Overview and Updates of Chemicals Management in the Philippines (RA 6969)

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PHILIPPINES
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Outline of Presentation

1. Brief Introduction
2. Key Services of the Chemical Management under Republic Act No. 6969
3. Latest trends in the Philippine Inventory of Chemicals and Chemical Substances (PICCS) and the PreManufacture and PreImportation Notification (PMPIN) Process
4. Updates of Chemical Management in relation to various UNEP Chemical Conventions
5. Moving Forward
The DENR is responsible for governing and supervising the exploration, development, utilization and conservation of the Philippines’ natural resources and protection of its environment.

The EMB as the “brown sector” of the DENR was delegated by the Secretary to implement various national environmental laws and programs on Clean Air, Clean Water, Solid Waste Management, EIA System, Environmental Education and Toxic Chemicals and Hazardous Waste (RA 6969).
LEGAL MANDATE

- Republic Act 6969 refers to the “Toxic Substances and Hazardous and Nuclear Wastes Act of 1990”

- DENR Administrative Order No. 20 is the Implementing Rules and Regulations of RA 6969 and approved in 1992

- DENR–EMB is the Implementing agency
DECLARATION OF POLICY

➢ To regulate, restrict or prohibit all industrial chemical substances and mixtures that present unreasonable risk and/or injury to health or the environment.

➢ To facilitate research and studies on toxic chemicals.
CHEMICALS’ LIFE CYCLE

Regulated

Importation → Manufacture

Limitation of use

Handling

Use

Transport

Sale/Distribution

Restricted

Storage

Prohibited

Processing

Substituted

Disposal
The PMPIN review and evaluation of new substances has provided for information in updating the inventory of all existing unregulated and regulated chemicals and chemical substances in the Philippines (PICCS).
LATEST TRENDS IN PICCS AND PMPIN
In 1993, the initial List of chemicals & chemical substances was provided by the industry and published in:

- 1995 - 15,000
- 2000 - 21,000
- 2005 - 24,000
- 2008 - 44,200
- 2009 - 46,863
- 2011 - 46,963
- 2014 - 47,048
- 2015 - 47,079
• The PICCS is a list of both hazardous and non-hazardous substances updated as a result of PMPIN process that will be further review for regulation.

• The PICCS is placed into a specially designated computer database at the EMB to facilitate efficient compiling/storage, organizing and managing of the data.

• The PICCS database can be checked from the EMB website: http://chemical.emb.gov.ph
RA 6969 is a risk-based system. Assessment of notified chemicals is done by the EMB on effects of chemicals to health and environment based on:

- Hazard identification
- Dose response assessment
- Exposure assessment
- Risk characterization and
- Risk Management

There is a crucial need for sufficient chemicals’ information and/or its own tests.
PMPIN APPLICATION?

- Detailed PMPIN Form - Chemicals not yet listed in any countries
  - 120 – 180 working days (Processing Time)

- Abbreviated PMPIN Form – Chemicals already listed USA, Japan, Canada, Australia, EU and Korea
  - 90 working days (Processing Time)
1. Submission of complete information of MSDS/SDS
2. Complete information in the Abbreviated and Detailed Form should be provided with data focus on:
   • Physical and Chemical Properties
   • Toxicological Effects
   • Ecotoxicological Effects
3. For Detailed Form, laboratory reports for the abovementioned information are required.
4. Interagency Chemical Review Committee assist EMB in the review of Detailed PMPIN Form
16-SECTION MSDS/SDS FORMAT

1. Product and company information
2. Composition information on ingredients
3. Hazard identification
4. First aid measures
5. Fire fighting measures
6. Accidental release
7. Handling and storage
8. Exposure controls, personal protection
9. Physical, chemical properties
10. Stability and reactivity
11. Toxicological information
12. Ecological information
13. Disposal considerations
14. Transport information
15. Regulatory information
16. Other information
PreManufacture
PreImportation
Notification (PMPIN) Process

- Abbreviated Form
- Detailed Form
- Physico-Chemical Characteristics
- Toxicological Effects
- Ecological Effects
- Interagency Review/Chemical Review Committee
- Other relevant Attachments
WHO WILL APPLY?

- Only Local (Ph) Importers
- Only Local (Ph) manufacturers
- 3rd Party (Ph) Applicants
WHAT IS CONFIDENTIAL BUSINESS INFORMATION (CBI)?

- The local counterpart will apply reflecting the information in the PMPIN Form by following the SDS of the products and not the individual chemical.

- Supplier will directly disclosed the new chemicals with CBI to the EMB – Central Office through chemicals.emb.gov.ph or www.emb.gov.ph

- Or the supplier may send the information through the EMB – NCR, EMB – Region 4A and EMB – Region 3.

Ref: EMB Memorandum Circular No. 2014 - 01
PMPIN Compliance Certificate

DOCUMENTARY Requirements:
1. Notarized and completed
   • (Abbreviated form): for chemicals manufacture
   • (Detailed form): for chemicals manufactured or imported from Safety Data Sheet (SDS)
2. Specific Use of the Chemical
3. Annual volume of import
4. Payment of processing fee:
   for PMPIN3 - P 2,600
   for PMPIN4 - P 4,500
5. for Confidential Business Information (CBI) – for PMPIN application containing confidential business information.

Log-on to: http://210.213.80.213
Payment can be paid at any Landbank Branch (Agency Code: D1609 / Acct #: 3402-2806-70)
PMPIN Compliance Certificate

A copy of the Certificate shall be retrieved and print directly by the company at their own computer.

Copy of the Bureau of Custom (BOC) at the Port of Entry.
This is an exemption to the PMPIN Process

Small Quantity Importation (SQI) Clearance is required prior to importation of less than 1,000 kg./yr of pure chemical substances or component chemicals in percentage by weight of product, mixtures not listed in the PICCS.

Documentary requirements: Letter request, notarized application form and Safety Data Sheet (SDS) of chemicals.

Validity of SQI Clearance is one (1) year
**Polymer** – (a) means a substance consisting of molecules characterized by the sequence of one or more types of monomer units and comprising a simple weight majority of molecules containing at least three monomer units which are covalently bound to at least one other monomer unit or other reactant and consists of less than a simple weight majority of molecules of the same molecular weight. Such molecules must be distributed over a range of molecular weights wherein differences in the molecular weight are primarily attributable to differences in the number of monomer units;
**Polymer** – (b) is a substance composed of more than 50% of molecules containing a sequence of at least three monomer units covalently bound to at least one other monomer unit or other reactant; (c) has molecules distributed over a range of MW; and (d) has no single MW molecule reaching 50% (w/w) of total molecules.

**Polymer of Low Concern (PLC)** – (a) must meet the definition of polymers; and (b) must not be unstable, degradable, decompose, or depolymerize.
CRITERIA FOR POLYMER

1. All of its monomers must be listed in the PICCS.

2. Polymers containing monomers and other reactants (including crosslinking, chain transfer agents, and post polymerization reactants) not in the PICCS added at quantities less than 2 percent (by weight);

3. A new polymer if two or more of the top (top by weight) monomers are included in the definition of another polymer already in PICCS.
4. The Polymer of Low Concern (PLC) shall fall into one of the conditions:

a. Polymers that have:
   
   – Number Average Molecular Weight (NAMW) equal to or greater than 10,000 Da,
   
   – Less than 5% of oligomers with MW lower than 1000 Da and less than 2% of oligomers with MW lower than 500 Da, and
   
   – For cationic polymers, the FGEW should be greater than 5,000 Da.
b. Polymers that have:
   - NAMW equal to or greater than 1000 Da and less than 10,000 Da,
   - Less than 25% of oligomers with MW lower than 1000 Da and less than 10% of oligomers with MW lower than 500 Da, and
   - No RFGs in excess of the levels of 2% by weight.
PLC PROCESS FLOW

Start

Is NAMW > 1000

Yes

Is NAMW ≥ 10000

Yes

Less than 5% of oligomers with MW lower than 1000 Da and less than 2% of oligomers with MW lower than 500 Da
For cationic polymers, the FGEW should be greater than 5000 Da.

No

All conditions are met:
Less than 25% of oligomers with MW lower than 1000 Da and less than 10% of oligomers with MW lower than 500 Da
No reactive functional groups in excess of the levels of 2% by weight

No

PLC

PMPIN/SQI

No

PLC

PMPIN/SQI
CHECKLIST OF REQUIREMENTS

1. Duly notarized and accomplished Polymer Exemption Form.

2. Polymer information like specific chemical name, chemical structure, CAS number (if available), use/s of the polymer.

3. SDS for the polymer alone or the mixture/product where the polymer is part of the ingredients.

4. 100% composition of the polymer including CAS numbers of monomers.

5. Data requirements that show proof that the polymer meets any of the conditions i.e., GPC Data, IR Spectroscopy, etc.

6. Proof or certificate that the polymer is/are low of concern from US, EU, Canada, and Australia.

7. Processing fee of PhP 1000.00 per polymer per product.
WHAT ARE CURRENT ISSUES?

- Disclosure of confidential information is hard to acquire
  - The supplier is different from the manufacturer of the chemical/substance. The supplier doesn’t have the chemical information.
  - The supplier and manufacturer of the chemical/substance do not want to disclose information even to Regulatory Office.

- Confidential information sent by email sometimes do not indicate anything about the importer
WHAT ARE CURRENT ISSUES?

- The provided information is not translated in English.
- For non-confidential applications for new chemicals in mixtures, the client sometimes puts only the properties of the mixture itself. We need the new chemical properties.
- Contact number indicated on the application is unavailable.
- Wrong chemical names and/or CAS Registry Numbers are provided.
UPDATES IN CHEMICAL MANAGEMENT
Continuation of OPMS 1 - PMPIN, and PCL and
OPMS 2 - CCO and SQI in order to have
- Better and facilitate processing application and retrieval inter-Regional Offices and Central Office
- Minimize voluminous document storage
- Minimize people coming to the Office
- Reduce letters and other communication pertaining to the application
- More transparent transactions
- Accessible data access even outside the Office
PCL Compliance Certificate

DOCUMENTARY REQUIREMENTS
1. Application form
2. Notarized Annual Report Form
3. Safety Data Sheet
4. DENR Identification Number
5. Environmental Compliance Certificate
6. Discharge Permit/Exemption
7. Permit to Operate for APCD and/or APSI
8. Summary of Importation Data (for importers)
9. Chemical Management Plan
10. Management Operation Flow Chart
11. Contingency/Emergency Plan
12. List of Users/Customers with corresponding projected/required volume
13. Groundwater/Surface Water Monitoring Results (for user/manufacturer)
15. Photos of the storage facility/warehouse
16. PCO Accreditation/Training

Please note that the PCL Compliance Certificate shall be renewed one (1) month prior to expiration date of previous Certificate.
**CCO Registration**

1. Covering Letter
2. Notarized CCO Registration Form
3. CCO Chemical Management Plan
4. DENR ID Number
5. Environmental Compliance Certificate / Certificate of Non-coverage
6. Valid Discharge Permit/Interconnection Certificate
7. Valid Permit to Operate/Exemption
8. SEC Registration
9. Business Permit
10. Certification of Liabilities of parties to compensate for damage to properties and life in case of emergencies and accident
11. Photo documentation of storage facilities and others
12. PCO accreditation certificate and relevant training certificate(s)
13. Quarterly Self-Monitoring Report incorporating the Certificate of
14. Analysis of wastewater samples
15. **Processing fee of Php 2,800 per company**
16. **Amendment fee of Php 2,000**

**Additional requirement is needed**

**Normal process for completed requirements**
CCO Importation Clearance

DOCUMENTARY REQUIREMENTS

1. Covering Letter
2. Fully-accomplished Importation Clearance Form
3. Discharge Permit/Interconnection Certificate
4. Permit to Operate/Exemption
5. Business Permit
6. PCO accreditation certificate and relevant training certificate(s)
7. Quarterly Self-Monitoring Report incorporating the Certificate of Analysis of wastewater samples
8. Registration of CCO
9. Processing fee of Php 1700 per chemical

Additional requirement is needed

Normal process for completed requirement

Renewal of Importation Clearance (IC) should be done one (1) month prior to Expiration Date
Clarification on the Coverage of Laboratory Facilities under DAO 2007-23 (PCL)

Exemption of laboratory solely using PCL chemicals from securing the PCL Compliance Certificate

Newly approved chemical policy under EMC no. 2017-007
Clarifications on Permitting Regulations for SQI, PMPIN, PCL and CCOs

- To have efficient and harmonized review of EMB from Region 1 to 17

- This is newly approved chemical policy under EMC No. 2017-009
A silver metallic liquid available in 3 forms: elemental mercury, Inorganic salts and Organic salts

Methyl Mercury is the most toxic of the 3 classes of mercurial. May cause serious health problems and is a threat to the development of child in utero. Toxic effects on the nervous, digestive and immune system

Currently, the Regulation for Mercury and Mercury Compounds is being revised to incorporate the mercury added products under the Minamata Convention
Banning the use of Mercury in ar tesinal small scale gold mining under the Executive Order No. 79, “Institutionalizing and Implementing Reforms in the Philippines Mining Sector, Providing Policies and Guidelines to Ensure Environmental Protection and responsible Mining in the Utilization of Mineral Resources”

Revision of the CCO of Mercury and Mercury Compounds to include the following:

- Dental Amalgams shall be phased out five years from the effectivity of this Order
- Importation Clearance is per shipment basis
- Minamata Convention phase-out schedule
## MINAMATA CONVENTION
### PHASE-OUT SCHEDULE

<table>
<thead>
<tr>
<th>Mercury-added products</th>
<th>Date after which the manufacture, and import of the product shall not be allowed (phase-out date)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Batteries, except for button zinc silver oxide batteries with a mercury content &lt; 2% and button zinc air batteries with a mercury content &lt; 2%</td>
<td>2022</td>
</tr>
<tr>
<td>Switches and relays, except very high accuracy capacitance and loss measurement bridges and high frequency radio frequency switches and relays in monitoring and control instruments with a maximum mercury content of 20 mg per bridge, switch or relay</td>
<td>2022</td>
</tr>
<tr>
<td>Compact fluorescent lamps (CFLs) for general lighting purposes that are ≤ 30 watts with a mercury content exceeding 5 mg per lamp burner</td>
<td>2022</td>
</tr>
<tr>
<td>Linear fluorescent lamps (LFLs) for general lighting purposes:</td>
<td>2022</td>
</tr>
<tr>
<td>(a) Triband phosphor &lt; 60 watts with a mercury content exceeding 5 mg per lamp;</td>
<td></td>
</tr>
<tr>
<td>(b) Halophosphate phosphor ≤ 40 watts with a mercury content exceeding 10 mg per lamp</td>
<td></td>
</tr>
<tr>
<td>High pressure mercury vapour lamps (HPMV) for general lighting purposes</td>
<td>2022</td>
</tr>
</tbody>
</table>
### MINAMATA CONVENTION

#### PHASE-OUT SCHEDULE

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<thead>
<tr>
<th>Mercury-added products</th>
<th>Date after which the manufacture, and import of the product shall not be allowed (phase-out date)</th>
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</table>
| Mercury in cold cathode fluorescent lamps and external electrode fluorescent lamps (CCFL and EEFL) for electronic displays:  
   (a) short length (≤ 500 mm) with mercury content exceeding 3.5 mg per lamp  
   (b) medium length (> 500 mm and ≤ 1 500 mm) with mercury content exceeding 5 mg per lamp  
   (c) long length (> 1 500 mm) with mercury content exceeding 13 mg per lamp | 2022                                                                                              |
| Cosmetics (with mercury content above 1ppm), including skin lightening soaps and creams, and not including eye area cosmetics where mercury is used as a preservative and no effective and safe substitute preservatives are available[^1] | 2022                                                                                              |
| Pesticides, biocides and topical antiseptics                                            | 2022                                                                                              |
| The following non-electronic measuring devices except non-electronic measuring devices installed in large-scale equipment or those used for high precision measurement, where no suitable mercury-free alternative is available:  
   (a) barometers;  
   (b) hygrometers;  
   (c) manometers;  
   (d) thermometers;  
   (e) sphygmomanometers | 2022                                                                                              |

[^1]: Further information on the phase-out schedule and the specific requirements for mercury-free alternatives can be found in the convention's technical guidelines.
SAICM Elimination of Lead in paint (90 ppm as threshold limit) is globally advocated due to its adverse effects to children and vulnerable workers when exposed and used as pigment, drying agent or for some intentional use.

The phase-out of Lead in paint is actively advocated by the DENR, the industry (Philippine Association of Paint Manufacturers) and the civil society (EcoWaste Coalition and IPEN).


The DAO 2013-24 provides for the transitory provision for the development of threshold limits to other uses of Lead including those under the industrial uses. This requires capacity building of Regulators at DENR-EMB.
Lead in paints shall be allowed for the next 6 years (2013-2019) as transitional provision provided precautionary labeling is placed in the products:

- Automobiles paints
- Industrial and commercial building and equipment maintenance coatings
- Refinish coatings for industrial equipment
- Catalyzed coatings for use on radio-controlled model powered airplanes
- Touch up coatings for appliances and lawn and garden equipment.
Next Steps for the Government (DENR-EMB)

2015
- Multistakeholders’ Assembly and Consultation
  Re: prohibition

2016
- Identification of Lead compounds used in painting for elimination

2017
- Full Implementation of eliminated Lead compounds in ADH paints

2018
- Preparation of gradual phasing out of lead paints for industrial use

2019
- Implementation of Phase-out of industrial Lead paint
The Chemical Control Order for Asbestos was developed in 1999 and approved in 17 July 2000.

The country through the multistakeholders’ consultation recommended for the inclusion of Chrysotile Asbestos under Annex III of the PIC.

The current manufacturing standard was change from 2 fibers/cubic cm to 0.1 fibers/cubic cm.

Code of Practice for Asbestos is for EPTWG review.
It is a standard operating procedure to hold public consultation in every proposed chemical policies.

3-5 Representatives from industry associations are invited to participate and provide inputs i.e., SPIK, FPI, PAPM, SEIPI, PCAPI, among others.

There is collaborative mechanism and approach for chemical policy development but requires integrated capability building initiatives for chemical management.
### GOVERNMENT AGENCIES THAT CONTROL CHEMICALS IN THE PHILIPPINES

<table>
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<tr>
<th>AGENCY REGULATING</th>
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<th>LAW</th>
<th>Chemical Examples</th>
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<tr>
<td>DENR - EMB</td>
<td>Industrial Chemicals</td>
<td>Republic Act (RA) 6969</td>
<td>Mercury, Formaldehyde, Lead, Benzene etc.</td>
</tr>
<tr>
<td>DDB-PDEA</td>
<td>Dangerous Drugs</td>
<td>RA 9165</td>
<td>Ketamine Amineptine</td>
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<td>DA - FPA</td>
<td>Fertilizers and Pesticides (Agricultural Use)</td>
<td>PD 1144</td>
<td>Endosulfan Chlorothalonil</td>
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<td>DOST – PNRI</td>
<td>Radioactive Chemicals</td>
<td>RA 5207</td>
<td>Cesium Cobalt Iridium</td>
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<tr>
<td>DOH - FDA</td>
<td>Chemicals for human consumption</td>
<td>RA 10620 / PD 881</td>
<td>Cosmetic Products Vitamins</td>
</tr>
<tr>
<td>DILG-PNP</td>
<td>Explosives</td>
<td>RA 9516</td>
<td>Aluminum Nitrate Ammonium Acetate Iron Nitrate</td>
</tr>
</tbody>
</table>
DENR-EMB COORDINATION MECHANISM

Inter-Agency Technical Advisory Council (IATAC)

Technical Working Group (TWG)

- Members are comprised of technical representatives from DENR, DOH, DOLE, DTI, DILG, DOF, DOST, DOTr, DA and Office of the President including Non-Government Organizations (NGOs) and Academe
- Provide supports in the review and evaluation of chemical and waste policies including matters on MEAs

Chemical Review Committee (CRC)

- Multidisciplinary experts and partners who review and evaluate new chemicals and chemical substances under the PMPIN process
- The DENR-EMB selected the CRC through a Special Order approved and signed by the EMB Director.

National Steering Committee

- Members are also from government agencies who are invited to provide their expertise and knowledge for Chemical Special Projects i.e., Integrated POPs Projects, BAT/BEP
- Provide comments and recommendations to the proposals related to the projects’ implementation
CHEMICAL CONTROL ORDER

• All CCO importation clearance should be secured and approved prior the actual arrival at the Port of Entry.

• No Importation Clearance shall be issued when the chemical is already at the port of entry as endorsed by the Bureau of Custom (BOC).

• Any special instructions or procedures that is being introduced or done by any respective Offices (other than those stated in harmonization policy under DAO 2015) must inform EMB – CO to ensure uniform implementation of the CCO procedures.
The Memorandum Circular serves as a guide for manufacturers and importers of chemicals. Manufacturers and importers do not need to notify and secure clearances from the DENR-EMB before they manufacture or import chemicals already included in the PICCS, provided that these chemicals are not in the Priority Chemical List (PCL) or regulated by Chemical Control Order (CCO) or chemicals which are already covered or regulated by other laws or legislation.

Manufacturers and importers of various chemical substances regulated by Clean Air Act of 1999 e.g. fuel additive still need to notify and secure clearance under the PMPIN process.”
OTHER INITIATIVES
Synergies of GHS and Chemical Conventions

International Health Regulation

IFCS

IPCS/ICSC

SAICM

Globally-Harmonized System (GHS)

Classification, Labeling and Packaging (CLP)/EU

Chemical Platform

http://www.bcrc.cn

Basel Convention (Only for recyclables)

Rotterdam Convention

Vienna Convention and the Montreal Protocol

UN Convention on Drugs

AARHUS Convention

Stockholm Convention

Chemical Weapons Convention

ILO Conventions

FAO International Code of Conduct
EXPRESSIONS OF GHS

- 16 Sections - Safety Data Sheet (SDS) to be submitted in all permit and clearance applications

- The 6 elements for GHS Labels: substance identifier, symbol, signal word, hazard statement, precautionary statement and supplier.
GHS IMPLEMENTATION

- DAO 2015-09 Rules and Procedures for the Implementation of the Globally Harmonized System of Classification and Labelling of Chemicals (GHS) in Preparation of Safety Data Sheet (SDS) and Labelling Requirements of Toxic Chemical Substances

- EMB MC 2015-011 on the Guidance Manual contains instructions for the industry to classify and label chemicals and prepare the SDS. It includes the various pictograms and the initial 64 controlled chemicals (pure and compounds) to be labeled.
High Production (Volume) Chemicals are chemicals substances already in commerce which are manufactured or imported or used in the Philippines in quantity more than 500 MT per year.

The EMB Memorandum Circular No. 2017-010 identified the 232 High Volume Chemicals (HVCs).

These chemicals are considered to have higher potential exposure (human and environmental) because of their high volumes.
Basis for assessing high volume chemicals imported or manufactured as to:

- Acute toxicity
- Chronic toxicity
- Developmental toxicity
- Reproductive toxicity
- Mutagenicity
- Ecotoxicity
- Environmental fate
Screening Information Data Sheet

- SIDS is used as reference to check whether the chemicals in the HVCs were included in the list.

- Assessment of high volume chemicals being imported or manufactured is based on:
  - Acute toxicity
  - Chronic toxicity
  - Developmental toxicity
  - Reproductive toxicity
  - Mutagenicity
  - Ecotoxicity
  - Environmental fate
The third phase of the GHS implementation is compliance of dangerous chemicals transported via air or ocean.

The transport of these chemicals is controlled and regulated locally and internationally by the IATA regulation and IMDG Code.

The Dangerous Goods are classified as: explosives, gases, flammable liquids, flammable solids, oxidizing substances, toxic and Infectious substances, radioactive substances, corrosives and miscellaneous dangerous goods.
2016 TRAINING PROGRAM

• Continuing initiatives for capability and training program on GHS courses. Basic Orientation for GHS Training to all concerned industry sectors and regional Regulators in Luzon, Visayas and Mindanao held from Oct. 2015- July 2016

• This GHS Basic Trainings were conducted in collaboration with Samahan sa Pilipinas ng Industriyang Kimika (SPIK) Core Group.
2017 TRAINING PROGRAM

• The EMB Chemical Management Section sustained the yearly capability building and trainings on Updates in Chemical Management for chemical industry and related Sector, Examiners at the Port of Entry and EMB Regulators.

• GHS Intermediate and Advance Training for EMB Regulators in Greenhills, Roxas Blvd. (Midas Hotel) and Palawan in 2017
AJCSD – ASEAN JAPAN CHEMICAL SAFETY DATABASE

- AJCSD consisted of Brunei Darussalam, Cambodia, Indonesia, Japan, Laos, Malaysia, Myanmar, Singapore, Thailand, Vietnam

- There was an agreement under AMEICC to update from time to time the countries’ database of chemicals.

- The DTI-BOI is the lead agency in the Phil.
MULTILATERAL ENVIRONMENTAL AGREEMENTS (MEAs) AND CHEMICALS’ SPECIAL PROJECTS
<table>
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<th>Agreement</th>
<th>Description</th>
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<tr>
<td>Kyoto Protocol</td>
<td>GHG/ Climate Change (1994/1997)</td>
</tr>
<tr>
<td>Stockholm Convention</td>
<td>Persistent Organic Pollutants (POPs) – 2001/2004</td>
</tr>
<tr>
<td>SAICM &amp; Mercury Initial Assessment (MIA)</td>
<td>QSP in ASGM, National Profile on Chemical Management, (2012 and 2017)</td>
</tr>
<tr>
<td>Minamata Convention</td>
<td>The Philippine is a non party, signed by then DENR Sec. Ramon J.P. Paje dated 10 Oct. 2013 and still for Senate ratification.</td>
</tr>
</tbody>
</table>
The DENR-EMB commits to this Convention on legally binding instrument to provide the global framework and to implement an immediate global actions on Persistent Organic Pollutants (POPs).

World Bank-managed GEF Grant in reducing and phase-out of POPs from the environment in an integrated way i.e., ESM of PCBs, pilot clean-up of contaminated sites and closure of open dumpsite.

UNIDO-GEF funded the inventory of new pops and updating of National Implementing Plan (NIP in 2014) and the BAT/BEP on Boilers of Coal-Fired Power Plant.
Rotterdam Convention on the Prior Informed Consent (PIC) Procedure for Certain Hazardous Chemicals and Pesticides is a multilateral treaty to promote shared responsibilities in the importation of hazardous chemicals.

Annex III of PIC Procedures contains the list of covered toxic chemicals and the DNA (EMB Director) requires an Export Notification from exporting countries. EMB issued a corresponding Explicit Consent.

The challenge under his Convention is to have yearly records of data/information of chemicals’ emergencies and incidents that have caused tragic health issues. This will be reported and triggered to Final Regulatory Action (FRA) of nominated industrial chemicals.
The Convention is a multilateral treaty to promote shared responsibilities in the importation of hazardous chemicals.

Annex III of PIC Procedures contains the list of covered toxic chemicals and the DNA (EMB Director) requires an Export Notification from exporting countries. EMB issued a corresponding Explicit Consent. There are cases that Philippines has restricted the importation of Ethylene oxide (only for sterilization of medical equipment).

The challenge under this Convention is to have yearly records of data/information of chemicals’ emergencies and incidents that have caused tragic health issues. This will be reported and triggered to Final Regulatory Action (FRA) of nominated industrial chemicals.
The Philippines (DENR-EMB) commits to “achieve the sound management of chemicals throughout their life-cycle so that, by 2020, chemicals are used and produced in ways that lead to the minimization of significant adverse effects on human health and the environment. Likewise, ensure that our Regulations and other initiatives is influence and align with Sustainable Development Goals (SDGs) through Agenda 2030” to protect health and environment.
BEST REGULATORY PRACTICES

- Risk-Based assessment of application
- Conduct of Public Consultations
POPS Monitoring of East Asian Countries (POPsEA) where the Philippines participated in the conduct of monitoring for pesticides (dirty dozen) including now the new POPs.

The Philippines failed to conduct its own monitoring sometime in 2014 due to purchase of air quality monitoring equipment all over the EMB-Regional Offices. Currently, the AQMS has some changes in their internal structures.
GLOBAL MONITORING PLAN (GMP)2

- Component 2: Capacity building and analysis of core abiotic matrix (air) – This component entails training and collection of samples for air. Parallel analysis is done by a reference laboratory and the National Laboratory (EMB-Environmental Research and Laboratory Services (ERLS)).

- Site for the sampling has been selected based on a given criteria and fixture has been installed. Sampling site is at the PAGASA AGROMET station in UP Los Baños. Sampling started this January 2018.
**SPECIAL CHEMICAL PROJECT**

**IMPLEMENTATION OF INTEGRATED PERSISTENT ORGANIC POLLUTANTS (POPS) MANAGEMENT PROJECT**

<table>
<thead>
<tr>
<th><strong>Project Duration:</strong></th>
<th>60 Months</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Project Start Date:</strong></td>
<td>December 2011</td>
</tr>
<tr>
<td><strong>Project End Date:</strong></td>
<td>June 2018</td>
</tr>
<tr>
<td><strong>Grant Amount:</strong></td>
<td>US$ 8.4 Million</td>
</tr>
<tr>
<td><strong>Components</strong></td>
<td>Components 1 - 5</td>
</tr>
<tr>
<td><strong>Implementing Agency:</strong></td>
<td>WORLD BANT</td>
</tr>
<tr>
<td><strong>Funding Agency:</strong></td>
<td>Global Environment Facility (GEF)</td>
</tr>
<tr>
<td><strong>Executing Agency:</strong></td>
<td>DENR - Environmental Management Bureau</td>
</tr>
<tr>
<td><strong>Partner Agencies:</strong></td>
<td>DOST/ DOH /DENR</td>
</tr>
</tbody>
</table>
**SPECIAL CHEMICAL PROJECT**

**IMPLEMENTATION OF PCB MANAGEMENT PROGRAMS FOR ELECTRIC COOPERATIVES AND SAFE E-WASTE MANAGEMENT**

<table>
<thead>
<tr>
<th>Project Duration:</th>
<th>60 Months</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Start Date:</td>
<td>December 2016</td>
</tr>
<tr>
<td>Project End Date:</td>
<td>December 2021</td>
</tr>
<tr>
<td>Grant Amount:</td>
<td>US$ 6,200,000</td>
</tr>
<tr>
<td>Co-Financing*:</td>
<td>US$ 35,868,712</td>
</tr>
<tr>
<td>Implementing Agency:</td>
<td>UNIDO</td>
</tr>
<tr>
<td>Funding Agency:</td>
<td>Global Environment Facility (GEF)</td>
</tr>
<tr>
<td>Executing Agency:</td>
<td>Environmental Management Bureau</td>
</tr>
<tr>
<td>Partner Agencies:</td>
<td>NRDC / NEA / ERC / EcoWaste Coalition / IRI / CCTFI / DBM / PHILRECA</td>
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</table>
# SPECIAL CHEMICAL PROJECT

## IMPLEMENTATION OF THE POPS MONITORING IN THE ASIAN REGION (GLOBAL MONITORING PROJECT II)

<table>
<thead>
<tr>
<th>Project Duration:</th>
<th>48 Months</th>
</tr>
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<tbody>
<tr>
<td>Project Start Date:</td>
<td>December 2017 (SSFA approval)</td>
</tr>
<tr>
<td>Project End Date:</td>
<td>December 2021</td>
</tr>
<tr>
<td>Grant Amount:</td>
<td>US$3,936,000 (Divided among all participating countries)</td>
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<tr>
<td>Grant Amount (Phils.)</td>
<td>US$ 128,800</td>
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<tr>
<td>Implementing Agency:</td>
<td>UNEP</td>
</tr>
<tr>
<td>Funding Agency:</td>
<td>Global Environment Facility (GEF)</td>
</tr>
<tr>
<td>Executing Agency:</td>
<td>Environmental Management Bureau</td>
</tr>
<tr>
<td>Partner Agencies:</td>
<td>Philippines, Cambodia, Indonesia, Lao PDR, Mongolia, Thailand, Vietnam</td>
</tr>
</tbody>
</table>
CHEMICAL MANAGEMENT POLICIES
<table>
<thead>
<tr>
<th>Document ID</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>DAO 2005-27</td>
<td>Revised Priority Chemical List</td>
</tr>
<tr>
<td>DAO 2007-23</td>
<td>Prescribing Additional Requirements for the Issuance of the Priority Chemical List (PCL) Compliance Certificate</td>
</tr>
<tr>
<td>DAO 2013-24</td>
<td>Chemical Control Order for Lead and Lead Compounds</td>
</tr>
<tr>
<td>DAO 2013-25</td>
<td>Revised Regulations on the Chemical Control Order for Ozone Depleting Substances (ODS)</td>
</tr>
<tr>
<td>EMB MC 2014-001</td>
<td>Philippine Inventory of Chemicals and Chemical Substances</td>
</tr>
<tr>
<td>EMB MC 2014-003</td>
<td>Supplemental Guidelines for the DENR AO 2007-23 (Prescribing Additional Requirements for the Issuance of the Priority Chemical List (PCL) Compliance Certificate</td>
</tr>
<tr>
<td>EMB MC 2014-010</td>
<td>Guidelines for the Disclosure of Confidential Business Information (CBI) and Monitoring of Small-Quantity Importation (SQI), and Pre-Manufacture Pre-Importation Notification (PMPIN)</td>
</tr>
<tr>
<td>DAO 2015-09</td>
<td>Rules and Procedures for the Implementation of the Globally Harmonized System of Classification and Labelling of Chemicals (GHS) in Preparation of Safety Data Sheet (SDS) and Labelling Requirements of Toxic Chemical Substance</td>
</tr>
<tr>
<td>Document ID</td>
<td>Description</td>
</tr>
<tr>
<td>----------------</td>
<td>---------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>EMB MC 2015-002</td>
<td>Harmonization of Registration Forms, Issued Certificates and Procedures for Chemical Control Orders (CCOs), and Small Quantity Importation (SQI)</td>
</tr>
<tr>
<td>EMB MC 2015-004</td>
<td>Clarifications to the Chemical Control Order (CCO) for Polychlorinated Biphenyls (PCBs)</td>
</tr>
<tr>
<td>EMB MC 2015-005</td>
<td>Clarifications on the Prohibited Uses of Lead and Lead Compounds under DAO 2013-24, “Chemical Control Order (CCO) for Lead and Lead Compounds”</td>
</tr>
<tr>
<td>EMB MC 2015-007</td>
<td>Technical Guidance Document on Polychlorinated Biphenyls (PCBs) Management</td>
</tr>
<tr>
<td>Document ID</td>
<td>Description</td>
</tr>
<tr>
<td>----------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>EMB MC 2016-003</td>
<td>Implementation of Online Processing of Priority Chemical List (PCL) and Premanufacture Preimportation Notification (PMPIN) Under the Title II of DENR AO 29, Series of 1992, of RA 6969</td>
</tr>
<tr>
<td>EMB MC 2016-010</td>
<td>Clarification on the Prohibition of Paints with Lead and Lead Compounds Used for Children’s Toys and Related Products</td>
</tr>
<tr>
<td>EMB MC 2016-011</td>
<td>Instructions on the Implementation and Enforcement of the Devolved Functions Under the DENR Memorandum Circular 2002-12</td>
</tr>
<tr>
<td>EMC 2017-007</td>
<td>Clarification on the Coverage of Laboratory Facilities under DAO 2007-23 (PCL)</td>
</tr>
<tr>
<td>EMB MC 2017-009</td>
<td>Clarifications on Permitting Regulations for Small Quantity Importation (SQI), Pre-Manufacture Pre-Importation Notification (PMPIN), Priority Chemical List (PCL) and Chemical Control Orders (CCO)</td>
</tr>
<tr>
<td>EMB MC 2017-010</td>
<td>Clarifications on Permitting Regulations for Small Quantity Importation (SQI), Pre-Manufacture Pre-Importation Notification (PMPIN), Priority Chemical List (PCL) and Chemical Control Orders (CCO)</td>
</tr>
</tbody>
</table>
### Priority Chemical List (PCL)

<table>
<thead>
<tr>
<th>No.</th>
<th>Chemical Abstract Services No.</th>
<th>Philippine Inventory of Chemicals and Chemical Substances (PICCS) Name</th>
<th>Chemical Abstract Services (CAS)/INDEX Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>108-90-7</td>
<td>1,4-CHLOROBENZENE</td>
<td>Benzene, chloro-</td>
</tr>
<tr>
<td>2.</td>
<td>106-92-4</td>
<td>1,2-DIBROMOETHANE</td>
<td>Ethane, 1,2-dibromo-</td>
</tr>
<tr>
<td>3.</td>
<td>95-50-1</td>
<td>0-DICHLOROBENZENE</td>
<td>Benzene, 1,2-dichloro-</td>
</tr>
<tr>
<td>4.</td>
<td>106-46-7</td>
<td>1,4-DICHLOROBENZENE</td>
<td>Benzene, 1,4-dichloro-</td>
</tr>
<tr>
<td>5.</td>
<td>107-06-2</td>
<td>1,2-DICHLOROETHANE</td>
<td>Ethane, 1,2-dichloro-</td>
</tr>
<tr>
<td>6.</td>
<td>122-66-7</td>
<td>1,2-DIPHENYLEHYDRAZINE</td>
<td>Hydrazobenzene</td>
</tr>
<tr>
<td>7.</td>
<td>106-46-3</td>
<td>3-HYDROXYPHENOL</td>
<td>1,3-Benzoxadiol</td>
</tr>
<tr>
<td>8.</td>
<td>7647-18-9</td>
<td>ANTIMONY PENTACHLORIDE</td>
<td>Antimony chloride</td>
</tr>
<tr>
<td>9.</td>
<td>7440-38-2</td>
<td>ARSENIC COMPOUNDS</td>
<td>Arsenic</td>
</tr>
<tr>
<td>10.</td>
<td>1332-21-4</td>
<td>ASBESTOS**</td>
<td>Asbestos</td>
</tr>
<tr>
<td>11.</td>
<td>71-43-2</td>
<td>BENZENE</td>
<td>Benzene</td>
</tr>
<tr>
<td>12.</td>
<td>7440-41-7</td>
<td>BERYLLIUM COMPOUNDS</td>
<td>Beryllium</td>
</tr>
<tr>
<td>13.</td>
<td>7440-43-9</td>
<td>CADMIUM COMPOUNDS</td>
<td>Cadmium</td>
</tr>
<tr>
<td>14.</td>
<td>56-23-5</td>
<td>CARBON TETRACHLORIDE**</td>
<td></td>
</tr>
<tr>
<td>15.</td>
<td></td>
<td>CHLORINATED ETHERS</td>
<td></td>
</tr>
<tr>
<td>16.</td>
<td></td>
<td>CHLOROFLUORO CARBONS**</td>
<td></td>
</tr>
<tr>
<td>17.</td>
<td>67-66-3</td>
<td>CHLOROFORM</td>
<td>Chloromethane</td>
</tr>
<tr>
<td>18.</td>
<td>76-06-2</td>
<td>CHLOROPICRIN**</td>
<td>Methane, trichloronitro</td>
</tr>
<tr>
<td>19.</td>
<td>18540-29-9</td>
<td>CHROMIUM COMPOUNDS</td>
<td>Chromium</td>
</tr>
<tr>
<td>20.</td>
<td>57-12-5</td>
<td>CYANIDE COMPOUNDS**</td>
<td>Cyanide</td>
</tr>
<tr>
<td>21.</td>
<td>64-67-5</td>
<td>DIETHYL SULFATE</td>
<td>Sulfuric acid, diethyl ester</td>
</tr>
<tr>
<td>22.</td>
<td>106-93-4</td>
<td>ETHYLENE DIBROMIDE</td>
<td>1,2 Dibromo Methane</td>
</tr>
<tr>
<td>23.</td>
<td>75-21-8</td>
<td>ETHYLENE OXIDE</td>
<td>Oxirane</td>
</tr>
<tr>
<td>24.</td>
<td>111-30-8</td>
<td>GLUTARALDEHYDE</td>
<td>Pentanal</td>
</tr>
<tr>
<td>25.</td>
<td>50-00-0</td>
<td>FORMALDEHYDE</td>
<td>Formaldehyde</td>
</tr>
<tr>
<td>26.</td>
<td>9002-83-9</td>
<td>HALONS**</td>
<td>Ether, chlorotrifluoro-homopolymer</td>
</tr>
<tr>
<td>27.</td>
<td>118-74-1</td>
<td>HEXACHLOROBENZENE</td>
<td>Benzene, hexachloro</td>
</tr>
<tr>
<td>28.</td>
<td>67-72-1</td>
<td>HEXACHLOROETHANE</td>
<td>Ethane, hexachloro</td>
</tr>
<tr>
<td>29.</td>
<td>302-01-2</td>
<td>HYDRAZINE</td>
<td>Hydrazine</td>
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<tr>
<td>30.</td>
<td>7430-92-2</td>
<td>LEAD COMPOUNDS</td>
<td>Lead</td>
</tr>
<tr>
<td>31.</td>
<td>149-30-4</td>
<td>MIB</td>
<td>2(3H)-Benzo[b]isothiazoleone</td>
</tr>
<tr>
<td>32.</td>
<td>594-42-3</td>
<td>MERCAPTAN, PERCHLOROMETHYL</td>
<td>Methanesulfonyl chloride, trichloro-</td>
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<tr>
<td>33.</td>
<td>7430-97-6</td>
<td>MERCURY COMPOUNDS</td>
<td>Mercury</td>
</tr>
<tr>
<td>34.</td>
<td>74-87-3</td>
<td>METHYL CHLORIDE</td>
<td>Methane, chloro</td>
</tr>
<tr>
<td>35.</td>
<td>75-09-2</td>
<td>METHYLENEDIChLORIDE</td>
<td>Methylene, dichloro</td>
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<tr>
<td>36.</td>
<td>2385-85-5</td>
<td>MIREX</td>
<td></td>
</tr>
<tr>
<td>37.</td>
<td>87-86-5</td>
<td>PENTACHLOROPHENOL</td>
<td>Phenol, pentachloro</td>
</tr>
<tr>
<td>38.</td>
<td>127-18-4</td>
<td>PERCHLOROSTYRENE</td>
<td>Ethene, tetrachloro</td>
</tr>
<tr>
<td>39.</td>
<td>108-95-2</td>
<td>PHENIC ACID</td>
<td>Phenol</td>
</tr>
<tr>
<td>40.</td>
<td>75-44-5</td>
<td>PHOSGENE</td>
<td>Carbonyl chloride, Carbonodiclchloride</td>
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<tr>
<td>41.</td>
<td>85-44-9</td>
<td>PHTHALIC ANHYDRIDE</td>
<td>1,3 Isobenzofurandione</td>
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<tr>
<td>42.</td>
<td>59536-65-1</td>
<td>POLYBROMINATED BIPHENYLS</td>
<td>Fire Master BP6</td>
</tr>
<tr>
<td>43.</td>
<td>1336-36-3</td>
<td>POLYCHLORINATED BIPHENYLALS*</td>
<td>1,1-Biphenyl chloroderivatives</td>
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<tr>
<td>44.</td>
<td></td>
<td>1,1,1-TRICHLOROETHANE</td>
<td></td>
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<tr>
<td>45.</td>
<td>79-01-6</td>
<td>TRICHLOROETHYLENE</td>
<td>Ethene, trichloro</td>
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<tr>
<td>46.</td>
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<td>TRIBUTYL Tin</td>
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<tr>
<td>47.</td>
<td>7782-49-2</td>
<td>SELENIUM</td>
<td>Selenium</td>
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<tr>
<td>48.</td>
<td>75-01-4</td>
<td>VINYL CHLORIDE</td>
<td>Chloroethylene</td>
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PCL CHEMICALS TO BE CONTROLLED

<table>
<thead>
<tr>
<th>DENR Administrative Order</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. 2005 - 05</td>
</tr>
</tbody>
</table>

1. Cadmium Compounds (Cd);
2. Lead Compounds (Pb);
3. Arsenic Compounds (As);
4. Vinyl Chloride (C₂H₃Cl);
5. Benzene (C₆H₆); and
6. Chromium (Cr₆).

- Chemical Control Order (CCO) for Lead and Lead Compounds has been issued under DAO 2013-24
- CCO for Arsenic Compounds is for DENR Policy Review
- CCO for Chromium6 is for EMB Policy TWG Review
- CCO for Cadmium Compounds is being formulated.
ADDITIONAL CHEMICALS TO BE INCLUDED IN THE PCL

- About 55 additional toxic chemicals will be added in the 3rd version of the Priority Chemical List (PCL)

- There around 40 added chemicals from the OECD, REACH, NITE classifications and regulations of other countries.

- On-going consultation and discussion of criteria used for this PCL policy with ICP, industry associations.
## SAMPLES OF HVC FOR PCL INCLUSION

<table>
<thead>
<tr>
<th>IUPAC/CAS Name</th>
<th>CAS Number</th>
<th>GHS Classification (NITE)</th>
<th>GHS Classification (CLP-ECHA)</th>
</tr>
</thead>
</table>
| **BORAX DECAHYDRATE/ Disodium tetraborate decahydrate** | 1303-96-4 | Acute oral toxicity Cat. 5  
Skin corrosion/irritation Cat. 2  
Serious eye damage/irritation Cat. 2  
Reproductive toxicity Cat. 2  
STOT SE Cat. 1 (kidney, nervous system, respiratory system)  
STOT RE Cat. 1 (kidney, nervous system, respiratory) and Cat. 2 (testis) | Serious eye damage/irritation Cat. 2  
Reproductive toxicity Cat. 2 |
| **HYDROCHLORIC ACID/ Hydrochloric acid**    | 7647-01-0  | High pressure liquid gas  
Acute oral toxicity Cat. 3  
Acute inhalation toxicity Cat. 3 (gas) and Cat. 2 (dust/mist)  
Skin corrosion/irritation Cat. 1  
Serious eye damage/irritation Cat. 1  
Respiratory sensitization Cat. 1  
STOT SE Cat. 1 (respiratory system)  
STOT RE Cat. 1 (respiratory system, tooth)  
Acute aquatic toxicity Cat. | High pressure liquid gas  
Acute oral toxicity Cat. 4  
Acute inhalation toxicity Cat. 3 (gas) and Cat. 2 (dust/mist)  
Skin corrosion/irritation Cat. 1  
Serious eye damage/irritation Cat. 1  
Respiratory sensitization Cat. 1  
STOT SE Cat. 3 (respiratory system) |
<table>
<thead>
<tr>
<th>IUPAC/CAS Name</th>
<th>CAS Number</th>
<th>GHS Classification (NITE)</th>
<th>GHS Classification (CLP-ECHA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PROPYLENE OXIDE/ Oxirane, methyl-</td>
<td>75-56-9</td>
<td>Flammable liquid Cat. 1</td>
<td>Flammable liquid Cat. 1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Acute oral toxicity Cat. 4</td>
<td>Acute oral toxicity Cat. 4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Acute dermal toxicity Cat. 3</td>
<td>Acute dermal toxicity Cat. 3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Acute inhalation toxicity Cat. 4 (vapor)</td>
<td>Acute inhalation toxicity Cat. 3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Skin corrosion/irritation Cat. 2</td>
<td>Serious eye damage/irritation Cat. 1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Serious eye damage/irritation Cat. 1</td>
<td>STOT SE Cat. 3 (respiratory irritation)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Skin sensitization Cat. 1</td>
<td>Gem cell mutagenicity Cat. 2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Germ cell mutagenicity Cat. 2</td>
<td>Carcinogenicity Cat. 2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Carcinogenicity Cat. 2</td>
<td>Reproductive toxicity Cat. 2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Reproductive toxicity Cat. 2</td>
<td>STOT SE Cat. 3 (respiratory tract irritation, narcotic effect)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>STOT SE Cat. 3 (respiratory tract irritation, narcotic effect)</td>
<td>Acute aquatic toxicity Cat. 3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Acute aquatic toxicity Cat. 3</td>
<td>Carcinogenicity Cat. 1</td>
</tr>
</tbody>
</table>
EVALUATION OF CRITERIA

- Identification of Health and Environmental hazards from reliable sources:
  - NITE from Japan METI
  - ECHA from EU

- Chemicals with any of the following hazards are selected
  - Acute Toxicity
  - Carcinogenicity
  - Mutagenicity
  - Reproductive Toxicity
  - STOT Repeated Exposure
  - Chronic Aquatic Toxicity
  - Skin and Respiratory Sensitization
DENR- EMB (Regulators) would need Capacity Building and Training for the following:

- Globally Harmonized System (GHS) in industrial Mixtures
- Use of read across method in determining the physicochemical properties, toxicity and ecotoxicity.
- Risk Assessment of chemicals used in the evaluation and regulation of chemicals.
- Polymers and Polymers of Low Concern (PLC)
- Strengthen Implementation and Enforcement of RA 6969
Thank You Very Much for Listening!

Contact us at:
(632) 928-88-92/
928-12-12

Visit our website at:
URL:http://www.emb.gov.ph
chemicals@emb.gov.ph
Any Questions?