petroleum), reforming hydrotreater; Refinery gas<br>(A complex combination obtained from the reforming hydrotreating process. It consists primarily of hydrogen, methane, and ethane with various small amounts of hydrogen sulphide and aliphatic hydrocarbons having carbon numbers predominantly in the range $C_3$ through $C_5$.) | 649-136-00-8 | 270-785-4 | 68478-02-4 | H, K |
| Gases (petroleum), reforming hydrotreater, hydrogen-methane-rich; Refinery gas<br>(A complex combination obtained from the reforming hydrotreating process. It consists primarily of hydrogen and methane with various small amounts of carbon monoxide, carbon dioxide, nitrogen and saturated aliphatic hydrocarbons having carbon numbers predominantly in the range of $C_2$ through $C_5$.) | 649-137-00-3 | 270-787-5 | 68478-03-5 | H, K |
| Gases (petroleum), reforming hydrotreater make-up, hydrogen-rich; Refinery gas<br>(A complex combination obtained from the reforming hydrotreating process. It consists primarily of hydrogen with various small amounts of carbon monoxide and aliphatic hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_5$.) | 649-138-00-9 | 270-788-0 | 68478-04-6 | H, K |
| Gases (petroleum), thermal cracking distillation; Refinery gas<br>(A complex combination produced by distillation of products from a thermal cracking process. It consists of hydrogen, hydrogen sulphide, carbon monoxide, carbon dioxide and hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_6$.) | 649-139-00-4 | 270-789-6 | 68478-05-7 | H, K |
| Tail gas (petroleum), catalytic cracker refractionation absorber; Refinery gas<br>(A complex combination of hydrocarbons obtained from refractionation of products from a catalytic cracking process. It consists of hydrogen and hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_3$.) | 649-140-00-X | 270-805-1 | 68478-25-1 | H, K |

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|---|---|---|---|---|
| Tail gas (petroleum), catalytic reformed naphtha separator; Refinery gas<br>(A complex combination of hydrocarbons obtained from the catalytic reforming of straight-run naphtha. It consists of hydrogen and hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_6$.) | 649-141-00-5 | 270-807-2 | 68478-27-3 | H, K |
| Tail gas (petroleum), catalytic reformed naphtha stabiliser; Refinery gas<br>(A complex combination of hydrocarbons obtained from the stabilisation of catalytic reformed naphtha. It consists of hydrogen and hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_6$.) | 649-142-00-0 | 270-808-8 | 68478-28-4 | H, K |
| Tail gas (petroleum), cracked distillate hydrotreater separator; Refinery gas<br>(A complex combination of hydrocarbons obtained by treating cracked distillates with hydrogen in the presence of a catalyst. It consists of hydrogen and saturated aliphatic hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_5$.) | 649-143-00-6 | 270-809-3 | 68478-29-5 | H, K |
| Tail gas (petroleum), hydrodesulphurised straight-run naphtha separator; Refinery gas<br>(A complex combination of hydrocarbons obtained from hydrodesulphurisation of straight-run naphtha. It consists of hydrogen and saturated aliphatic hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_6$.) | 649-144-00-1 | 270-810-9 | 68478-30-8 | H, K |
| Gases (petroleum), catalytic reformed straight-run naphtha stabiliser overheads; Refinery gas<br>(A complex combination of hydrocarbons obtained from the catalytic reforming of straight-run naphtha followed by fractionation of the total effluent. It consists of hydrogen, methane, ethane and propane.) | 649-145-00-7 | 270-999-8 | 68513-14-4 | H, K |
| Gases (petroleum), reformer effluent high-pressure flash drum off; Refinery gas<br>(A complex combination produced by the high-pressure flashing of the effluent from the reforming reactor. It consists primarily of hydrogen with various small amounts of methane, ethane, and propane.) | 649-146-00-2 | 271-003-4 | 68513-18-8 | H, K |
| Gases (petroleum), reformer effluent low-pressure flash drum off; Refinery gas<br>(A complex combination produced by low-pressure flashing of the effluent from the reforming reactor. It consists primarily of hydrogen with various small amounts of methane, ethane, and propane.) | 649-147-00-8 | 271-005-5 | 68513-19-9 | H, K |
| Gases (petroleum), oil refinery gas distillation off; Refinery gas<br>(A complex combination separated by distillation of a gas stream containing hydrogen, carbon monoxide, carbon dioxide and hydrocarbons having carbon numbers in the range of $C_1$ through $C_6$ or obtained by cracking ethane and propane. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_2$, hydrogen, nitrogen, and carbon monoxide.) | 649-148-00-3 | 271-258-1 | 68527-15-1 | H, K |

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| Gases (petroleum), benzene unit hydrotreater depentaniser overheads; Refinery gas<br>(A complex combination produced by treating the feed from the benzene unit with hydrogen in the presence of a catalyst followed by depentanising. It consists primarily of hydrogen, ethane and propane with various small amounts of nitrogen, carbon monoxide, carbon dioxide and hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_6$. It may contain trace amounts of benzene.) | 649-149-00-9 | 271-623-5 | 68602-82-4 | H, K |
| Gases (petroleum), secondary absorber off, fluidised catalytic cracker overheads fractionator; Refinery gas<br>(A complex combination produced by the fractionation of the overhead products from the catalytic cracking process in the fluidised catalytic cracker. It consists of hydrogen, nitrogen, and hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_3$.) | 649-150-00-4 | 271-625-6 | 68602-84-6 | H, K |
| Petroleum products, refinery gases; Refinery gas<br>(A complex combination which consists primarily of hydrogen with various small amounts of methane, ethane and propane.) | 649-151-00 -X | 271-750-6 | 68607-11-4 | H, K |
| Gases (petroleum), hydrocracking low-pressure separator; Refinery gas<br>(A complex combination obtained by the liquid-vapour separation of the hydrocracking process reactor effluent. It consists predominantly of hydrogen and saturated hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_3$.) | 649-152-00-5 | 272-182-1 | 68783-06-2 | H, K |
| Gases (petroleum), refinery; Refinery gas<br>(A complex combination obtained from various petroleum refining operations. It consists of hydrogen and hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_3$.) | 649-153-00-0 | 272-338-9 | 68814-67-5 | H, K |
| Gases (petroleum), platformer products separator off; Refinery gas<br>(A complex combination obtained from the chemical reforming of naphthenes to aromatics. It consists of hydrogen and saturated aliphatic hydrocarbons having carbon numbers predominantly in the range of $C_2$ through $C_4$.) | 649-154-00-6 | 272-343-6 | 68814-90-4 | H, K |
| Gases (petroleum), hydrotreated sour kerosine depentaniser stabiliser off; Refinery gas<br>(The complex combination obtained from the depentaniser stabilisation of hydrotreated kerosine. It consists primarily of hydrogen, methane, ethane, and propane with various small amounts of nitrogen, hydrogen sulphide, carbon monoxide and hydrocarbons having carbon numbers predominantly in the range of $C_4$ through $C_5$.) | 649-155-00-1 | 272-775-5 | 68911-58-0 | H, K |
| Gases (petroleum), hydrotreated sour kerosine flash drum; Refinery gas<br>(A complex combination obtained from the flash drum of the unit treating sour kerosine with hydrogen in the presence of a catalyst. It consists primarily of hydrogen and methane with various small amounts of nitrogen, carbon monoxide, and hydro-carbons having carbon numbers predominantly in the range of $C_2$ through $C_5$.) | 649-156-00-7 | 272-776-0 | 68911-59-1 | H, K |

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| Gases (petroleum), distillate unifiner desulphurisation stripper off; Refinery gas<br>(A complex combination stripped from the liquid product of the unifiner desulphurisation process. It consists of hydrogen sulphide, methane, ethane, and propane.) | 649-157-00-2 | 272-873-8 | 68919-01-7 | H, K |
| Gases (petroleum), fluidised catalytic cracker fractionation off; Refinery gas<br>(A complex combination produced by the fractionation of the overhead product of the fluidised catalytic cracking process. It consists of hydrogen, hydrogen sulphide, nitrogen, and hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_5$.) | 649-158-00-8 | 272-874-3 | 68919-02-8 | H, K |
| Gases (petroleum), fluidised catalytic cracker scrubbing secondary absorber off; Refinery gas<br>(A complex combination produced by scrubbing the overhead gas from the fluidised catalytic cracker. It consists of hydrogen, nitrogen, methane, ethane and propane.) | 649-159-00-3 | 272-875-9 | 68919-03-9 | H, K |
| Gases (petroleum), heavy distillate hydrotreater desulphurisation stripper off; Refinery gas<br>(A complex combination stripped from the liquid product of the heavy distillate hydrotreater desulphurisation process. It consists of hydrogen, hydrogen sulphide, and saturated aliphatic hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_5$.) | 649-160-00-9 | 272-876-4 | 68919-04-0 | H, K |
| Gases (petroleum), platformer stabiliser off, light ends fractionation; Refinery gas<br>(A complex combination obtained by the fractionation of the light ends of the platinum reactors of the platformer unit. It consists of hydrogen, methane, ethane and propane.) | 649-161-00-4 | 272-880-6 | 68919-07-3 | H, K |
| Gases (petroleum), preflash tower off, crude distillation; Refinery gas<br>(A complex combination produced from the first tower used in the distillation of crude oil. It consists of nitrogen and saturated aliphatic hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_5$.) | 649-162-00-X | 272-881-1 | 68919-08-4 | H, K |
| Gases (petroleum), tar stripper off; Refinery gas<br>(A complex combination obtained by the fractionation of reduced crude oil. It consists of hydrogen and hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_4$.) | 649-163-00-5 | 272-884-8 | 68919-11-9 | H, K |
| Gases (petroleum), unifiner stripper off; Refinery gas<br>(A combination of hydrogen and methane obtained by fractionation of the products from the unifiner unit.) | 649-164-00-0 | 272-885-3 | 68919-12-0 | H, K |
| Tail gas (petroleum), catalytic hydrodesulphurised naphtha separator; Refinery gas<br>(A complex combination of hydrocarbons obtained from the hydrodesulphurisation of naphtha. It consists of hydrogen, methane, ethane, and propane.) | 649-165-00-6 | 273-173-5 | 68952-79-4 | H, K |

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| Tail gas (petroleum), straight-run naphtha hydrodesulphuriser; Refinery gas<br>(A complex combination obtained from the hydrodesulphurisation of straight-run naphtha. It consists of hydrogen and hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_5$.) | 649-166-00-1 | 273-174-0 | 68952-80-7 | H, K |
| Gases (petroleum), sponge absorber off, fluidised catalytic cracker and gas oil desulphuriser overhead fractionation; Refinery gas<br>(A complex combination obtained by the fractionation of products from the fluidised catalytic cracker and gas oil desulphuriser. It consists of hydrogen and hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_4$.) | 649-167-00-7 | 273-269-7 | 68955-33-9 | H, K |
| Gases (petroleum), crude distillation and catalytic cracking; Refinery gas<br>(A complex combination produced by crude distillation and catalytic cracking processes. It consists of hydrogen, hydrogen sulphide, nitrogen, carbon monoxide and paraffinic and olefinic hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_6$.) | 649-168-00-2 | 273-563-5 | 68989-88-8 | H, K |
| Gases (petroleum), gas oil diethanolamine scrubber off; Refinery gas<br>(A complex combination produced by desulphurisation of gas oils with diethanolamine. It consists predominantly of hydrogen sulphide, hydrogen and aliphatic hydrocarbons having carbon numbers in the range of $C_1$ through $C_5$.) | 649-169-00-8 | 295-397-2 | 92045-15-3 | H, K |
| Gases (petroleum), gas oil hydrodesulphurisation effluent; Refinery gas<br>(A complex combination obtained by separation of the liquid phase from the effluent from the hydrogenation reaction. It consists predominantly of hydrogen, hydrogen sulphide and aliphatic hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_3$.) | 649-170-00-3 | 295-398-8 | 92045-16-4 | H, K |
| Gases (petroleum), gas oil hydrodesulphurisation purge; Refinery gas<br>(A complex combination of gases obtained from the reformer and from the purges from the hydrogenation reactor. It consists predominantly of hydrogen and aliphatic hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_4$.) | 649-171-00-9 | 295-399-3 | 92045-17-5 | H, K |
| Gases (petroleum), hydrogenator effluent flash drum off; Refinery gas<br>(A complex combination of gases obtained from flash of the effluents after the hydrogenation reaction. It consists predominantly of hydrogen and aliphatic hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_6$.) | 649-172-00-4 | 295-400-7 | 92045-18-6 | H, K |
| Gases (petroleum), naphtha steam cracking high-pressure residual; Refinery gas<br>(A complex combination obtained as a mixture of the non-condensable portions from the product of a naphtha steam cracking process as well as residual gases obtained during the preparation of subsequent products. It consists predominantly of hydrogen and paraffinic and olefinic hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_5$ with which natural gas may also be mixed.) | 649-173-00-X | 295-401-2 | 92045-19-7 | H, K |

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| Gases (petroleum), residue visbaking off; Refinery gas<br>(A complex combination obtained from viscosity reduction of residues in a furnace. It consists predominantly of hydrogen sulphide and paraffinic and olefinic hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_5$.) | 649-174-00-5 | 295-402-8 | 92045-20-0 | H, K |
| Gases (petroleum), $C_{3-4}$; Petroleum gas<br>(A complex combination of hydrocarbons produced by distillation of products from the cracking of crude oil. It consists of hydrocarbons having carbon numbers in the range of $C_3$ through $C_4$, predominantly of propane and propylene, and boiling in the range of approximately - 51 °C to - 1 °C.) | 649-177-00-1 | 268-629-5 | 68131-75-9 | H, K |
| Tail gas (petroleum), catalytic cracked distillate and catalytic cracked naphtha fractionation absorber; Petroleum gas<br>(The complex combination of hydrocarbons from the distillation of the products from catalytic cracked distillates and catalytic cracked naphtha. It consists predominantly of hydrocarbons having carbon numbers in the range of $C_1$ through $C_4$.) | 649-178-00-7 | 269-617-2 | 68307-98-2 | H, K |
| Tail gas (petroleum), catalytic polymerisation naphtha fractionation stabiliser; Petroleum gas<br>(A complex combination of hydrocarbons from the fractionation stabilisation products from polymerisation of naphtha. It consists predominantly of hydrocarbons having carbon numbers in the range of $C_1$ through $C_4$.) | 649-179-00-2 | 269-618-8 | 68307-99-3 | H, K |
| Tail gas (petroleum), catalytic reformed naphtha fractionation stabiliser, hydrogen sulphide-free; Petroleum gas<br>(A complex combination of hydrocarbons obtained from fractionation stabilisation of catalytic reformed naphtha and from which hydrogen sulphide has been removed by amine treatment. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_4$.) | 649-180-00-8 | 269-619-3 | 68308-00-9 | H, K |
| Tail gas (petroleum), cracked distillate hydrotreater stripper; Petroleum gas<br>(A complex combination of hydrocarbons obtained by treating thermal cracked distillates with hydrogen in the presence of a catalyst. It consists predominantly of saturated hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_6$.) | 649-181-00-3 | 269-620-9 | 68308-01-0 | H, K |
| Tail gas (petroleum), straight-run distillate hydrodesulphuriser, hydrogen sulphide-free; Petroleum gas<br>(A complex combination of hydrocarbons obtained from catalytic hydrodesulphurisation of straight run distillates and from which hydrogen sulphide has been removed by amine treatment. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_4$.) | 649-182-00-9 | 269-630-3 | 68308-10-1 | H, K |
| Tail gas (petroleum), gas oil catalytic cracking absorber; Petroleum gas<br>(A complex combination of hydrocarbons obtained from the distillation of products from the catalytic cracking of gas oil. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_5$.) | 649-183-00-4 | 269-623-5 | 68308-03-2 | H, K |

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| Tail gas (petroleum), gas recovery plant; Petroleum gas<br>(A complex combination of hydrocarbons from the distillation of products from miscellaneous hydrocarbon streams. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_5$.) | 649-184-00-X | 269-624-0 | 68308-04-3 | H, K |
| Tail gas (petroleum), gas recovery plant deethaniser; Petroleum gas<br>(A complex combination of hydrocarbons from the distillation of products from miscellaneous hydrocarbon streams. It consists of hydrocarbon having carbon numbers predominantly in the range of $C_1$ through $C_4$.) | 649-185-00-5 | 269-625-6 | 68308-05-4 | H, K |
| Tail gas (petroleum), hydrodesulphurised distillate and hydrodesulphurised naphtha fractionator, acid-free; Petroleum gas<br>(A complex combination of hydrocarbons obtained from fractionation of hydrodesulphurised naphtha and distillate hydrocarbon streams and treated to remove acidic impurities. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_5$.) | 649-186-00-0 | 269-626-1 | 68308-06-5 | H, K |
| Tail gas (petroleum), hydrodesulphurised vacuum gas oil stripper, hydrogen sulphide-free; Petroleum gas<br>(A complex combination of hydrocarbons obtained from stripping stabilisation of catalytic hydrodesulphurised vacuum gas oil and from which hydrogen sulphide has been removed by amine treatment. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_6$.) | 649-187-00-6 | 269-627-7 | 68308-07-6 | H, K |
| Tail gas (petroleum), light straight-run naphtha stabiliser, hydrogen sulphide-free; Petroleum gas<br>(A complex combination of hydrocarbons obtained from fractionation stabilisation of light straight-run naphtha and from which hydrogen sulphide has been removed by amine treatment. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_5$.) | 649-188-00-1 | 269-629-8 | 68308-09-8 | H, K |
| Tail gas (petroleum), propane-propylene alkylation feed prep deethaniser; Petroleum gas<br>(A complex combination of hydrocarbons obtained from the distillation of the reaction products of propane with propylene. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_4$.) | 649-189-00-7 | 269-631-9 | 68308-11-2 | H, K |
| Tail gas (petroleum), vacuum gas oil hydrodesulphuriser, hydrogen sulphide-free; Petroleum gas<br>(A complex combination of hydrocarbons obtained from catalytic hydrodesulphurisation of vacuum gas oil and from which hydrogen sulphide has been removed by amine treatment. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_6$.) | 649-190-00-2 | 269-632-4 | 68308-12-3 | H, K |
| Gases (petroleum), catalytic cracked overheads; Petroleum gas<br>(A complex combination of hydrocarbons produced by the distillation of products from the catalytic cracking process. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_3$ through $C_5$ and boiling in the range of approximately - 48 °C to 32 °C.) | 649-191-00-8 | 270-071-2 | 68409-99-4 | H, K |

| Substances | Index No | EC No | CAS No | Notes |
|---|---|---|---|---|
| Alkanes, $C_{1-2}$; Petroleum gas | 649-193-00-9 | 270-651-5 | 68475-57-0 | H, K |
| Alkanes, $C_{2-3}$; Petroleum gas | 649-194-00-4 | 270-652-0 | 68475-58-1 | H, K |
| Alkanes, $C_{3-4}$; Petroleum gas | 649-195-00-X | 270-653-6 | 68475-59-2 | H, K |
| Alkanes, $C_{4-5}$; Petroleum gas | 649-196-00-5 | 270-654-1 | 68475-60-5 | H, K |
| Fuel gases; Petroleum gas<br>(A combination of light gases. It consists predominantly of hydrogen and/or low molecular weight hydrocarbons.) | 649-197-00-0 | 270-667-2 | 68476-26-6 | H, K |
| Fuel gases, crude oil of distillates; Petroleum gas<br>(A complex combination of light gases produced by distillation of crude oil and by catalytic reforming of naphtha. It consists of hydrogen and hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_4$ and boiling in the range of approximately - 217 °C to - 12 °C.) | 649-198-00-6 | 270-670-9 | 68476-29-9 | H, K |
| Hydrocarbons, $C_{3-4}$; Petroleum gas | 649-199-00-1 | 270-681-9 | 68476-40-4 | H, K |
| Hydrocarbons, $C_{4-5}$; Petroleum gas | 649-200-00-5 | 270-682-4 | 68476-42-6 | H, K |
| Hydrocarbons, $C_{2-4}$, $C_3$-rich; Petroleum gas | 649-201-00-0 | 270-689-2 | 68476-49-3 | H, K |
| Petroleum gases, liquefied; Petroleum gas<br>(A complex combination of hydrocarbons produced by the distillation of crude oil. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_3$ through $C_7$ and boiling in the range of approximately -40 °C to 80 °C.) | 649-202-00-6 | 270-704-2 | 68476-85-7 | H, K, S |
| Petroleum gases, liquefied, sweetened; Petroleum gas<br>(A complex combination of hydrocarbons obtained by subjecting liquefied petroleum gas mix to a sweetening process to convert mercaptans or to remove acidic impurities. It consists of hydrocarbons having carbon numbers predominantly in the range of $C_3$ through $C_7$ and boiling in the range of approximately -40 °C to 80 °C.) | 649-203-00-1 | 270-705-8 | 68476-86-8 | H, K, S |
| Gases (petroleum), $C_{3-4}$, isobutane-rich; Petroleum gas<br>(A complex combination of hydrocarbons from the distillation of saturated and unsaturated hydrocarbons usually ranging in carbon numbers from $C_3$ through $C_6$, predominantly butane and isobutane. It consists of saturated and unsaturated hydrocarbons having carbon numbers in the range of $C_3$ through $C_4$, predominantly isobutane.) | 649-204-00-7 | 270-724-1 | 68477-33-8 | H, K |
| Distillates (petroleum), $C_{3-6}$, piperylene-rich; Petroleum gas<br>(A complex combination of hydrocarbons from the distillation of saturated and unsaturated aliphatic hydrocarbons usually ranging in the carbon numbers $C_3$ through $C_6$. It consists of saturated and unsaturated hydrocarbons having carbon numbers in the range of $C_3$ through $C_6$, predominantly piperylenes.) | 649-205-00-2 | 270-726-2 | 68477-35-0 | H, K |

| Substances | Index No | EC No | CAS No | Notes |
|---|---|---|---|---|
| Gases (petroleum), butane splitter overheads; Petroleum gas<br>(A complex combination of hydrocarbons obtained from the distillation of the butane stream. It consists of aliphatic hydrocarbons having carbon numbers predominantly in the range of $C_3$ through $C_4$.) | 649-206-00-8 | 270-750-3 | 68477-69-0 | H, K |
| Gases (petroleum), $C_{2-3}$; Petroleum gas<br>(A complex combination of hydrocarbons produced by the distillation of products from a catalytic fractionation process. It contains predominantly ethane, ethylene, propane, and propylene.) | 649-207-00-3 | 270-751-9 | 68477-70-3 | H, K |
| Gases (petroleum), catalytic-cracked gas oil depropaniser bottoms, $C_4$-rich acid-free; Petroleum gas<br>(A complex combination of hydrocarbons obtained from fractionation of catalytic cracked gas oil hydrocarbon stream and treated to remove hydrogen sulphide and other acidic components. It consists of hydrocarbons having carbon numbers in the range of $C_3$ through $C_5$, predominantly $C_4$.) | 649-208-00-9 | 270-752-4 | 68477-71-4 | H, K |
| Gases (petroleum), catalytic-cracked naphtha debutaniser bottoms, $C_{3-5}$-rich; Petroleum gas<br>(A complex combination of hydrocarbons obtained from the stabilisation of catalytic cracked naphtha. It consists of aliphatic hydrocarbons having carbon numbers predominantly in the range of $C_3$ through $C_5$.) | 649-209-00-4 | 270-754-5 | 68477-72-5 | H, K |
| Tail gas (petroleum), isomerised naphtha fractionation stabiliser; Petroleum gas<br>(A complex combination of hydrocarbons obtained from the fractionation stabilisation products from isomerised naphtha. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of $C_1$ through $C_4$.) | 649-210-00-X | 269-628-2 | 68308-08-7 | H, K |

*Appendix 5*

**Point 30 — Toxic to reproduction: category 1**

| Substances | Index No | EC No | CAS No | Notes |
|---|---|---|---|---|
| Carbon monoxide | 006-001-00-2 | 211-128-3 | 630-08-0 | |
| Lead hexafluorosilicate | 009-014-00-1 | 247-278-1 | 25808-74-6 | |
| Lead compounds with the exception of those specified elsewhere in this Annex | 082-001-00-6 | | | A, E |
| Lead alkyls | 082-002-00-1 | | | A, E |
| Lead azide | 082-003-00-7 | 236-542-1 | 13424-46-9 | |
| Lead chromate | 082-004-00-2 | 231-846-0 | 7758-97-6 | |
| Lead di(acetate) | 082-005-00-8 | 206-104-4 | 301-04-2 | |
| Trilead bis(orthophosphate) | 082-006-00-3 | 231-205-5 | 7446-27-7 | |
| Lead acetate | 082-007-00-9 | 215-630-3 | 1335-32-6 | |
| Lead(II) methanesulphonate | 082-008-00-4 | 401-750-5 | 17570-76-2 | |
| C.I. Pigment Yellow 34;<br>(This substance is identified in the Colour Index by Colour Index Constitution No C.I. 77603.) | 082-009-00-X | 215-693-7 | 1344-37-2 | |
| C.I. Pigment Red 104;<br>(This substance is identified in the Colour Index by Colour Index Constitution No C.I. 77605.) | 082-010-00-5 | 235-759-9 | 12656-85-8 | |
| Lead hydrogen arsenate | 082-011-00-0 | 232-064-2 | 7784-40-9 | |
| 1,2-Dibromo-3-chloropropane | 602-021-00-6 | 202-479-3 | 96-12-8 | |
| 2-bromopropane | 602-085-00-5 | 200-855-1 | 75-26-3 | E |
| Warfarin; 4-hydroxy-3-(3-oxo-1-phenylbutyl)coumarin | 607-056-00-0 | 201-377-6 | 81-81-2 | |
| Lead 2,4,6-trinitroresorcinoxide, lead styphnate | 609-019-00-4 | 239-290-0 | 15245-44-0 | |

*Appendix 6*

**Point 30 — Toxic to reproduction: category 2**

| Substances | Index No | EC No | CAS No | Notes |
|---|---|---|---|---|
| Linuron (ISO)<br>3-(3,4-dichlorophenyl)-1-methoxy-1-methylurea | 006-021-00-1 | 206-356-5 | 330-55-2 | E |
| 6-(2-Chloroethyl)-6(2-methoxyethoxy)-2,5,7,10-tetraoxa-6-silaundecane; etacelasil | 014-014-00-X | 253-704-7 | 37894-46-5 | |
| Flusilazole (ISO); bis(4-fluorophenyl)-(methyl)-(1H-1,2,4-triazol-1-ylmethyl)-silane | 014-017-00-6 | — | 85509-19-9 | E |
| A mixture of: 4-[[bis-(4-fluorophenyl)-methylsilyl]methyl]-4H-1,2,4-triazole; 1-[[bis-(4-fluorophenyl)methyl-silyl]methyl]-1H-1,2,4-triazole | 014-019-00-7 | 403-250-2 | — | E |
| Potassium dichromate | 024-002-00-6 | 231-906-6 | 7778-50-9 | E |
| Ammonium dichromate | 024-003-00-1 | 232-143-1 | 7789-09-5 | E |
| Sodium dichromate anhydrate | 024-004-00-7 | 234-190-3 | 10588-01-9 | E |
| Sodium dichromate, dihydrate | 024-004-01-4 | 234-190-3 | 7789-12-0 | E |
| Sodium chromate | 024-018-00-3 | 231-889-5 | 7775-11-3 | E |
| Nickel tetracarbonyl | 028-001-00-1 | 236-669-2 | 13463-39-3 | |
| Cadmium fluoride | 048-006-00-2 | 232-222-0 | 7790-79-6 | E |
| Cadmium chloride | 048-008-00-3 | 233-296-7 | 10108-64-2 | E |
| Cadmium sulphate | 048-009-00-9 | 233-331-6 | 10124-36-4 | E |
| Benzo[a]pyrene; benzo[d,e,f]chrysene | 601-032-00-3 | 200-028-5 | 50-32-8 | |
| 1-Bromopropane<br>Propyl bromide<br>n-Propyl bromide | 602-019-00-5 | 203-445-0 | 106-94-5 | |
| 1,2,3-Trichloropropane | 602-062-00-X | 202-486-1 | 96-18-4 | D |
| Diphenylether; octabromo derivate | 602-094-00-4 | 251-087-9 | 32536-52-0 | |
| 2-Methoxyethanol; ethylene glycol monomethyl ether; methylglycol | 603-011-00-4 | 203-713-7 | 109-86-4 | |
| 2-Ethoxyethanol; ethylene glycol monoethyl ether; ethylglycol | 603-012-00-X | 203-804-1 | 110-80-5 | |
| 1,2-Dimethoxyethane<br>ethylene glycol dimethyl ether<br>EGDME | 603-031-00-3 | 203-794-9 | 110-71-4 | |
| 2,3-Epoxypropan-1-ol; glycidol oxiranemethanol | 603-063-00-8 | 209-128-3 | 556-52-5 | E |
| 2-Methoxypropanol | 603-106-00-0 | 216-455-5 | 1589-47-5 | |
| Bis(2-methoxyethyl) ether | 603-139-00-0 | 203-924-4 | 111-96-6 | |
| R-2,3-epoxy-1-propanol | 603-143-002 | 404-660-4 | 57044-25-4 | E |
| 1,2-Bis(2-methoxyethoxy)ethane<br>TEGDME;<br>Triethylene glycol dimethyl ether;<br>Triglyme | 603-176-00-2 | 203-977-3 | 112-49-2 | |

| Substances | Index No | EC No | CAS No | Notes |
|---|---|---|---|---|
| 4,4'-isobutylethylidenediphenol; 2,2-bis (4'-hydroxyphenyl)-4-methylpentane | 604-024-00-8 | 401-720-1 | 6807-17-6 | |
| Tetrahydrothiopyran-3-carboxaldehyde | 606-062-00-0 | 407-330-8 | 61571-06-0 | |
| 2-Methoxyethyl acetate; ethylene glycol monomethyl ether acetate; methylglycol acetate | 607-036-00-1 | 203-772-9 | 110-49-6 | |
| 2-Ethoxyethyl acetate; ethylene glycol monoethyl ether acetate; ethylglycol acetate | 607-037-00-7 | 203-839-2 | 111-15-9 | |
| 2-Ethylhexyl 3,5-bis(1,1-dimethylethyl)-4-hydroxyphenyl methyl thio acetate | 607-203-00-9 | 279-452-8 | 80387-97-9 | |
| Bis(2-Methoxyethyl) phthalate | 607-228-00-5 | 204-212-6 | 117-82-8 | |
| 2-Methoxypropyl acetate | 607-251-00-0 | 274-724-2 | 70657-70-4 | |
| Fluazifop-butyl (ISO); butyl (RS)-2-[4-(5-trifluoromethyl-2-pyridyloxy) phenoxy]propionate | 607-304-00-8 | 274-125-6 | 69806-50-4 | |
| Vinclozolin (ISO); N-3,5-Dichlorophenyl-5-methyl-5-vinyl-1,3-oxazolidine-2,4-dione | 607-307-00-4 | 256-599-6 | 50471-44-8 | |
| Methoxyacetic acid | 607-312-00-1 | 210-894-6 | 625-45-6 | E |
| Bis(2-ethylhexyl) phthalate; di-(2-ethylhexyl) phthalate; DEHP | 607-317-00-9 | 204-211-0 | 117-81-7 | |
| Dibutyl phthalate; DBP | 607-318-00-4 | 201-557-4 | 84-74-2 | |
| (+/-) tetrahydrofurfuryl (R)-2-[4-(6-chloroquinoxalin-2-yloxy)phenyloxy] propionate | 607-373-00-4 | 414-200-4 | 119738-06-6 | E |
| 1,2-benzenedicarboxylic acid, dipentylester, branched and linear [1]<br>n-pentyl-isopentylphthalate [2]<br>di-n-pentyl phthalate [3]<br>Diisopentylphthalate [4] | 607-426-00-1 | 284-032-2 [1]-[2]<br>205-017-9 [3]-[4] | 84777-06-0 [1]-[2]<br>131-18-0 [3]<br>42925-80-4 [4] | |
| Benzyl butyl phthalate<br>BBP | 607-430-00-3 | 201-622-7 | 85-68-7 | |
| 1,2-Benzenedicarboxylic acid<br>di-C7-11-branched and linear alkylesters | 607-480-00-6 | 271-084-6 | 68515-42-4 | |
| A mixture of: disodium 4-(3-ethoxycarbonyl-4-(5-(3-ethoxycarbonyl-5-hydroxy-1-(4-sulfonatophenyl)pyrazol-4-yl)penta-2,4-dienylidene)-4,5-dihydro-5-oxopyrazol-1-yl)benzenesulfonate;<br>trisodium 4-(3-ethoxycarbonyl-4-(5-(3-ethoxycarbonyl-5-oxido-1-(4-sulfonatophenyl)pyrazol-4-yl)penta-2,4-dienylidene)-4,5-dihydro-5-oxopyrazol-1-yl)benzenesulfonate | 607-487-00-4 | 402-660-9 | — | |
| Dinocap (ISO) | 609-023-00-6 | 254-408-0 | 39300-45-3 | E |
| Binapacryl (ISO); 2-sec-butyl-4,6-dinitrophenyl-3-methylcrotonate | 609-024-00-1 | 207-612-9 | 485-31-4 | |
| Dinoseb; 6-sec-butyl-2,4-dinitrophenol | 609-025-00-7 | 201-861-7 | 88-85-7 | |
| Salts and esters of dinoseb, with the exception of those specified elsewhere in this Annex | 609-026-00-2 | | | |
| Dinoterb; 2-tert-butyl-4,6-dinitrophenol | 609-030-00-4 | 215-813-8 | 1420-07-1 | |
| Salts and esters of dinoterb | 609-031-00-X | | | |
| Nitrofen (ISO); 2,4 dichlorophenyl 4-nitrophenyl ether | 609-040-00-9 | 217-406-0 | 1836-75-5 | |
| Methyl-ONN-azoxymethyl acetate; methyl azoxy methyl acetate | 611-004-00-2 | 209-765-7 | 592-62-1 | |

| Substances | Index No | EC No | CAS No | Notes |
|---|---|---|---|---|
| 2-[2-hydroxy-3-(2-chlorophenyl)carbamoyl-1-naphthylazo]-7-[2-hydroxy-3-(3-methylphenyl)carbamoyl-1-naphthylazo]fluoren-9-one | 611-131-00-3 | 420-580-2 | — | |
| Azafenidin | 611-140-00-2 | — | 68049-83-2 | |
| Tridemorph (ISO); 2,6-dimethyl-4-tridecylmorpholine | 613-020-00-5 | 246-347-3 | 24602-86-6 | |
| Ethylene thiourea; imidazolidine-2-thione; 2-imidazoline-2-thiol | 613-039-00-9 | 202-506-9 | 96-45-7 | |
| Carbendazim (ISO)<br>methyl benzimidazol-2-ylcarbamate | 613-048-00-8 | 234-232-0 | 10605-21-7 | |
| Benomyl (ISO)<br>methyl 1-(butylcarbamoyl)benzimidazol-2-ylcarbamate | 613-049-00-3 | 241-775-7 | 17804-35-2 | |
| Cycloheximide | 613-140-00-8 | 200-636-0 | 66-81-9 | |
| Flumioxazin (ISO); N-(7-Fluoro-3,4-dihydro-3-oxo-4-prop-2-ynyl-2H-1,4-benzoxazin-6-yl)cyclohex-1-ene-1,2-dicarboxamide | 613-166-00-X | — | 103361-09-7 | |
| (2RS,3RS)-3-(2-Chlorophenyl)-2-(4-fluorophenyl)-[(1H-1,2,4-triazol-1-yl)-methyl]oxirane | 613-175-00-9 | 406-850-2 | 106325-08-0 | |
| 3-Ethyl-2-methyl-2-(3-methylbutyl)-1,3-oxazolidine | 613-191-00-6 | 421-150-7 | 143860-04-2 | |
| A mixture of: 1,3,5-tris(3-aminomethylphenyl)-1,3,5-(1H,3H,5H)-triazine-2,4,6-trione;<br>a mixture of oligomers of 3,5-bis(3-aminomethylphenyl)-1-poly[3,5-bis(3-aminomethylphenyl)-2,4,6-trioxo-1,3,5-(1H,3H,5H)-triazin-1-yl]-1,3,5-(1H,3H,5H)-triazine-2,4,6-trione | 613-199-00-X | 421-550-1 | — | |
| N, N-dimethylformamide; dimethyl formamide | 616-001-00-X | 200-679-5 | 68-12-2 | |
| N, N-Dimethylacetamide | 616-011-00-4 | 204-826-4 | 127-19-5 | E |
| Formamide | 616-052-00-8 | 200-842-0 | 75-12-7 | |
| N-methylacetamide | 616-053-00-3 | 201-182-6 | 79-16-3 | |
| N-methylformamide | 616-056-00-X | 204-624-6 | 123-39-7 | E |

*Appendix 7*

**Special provisions on the labelling of articles containing asbestos**

1. All articles containing asbestos or the packaging thereof must bear the label defined as follows:

   (a) the label conforming to the specimen below shall be at least 5 cm high (H) and 2,5 cm wide;

   (b) it shall consist of two parts:

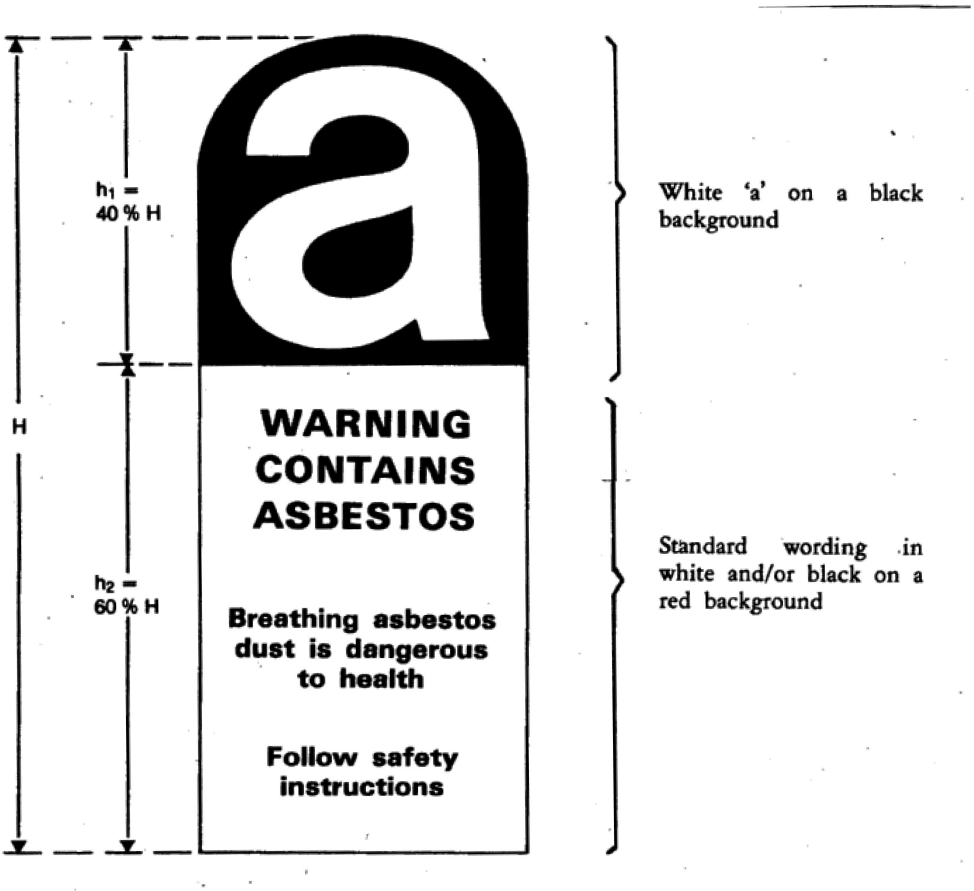
   — the top part ($h_1$ = 40 % H) shall include the letter 'a' in white, on a black background,

   — the bottom part ($h_2$= 60 % H) shall include the standard wording in white and/or black, on a red background, and shall be clearly legible;

   (c) if the article contains crocidolite, the words 'contains asbestos' used in the standard wording shall be replaced by 'contains crocidolite/blue asbestos'.

   Member States may exclude from the provision of the first subparagraph articles intended to be placed on the market in their territory. The labelling of these articles must however bear the wording 'contains asbestos';

   (d) if labelling takes the form of direct printing on the articles, a single colour contrasting with the background colour is sufficient.




2. The label mentioned in this Appendix shall be affixed in accordance with the following rules:

   (a) on each of the smallest units supplied;

   (b) if an article has asbestos-based components, it is sufficient for these components only to bear the label. The labelling may be dispensed with if smallness of size or unsuitability of packaging make it impossible for a label to be affixed to the component.

3. Labelling of packaged articles containing asbestos

3.1. The following particulars shall appear on clearly legible and indelible labelling on the packaging of packaged articles containing asbestos:

(a) the symbol and relevant indications of danger in accordance with this Annex;

(b) safety instructions which must be selected in accordance with the particulars in this Annex, inasmuch as they are relevant for the particular article.

Where additional safety information is provided on the packaging, this shall not weaken or contradict the particulars given in accordance with points (a) and (b).

3.2. Labelling in accordance with 3.1 shall be effected by means of:

— a label firmly affixed to the packaging, or

— a (tie-on) label securely attached to the package, or

— direct printing of the packaging.

3.3. Articles containing asbestos and which are packaged only in loose plastic wrapping or the like shall be regarded as packaged articles and shall be labelled in accordance with 3.2. If articles are separated from such packages and placed on the market unpackaged, each of the smallest units supplied shall be accompanied by labelling particulars in accordance with 3.1.

4. Labelling of unpackaged articles containing asbestos

For unpackaged articles containing asbestos, labelling in accordance with 3.1 shall be effected by means of:

— a label firmly affixed to the article containing asbestos,

— a (tie-on) label securely attached to such an article,

— direct printing on the articles,

or, if the abovementioned is not reasonably practicable as in the case of, for example, smallness of size of the article, the unsuitable nature of the article's properties or certain technical difficulties by means of a hand-out with labelling in accordance with 3.1.

5. Without prejudice to Community provisions on safety and hygiene at work, the label affixed to the article which may, in the context of its use, be processed or finished, shall be accompanied by any safety instructions which may be appropriate for the article concerned, and in particular by the following:

— operate if possible out of doors or in a well-ventilated place,

— preferably use hand tools or low-speed tools equipped, if necessary, with an appropriate dust-extraction facility. If high-speed tools are used, they should always be equipped with such a facility,

— if possible, dampen before cutting or drilling,

— dampen dust and place it in a properly closed receptacle and dispose of it safely.

6. The labelling of any article intended for domestic use which is not covered by Section 5 and which is likely, during use, to release asbestos fibres shall, if necessary, contain the following safety instruction: 'replace when worn'.

7. The labelling of articles containing asbestos shall be in the official language or languages of the Member State(s) where the article is placed on the market.

*Appendix 8*

**Point 43 — Azocolourants**

List of aromatic amines

| | CAS No | Index No | EC No | Substances |
|---|---|---|---|---|
| 1. | 92-67-1 | 612-072-00-6 | 202-177-1 | biphenyl-4-ylamine<br>4-aminobiphenyl xenylamine |
| 2. | 92-87-5 | 612-042-00-2 | 202-199-1 | benzidine |
| 3. | 95-69-2 | | 202-441-6 | 4-chloro-o-toluidine |
| 4. | 91-59-8 | 612-022-00-3 | 202-080-4 | 2-naphthylamine |
| 5. | 97-56-3 | 611-006-00-3 | 202-591-2 | o-aminoazotoluene<br>4-amino-2',3-dimethylazobenzene<br>4-o-tolylazo-o-toluidine |
| 6. | 99-55-8 | | 202-765-8 | 5-nitro-o-toluidine |
| 7. | 106-47-8 | 612-137-00-9 | 203-401-0 | 4-chloroaniline |
| 8. | 615-05-4 | | 210-406-1 | 4-methoxy-m-phenylenediamine |
| 9. | 101-77-9 | 612-051-00-1 | 202-974-4 | 4,4'-methylenedianiline<br>4,4'-diaminodiphenylmethane |
| 10. | 91-94-1 | 612-068-00-4 | 202-109-0 | 3,3'-dichlorobenzidine<br>3,3'-dichlorobiphenyl-4,4'-ylenediamine |
| 11. | 119-90-4 | 612-036-00-X | 204-355-4 | 3,3'-dimethoxybenzidine<br>o-dianisidine |
| 12. | 119-93-7 | 612-041-00-7 | 204-358-0 | 3,3'-dimethylbenzidine<br>4,4'-bi-o-toluidine |
| 13. | 838-88-0 | 612-085-00-7 | 212-658-8 | 4,4'-methylenedi-o-toluidine |
| 14. | 120-71-8 | | 204-419-1 | 6-methoxy-m-toluidine p-cresidine |
| 15. | 101-14-4 | 612-078-00-9 | 202-918-9 | 4,4'-methylene-bis-(2-chloro-aniline)<br>2,2'-dichloro-4,4'-methylene-dianiline |
| 16. | 101-80-4 | | 202-977-0 | 4,4'-oxydianiline |
| 17. | 139-65-1 | | 205-370-9 | 4,4'-thiodianiline |
| 18. | 95-53-4 | 612-091-00-X | 202-429-0 | o-toluidine<br>2-aminotoluene |
| 19. | 95-80-7 | 612-099-00-3 | 202-453-1 | 4-methyl-m-phenylenediamine |
| 20. | 137-17-7 | | 205-282-0 | 2,4,5-trimethylaniline |
| 21. | 90-04-0 | 612-035-00-4 | 201-963-1 | o-anisidine<br>2-methoxyaniline |
| 22. | 60-09-3 | 611-008-00-4 | 200-453-6 | 4-amino azobenzene |

*Appendix 9*

**Point 43 — Azocolourants**

List of azodyes

| | CAS No | Index No | EC No | Substances |
|---|---|---|---|---|
| 1. | Not allocated<br>Component 1:<br>CAS-No: 118685-33-9<br>$C_{39}H_{23}ClCrN_7O_{12}S.2Na$<br>Component 2:<br>$C_{46}H_{30}CrN_{10}O_{20}S_2.3Na$ | 611-070-00-2 | 405-665-4 | A mixture of: disodium (6-(4-anisidino)-3-sulfonato-2-(3,5-dinitro-2-oxidophenylazo)-1-naphtholato)(1-(5-chloro-2-oxidophenylazo)-2-naphtholato)chromate(1-);<br>trisodium bis(6-(4-anisidino)-3-sulfonato-2-(3,5-dinitro-2-oxidophenylazo)-1-naphtholato)chromate(1-) |

*Appendix 10*

**Point 43 — Azocolourants**

List of testing methods

| European standardisation organisation (*) | Reference and title of the standard | Reference document | Reference of the superseded standard |
|---|---|---|---|
| CEN | Leather — Chemical tests — Determination of certain azocolorants in dyed leathers | CEN ISO/TS 17234:2003 | NONE |
| CEN | Textiles — Methods for the determination of certain aromatic amines derived from azocolorants — Part 1: Detection of the use of certain azo colorants accessible without extraction | EN 14362-1:2003 | NONE |
| CEN | Textiles — Methods for determination of certain aromatic amines derived from azocolorants — Part 2: Detection of the use of certain azo colorants accessible by extracting the fibres | EN 14362-2:2003 | NONE |

(*) ESO: European standardisation organisations:

CEN: rue de Stassart 36, B-1050 Bruxelles; tel. (32-2) 550 08 11, fax (32-2) 550 08 19. http://www.cenorm.be

CENELEC: rue de Stassart 36, B-1050 Bruxelles; tel. (32-2) 519 68 71, fax (32-2) 519 69 19. http://www.cenelec.org

ETSI: 650, route des Lucioles, F-06921 Sophia Antipolis; tel. (33) 492 94 42 00, fax (33) 493 65 47 16. http://www.etsi.org