



Case studies coping with REACH in Korea

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C . O . N . T . N . T . S

- Case of KCMA coping with REACH
- Case of REACH implementation at individual company(LG Chem)
- Case of REACH collaboration between Korea companies

Case of KCMA coping with REACH

- Background
- Pilot project for REACH registration
- Project utilizing Toxicity test data
- Future plan

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Background

- KCMA have supported the exporters with Ministry of Environment(MOE) to cope with REACH in several ways since the EU REACH took effect in 2007
 - Research the companies which needs REACH registration or notification and monitor the preparation status by companies periodically
 - Classify the companies by the level of preparation status and provide 1:1 consulting and technical support, and visiting service
 - Hold the training workshops by industry and REACH EXPO, etc.
- Provide direct support since the preparation of REACH registration started in earnest from 2009
 1. Running the “Registration” pilot project by selecting the substance for the companies lacking in ability coping with REACH or having difficulties due to no activities in SIEF, or selecting the substance
 2. Running the project enabling domestic and foreign companies to utilize Toxicity test data belong to MOE

Pilot project for REACH registration

■ Overview

- KCMA's research in 2008 shows that 321 companies completed the pre-registration.
- The number of SME's was 259 companies(80.7%) and major companies were 62 companies(19.3%) among them. Because the SME's are lack of specialty and manpower, they will have difficulties in REACH registration by themselves.
- Confirmed that there may be problems for preparation of registration because there are no Consortium or SIEF for some substances.
- Therefore, KCMA in cooperation with MOE started pilot project for the companies need technical and administrative support and for some substances from 2009.

Pilot project for REACH registration (*cont'd*)

■ **Selecting the substance**

- 5 substances which SMEs having problems with REACH registration and 5 substances whose consortium or SIEF that have to be led by Korean companies because there no consortium or SIEF for them.
- Considering Tonnage, SIEF trend, Data gap and KCMA's budget, 3 substances in 2009 and 7 substances in 2010 were selected.

■ **Participating organization and their roles**

- Companies preparing the REACH registration, Consulting companies and experts organized consultative group with KCMA as the center and executed the primary process for the registration
- KCMA oversees the whole project and companies produce the test data and make contracts with the OR. Consulting companies analyze the Data gap and communicate with the OR. Experts review the test report and technical data and MOE supports whole process.

Pilot project for REACH registration (*cont'd*)

■ Contents

- Project provides technical and administrative support for whole process which are from the preparation to completing the registration. Consultative group holds the meeting periodically to review the status of project and to discuss the directions of it.
- Confirm the homogeneity of substance, Data gap analysis and selection of test item, Selection of GLP and supervision of process, review the test report, Technical Dossier & CSR, Checking the SIEF trend, communicating with OR, etc.

■ Project status(August. 2010)

- For the 4 substances falling under 1,000t, secured the LoA and completed the Toxicity test, now preparing the registration document
- The 6 substances falling under 100t, toxicity test is in progress.

Project utilizing Toxicity test data

■ Overview

- MOE carried out safety assessment for the HPV program from 1988 and produced Toxicity test data of 575 substances for 1,298 items for OECD SIDS until 2007.
 - OECD SIDS 17 substances, HPV Program 558 substances
- Support the REACH registration by enabling domestic and foreign companies to use the Toxicity test data and promote sharing and business transaction of test data
- MOE started the project from 2009 and appointed the KCMA as the contact point to increase the usage of Toxicity test data

Project utilizing Toxicity test data *(cont'd)*

■ Credibility of Toxicity test data

- Reviewed the list and status of test data belongs to MOE prior to the project and evaluated the credibility of data based on 'Klimisch et al.' scoring system
- Categorized data after '98 as 'score 1. reliable without restriction', and data before '97 as 'score 2. reliable with restriction or 3. not reliable '

	# of substances	Test item	score	Evaluation basis
Total	575	1,298		
98 07	235	672	1	- GLP Criteria
88 97	340	626	2 or 3	- Non GLP Criteria

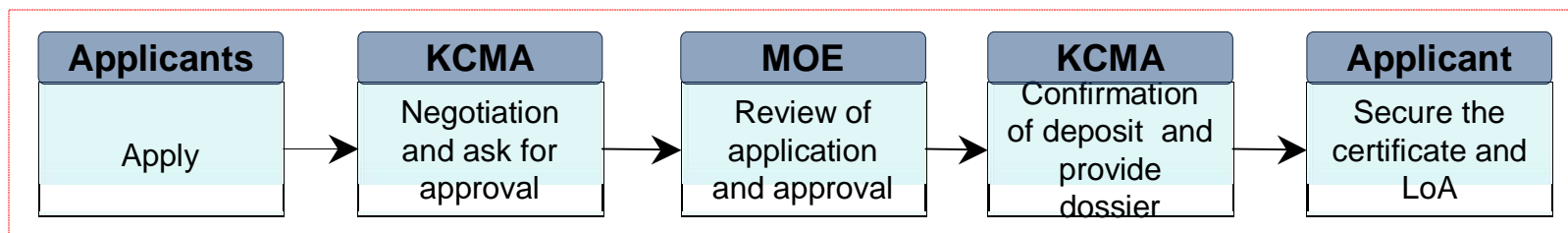
Project utilizing Toxicity test data *(cont'd)*

■ Applicants and Data usage

- Anyone(domestic and foreign), who needs Toxicity test data, can apply to register the substance including REACH or assessment
- Provide the Letter of Access(LoA) regarding the test data

■ Application and Approval Process

- Applicants submit the application for LoA to KCMA, then KCMA asks for MOE's approval after KCMA reviews the application and negotiate the terms
- MOE issues the certificate after review of application and send it to KCMA. Then KCMA provide the dossier(certificate and test report) after confirmation of deposit for usage fee



Project utilizing Toxicity test data *(cont'd)*

■ Data Usage Fee

- 30% of original test cost when the number of applicants is less than 6 persons
- 5% will be added for each additional applicant when the number of applicants is more than 6 persons

■ Status of Approval

- By the end of August this year, 654 companies were approved and provided test data for 7 substances.
- Most of them applied to use them for REACH registration

■ Cancellation of Approval

- When accredited person let the others who were not accredited use them
- When use the data outside of the original purpose
- When approved with false entry of application

Future Plan

- Publish and provide 'The Cases of Registration' after the completion of REACH registration pilot project so other companies can use them to prepare the registration (December 2010)
- Promote the MOE's Toxicity test data so they can be used in various purposes such as the registration in other countries or risk assessment
- Especially, follow up the usage of approved data whether they are used for the original purpose by the accredited person

Case of REACH implementation at individual company(LG Chem)

- Overview
- Substances
- Polymers & Preparations
- Status of REACH registration

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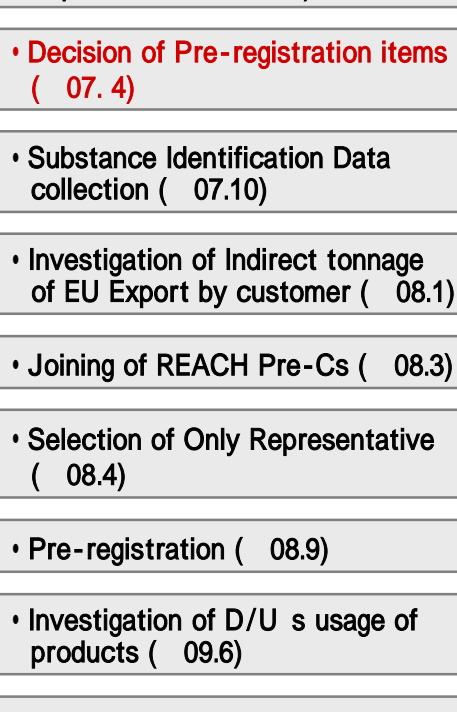
Overview

- LG Chem is the leading chemical company in Korea in both size and Performance, and have 25 Subsidiaries around the world.
- This company produces from Substance to Article, and they are taking steps for REACH implementation of each products exported EU.

Category	LG Chem Products	REACH Regulation
<u>Substance</u>	<ul style="list-style-type: none"> • Acrylate/ Plasticizer: DOP,DINP,AA,BA etc • NCC/PO : Ethylene, Propylene etc • ABS/EP : SM, PVC : VCM, NaOH • Rubber & Specialty : Phenol, BPA etc 	<ul style="list-style-type: none"> • All substances exported to EU more than 1 Metric ton per year.
<u>Polymer</u>	<ul style="list-style-type: none"> • ABS/EP : ABS, SAN, EP etc • PVC : PVC • NCC/PO : PE, PP etc • Rubber & Specialty : SBS, SBL etc 	<ul style="list-style-type: none"> • Polymer consists of 2wt % or more monomer substance or other substance in the form of chemically bound substance. • Total quantity of such substance makes up over 1 ton per year.
<u>Preparation</u>	<ul style="list-style-type: none"> • ABS/EP : ABS, EP Comp d etc • NCC/PO : PO Comp d etc • Electronic materials : Toner, Electrolyte etc 	<ul style="list-style-type: none"> • All substances exported to EU in preparations more than 1 Metric Ton per year per manufacturer or importer.

Substances

Process

- 
- Make a list of EU export Product (Tonnage, Importer information, Export method, 07.2)
 - **Decision of Pre-registration items (07.4)**
 - Substance Identification Data collection (07.10)
 - Investigation of Indirect tonnage of EU Export by customer (08.1)
 - Joining of REACH Pre-Cs (08.3)
 - Selection of Only Representative (08.4)
 - Pre-registration (08.9)
 - Investigation of D/U s usage of products (09.6)
 - Making TD, CSR, SDS (10.6)
 - Registration (10.11)

Decision of Pre-registration items

Confirmation of phase-in substance
Substance which meets at least one of the following criteria

--

1. **EINECS** (European Inventory of Existing Commercial Chemical Substance)
2. **NLP** (No Longer Polymer)
3. It was manufactured in the Community, but not placed on the market by the manufacturer or importer, at least once in the 15 years before the entry into force of this Regulation

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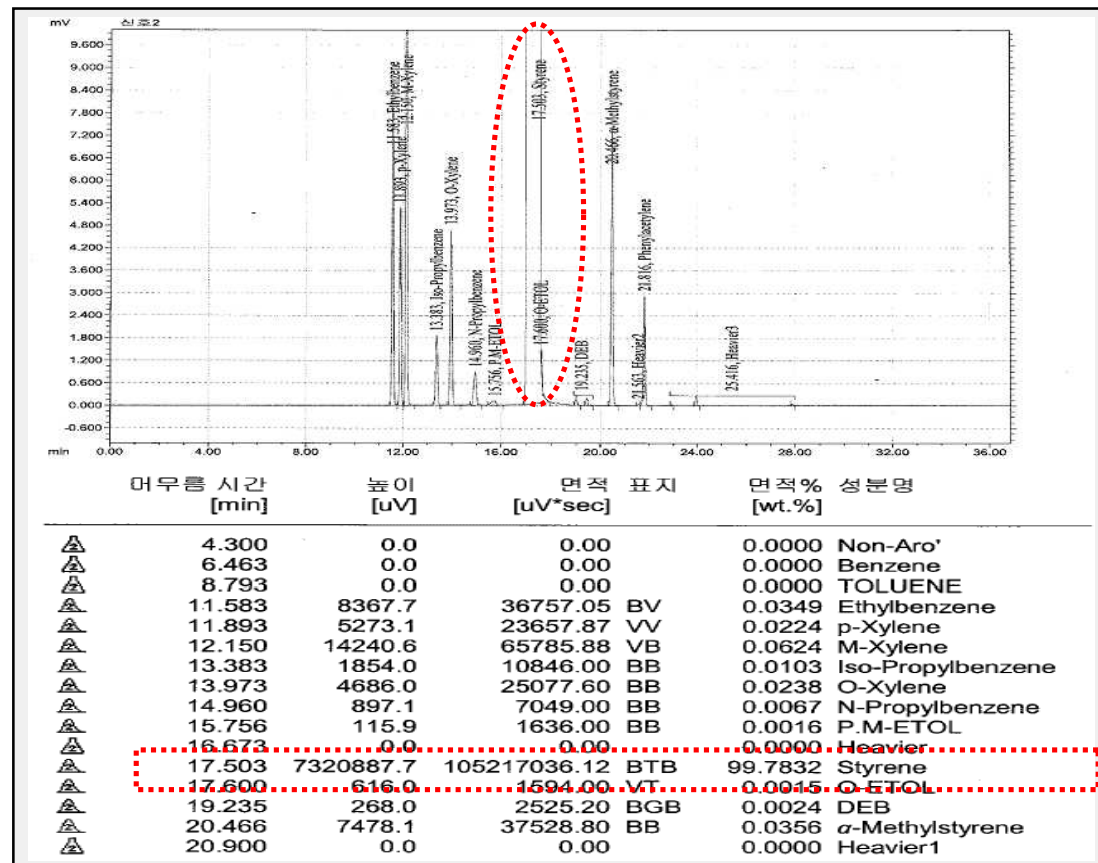
Substances (cont'd)

Process

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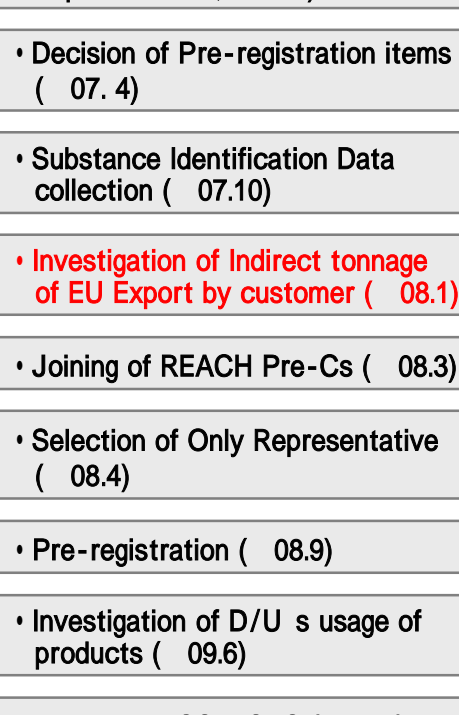
Confirmation of identification

GC data



Substances *(cont'd)*

Process

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Investigation of Indirect EU export tonnage

Current EU export situation survey

[illegible]

Company		Comment	
Team			
Name			
e-mail			
TEL			

*** Guidance ***

Name of Material that you're purchasing from LG Chem.

Your company's Identification Code for materials.

Annual purchasing tonnage (Metric Ton / Year)

Category of your product that is exported to EU (0, X)

- Material itself : If you don't make any changes our material and export to EU, please mark 'O'.
 - Polymer : If you manufacture the polymer with our materials and export to EU, please mark 'O'.
 - Preparation : If you formulate the preparation with our materials and export to EU, please mark 'O'.
 - Article : If you manufacture the article with our materials and export to EU, please mark 'O'.

What is your export root?

- Direct : If you export to EU customer directly, please mark 'O'.
- Indirect : If you export to EU customer through importer or dealer, please mark 'O'.

Do you plan to pre-register or register for our materials? (O,X)

Exported material's tonnage to EU by included your products. (MT/ Year, average value from 2005 to 2007)

Exported Tonnage of LG Chem's material to EU (MT/Year) =
Percentage of LG Chem's material in you products (%) X Your product's export tonnage to EU (MT/Year) X 100

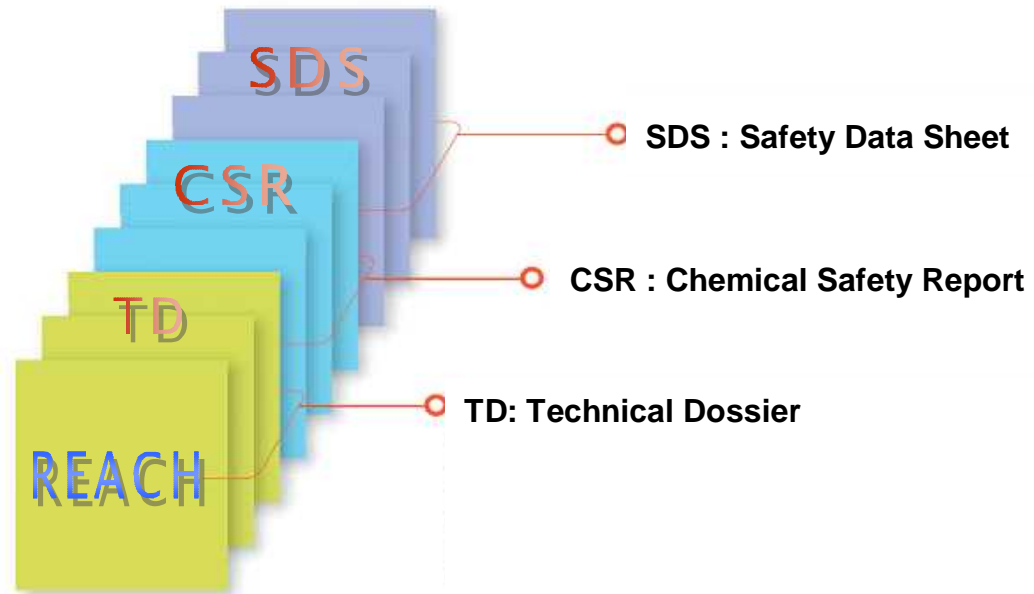
Substances *(cont'd)*

Process

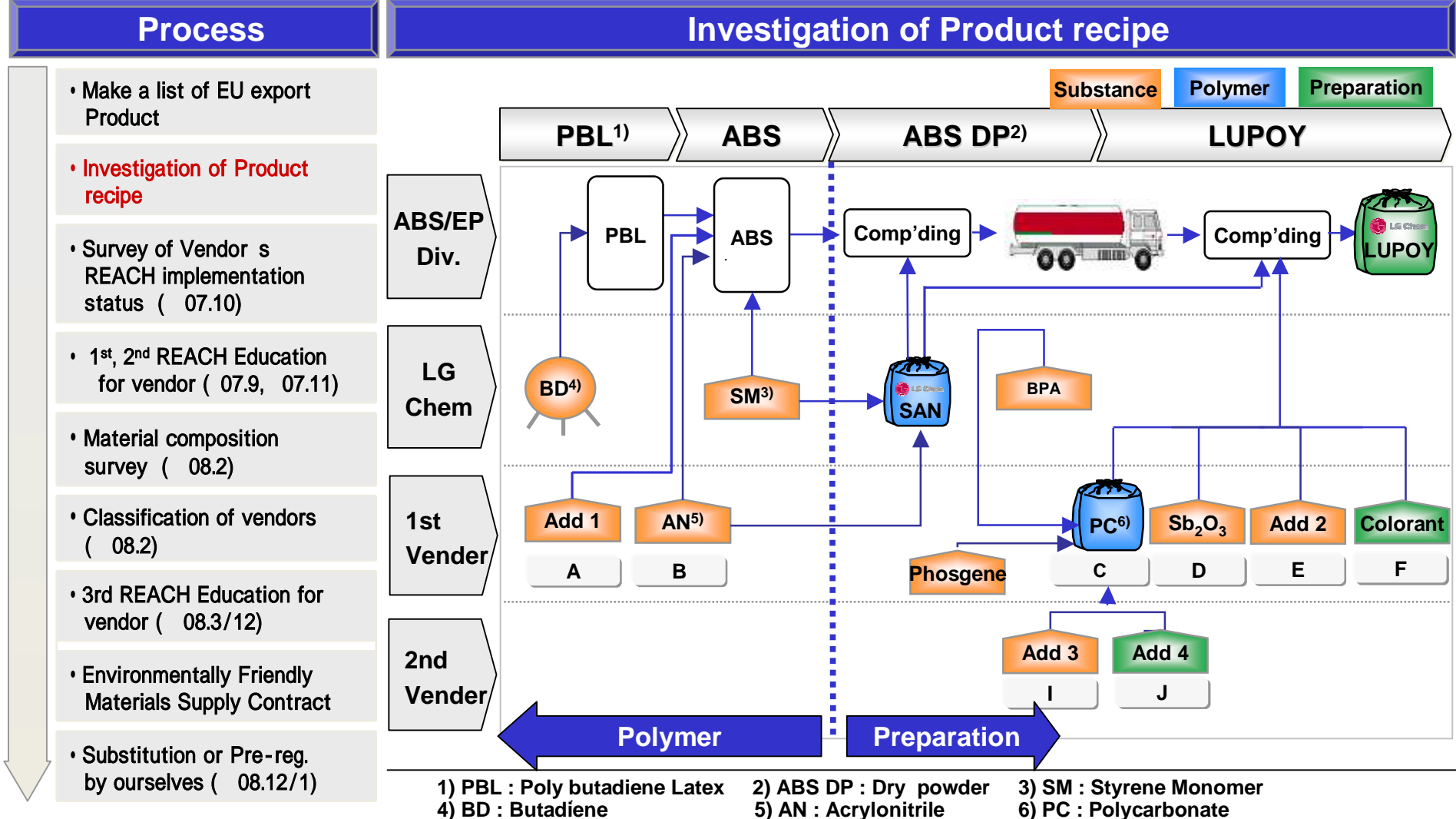
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- **Making TD, CSR, SDS (10.6)**
- Registration (10 .11)

Making TD, CSR, SDS

- **Essential Documents for REACH Registration**
 - **TD: Technical Dossier**
 - **CSR : Chemical Safety Report**
 - **SDS : Safety Data Sheet**



Polymers & Preparations



Polymers & Preparations *(cont'd)*

Process

- Make a list of EU export Product
- Investigation of Product recipe
- **Survey of Vendor s REACH implementation status (07.10)**
- 1st, 2nd REACH Education for vendor (07.9, 07.11)
- Material composition survey (08.2)
- Classification of vendors (08.2)
- 3rd REACH Education for vendor (08.3/12)
- Environmentally Friendly Materials Supply Contract
- Substitution or Pre-reg. by ourselves (08.12/1)

Survey of Vendor's REACH implementation status

1st Survey

REACH Implementation

Company Name :

1. How much do you know about REACH ?

- ☐ Don't have any information about REACH.
☐ Just aware of the REACH briefly. (e.g. Effective date, Duty of suppliers, etc)
☐ Have sufficient information for REACH implementation.(e.g. Registration.
☐ The Others (Please write down your own answer)

2. Could you describe REACH Implementation level of your Company?

- ☐ Gathering information about REACH Regulation.
☐ Have performed an initial REACH impact analysis.
☐ Have Launched a project to implement of REACH.
☐ Collecting the data for pre-registration / registration of our products.
☐ The others (Please write down your own answer)

3. What's the most difficult factor to implement REACH to your company?

(Allowing multiple response)

- ☐ REACH(Regulation 1907/2006) is too complex to understand.
☐ Don't have expert or team for REACH.
☐ Too much expense. (Test , consulting, Registration Fee etc)
☐ Insufficient consciousness of crisis about REACH.
☐ The others (Please write down your own answer)

4. What's your plan to implement REACH in future?

- ☐ Through our REACH Team
☐ Through REACH Consulting Company
☐ To Join the Consortium.
☐ The others (Please write down your own answer)

5. Do you have any organization for REACH?

- ☐ Yes ☐ No

If yes, let us know next information

2nd Survey REACH Survey



Company Name :

1. Could you describe how your company is organizing itself to prepare its REACH implementation work?

- ☐ We have REACH Team directly responsible to the CEO.
☐ We have REACH Team belonging to the operation division.
☐ A few people are in charge of company's REACH implementation.
☐ The relevant team is in charge of company's REACH implementation.
☐ We don't have any organization or people for REACH.

2. Please let us know your REACH Contact Point. (Mandatory)

1) Responsible person

* Team :
 * Position :
 * Name :
 * e-mail :
 * TEL :

2) Person in charge

* Team :
 * Position :
 * Name :
 * e-mail :
 * TEL :

3. Could you classify your products which are supplied to LG Chem. (Allowing multiple response)

- ☐ Substance
☐ Polymer
☐ Preparation
☐ Article



[Substance] 4. Could you provide us with the information of substances which are supplied to LG Chem?

* Product name / LG Chem part No. / Chemical name / CAS No / Purity (%)

[Substance] 5. Do you plan to pre-register all products you supplied to LG Chem?

- ☐ Yes
☐ No
☐ Not yet decided

[Substance] 6. Which data do you have for identification of Substances? (Allowing multiple response)

- ☐ Name or other identifier of each substance (CAS No, EINECS No)
☐ Information related to molecular and structural formula of each substance
☐ Composition of each substance (Purity, Impurity information)
☐ Spectral data (UV, IR, NMR or Mass spectrum)
☐ High-pressure liquid chromatogram, gas chromatogram

Polymers & Preparations (cont'd)

Process

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- Environmentally Friendly Materials Supply Contract
- Substitution or Pre-reg. by ourselves (08.12/1)

Material Composition Survey

자재명	LG화학 No	Material	Ratio (wt%)	혼합제 (Preparation)			고분자 (polymer)			성분 (Substance)			사전등록 번호	
				No	구성성분	Ratio (wt%)	No	화학물질명	CAS No	Ratio (wt %)	No	화학물질명		CAS No
Preparation														
Polymer														
Substance														
		총 합	100	-	-	-	-	-	-	-	-	-	-	

Polymers & Preparations (cont'd)

Process

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Environmentally Friendly Materials Supply Contract

Korean version

친환경 자재공급 계약서

주식회사 LG 화학을 “갑”이라 하고, _____를 “을”이라 하여, 갑·을 쌍방은 을이 갑에게 납품하는 자재(이하 “자재”라 하며, 제품 및 반제품, 서비스 부품, 원재료 및 포장재 등이 모두 포함된다)에 관한 사항을 다음과 같이 규정하기로 한다.

- 다 음 -

제 1 조 (계약의 목적)

이 계약은 기본계약에 추가하여 자재의 환경 친화적인 개발 및 공급, 환경 관련법규 (이 계약에서의 환경 관련법규에는 국내외 법률, 명령, 규칙, 행정명령, 국제조약, 국제기구 의결 등이 모두 포함된다)의 준수 및 Claim 처리와 책임의 한계에 관한 사항을 정하는 것을 목적으로 한다.

제 2 조 (환경관련 법규 준수)

1. 을은 갑이 추진하는 친환경정책에 적극 협조하여야 한다.
2. 을은 자재를 개발 및 생산함에 있어서, 자재에 관련된 환경관련법규를 엄격히 준수하여야 한다.
3. 갑이 자재에 관하여 독자적인 환경유해물질 관리기준을 제정할 경우, 을은 이를 엄격히 준수하여야 한다.
4. REACH 대상자재는 을이 갑에게 공급하는 자재 중 REACH Regulation (EC) No.1907/2006 에 따라 갑이 선정하여 을에게 서면으로 통보한다.

제 3 조 (친 환경적인 생산활동의 실행)

1. 을은 친환경적 자재의 개발 및 생산, 친환경적 자재 및 부품의 구입 및 사용, 측정체계의 유지 운영, 시험 결과의 보관, 개선대책 수립 및 개선활동 실행, 유해물질의 관리 기준 실행 등 이 계약을 효과적으로 이행하기 위한 모든 활동을 이행하여야 한다.
2. 을은 제 2 조 및 제 3 조 1 항의 실행현황을 갑이 요구할 때에 통보해야 하며, 갑은 필요하다고 판단될 경우, 을의 영업소, 공장 등을 방문하여 을의 생산활동을 조사할 수 있다.
3. 갑은 자재에 관하여 환경이나 인체에 악영향을 미칠 우려가 있을 경우, 을에게 그 개선을 요구할 수 있으며, 을은 정당한 사유가 없는 한 이를 시정하여야 한다.
4. 을은 자재와 관련하여 갑에게 제출하는 증빙서류와 Data 가 사실과 일치함을 보증하여야 한다.

English version

Environmentally Friendly Materials Supply Contract

This Environmentally Friendly Materials Supply Contract (hereinafter referred to as the "Contract"), is made and entered into this _____th day of _____, 20____ between LG Chem, Ltd. (hereinafter referred to as "A"), and _____, (hereinafter referred to as "B"), for the purposes of the provisions of Materials provided by B to A, (hereinafter referred to as "Materials", including products, semi-finished products, parts and components for after-sales service, raw materials, and packing materials), under the terms and conditions as per the following:

Article 1. Purpose

In addition to the Basic Agreement, this Contract is intended to develop and supply environmentally friendly materials and comply with environment-related Laws, (hereinafter referred to as "Laws", including all applicable domestic and foreign laws, decrees, rules, administrative orders, international treaties, resolutions of international organizations, etc.), and define the provisions regarding the treatment of claims and the limitations of responsibilities of both parties hereto.

Article 2. Compliance with Laws

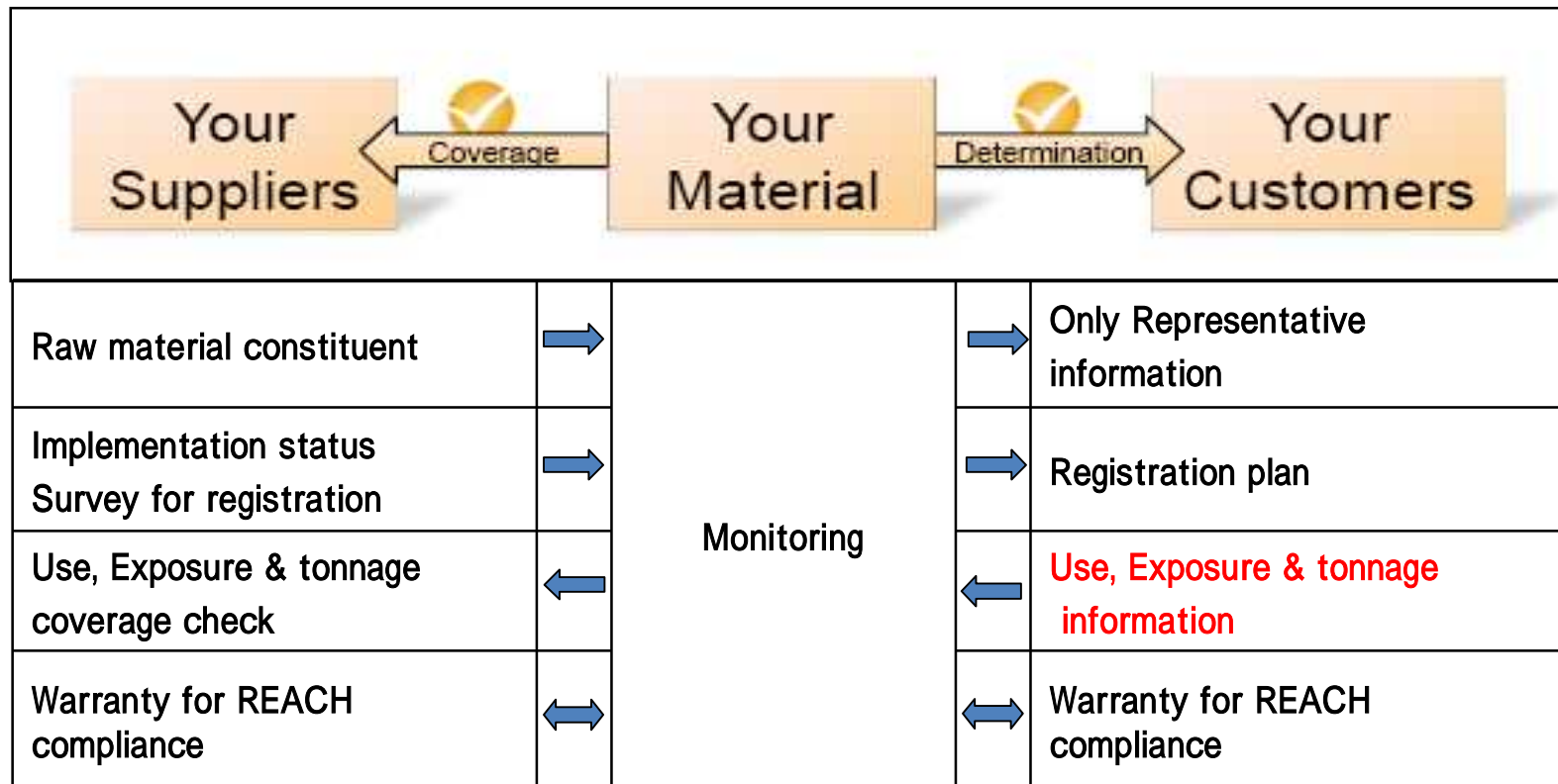
1. B shall cooperate A to enact environmentally friendly policies.
2. B shall strictly comply with Laws relevant to Materials during the development and production of Materials.
3. Where A develops, at its own discretion, the criteria used to control environmentally hazardous substances pursuant to the Materials pertaining to this Contract, B shall strictly comply with such criteria.
4. Any Materials that are the target of REACH among those Materials supplied by B to A, (hereinafter referred to as "REACH Materials"), shall be selected by A in accordance with REACH Regulation (EC) No. 1907/2006. And A notifies B of selected REACH Materials duly.

Article 3. Environmentally Friendly Production Execution

1. B shall perform any and all activities required to execute this Contract effectively, such as, but not limited to, the development and production of Materials, the purchasing and use of Materials and parts, the maintenance and operation of the measuring system, testing results in store, and the set-up and implementation of

Preparing Registration

- Since the collaboration in supply chain is very important, LG Chem is making efforts to communicate with suppliers & customers.



Status of REACH registration

- LG Chem is making required documents through both SIEFs and consortia.
- This company will register over 20 substances through REACH-IT by Nov.30.2010

Category		Current Status	Plan
Consortium	<ul style="list-style-type: none"> •ARTF •PC/BPA global group •SM REACH •EURO chloro •DOTP 	<ul style="list-style-type: none"> • Registration completeness (2 substances (AA,BA)) • Review on TD,CSR • Making SIP documents (Substance Identification Profile) • Token • Joint Submission Name 	<ul style="list-style-type: none"> • Communication with customer • Making e-SDS
SIEF	<ul style="list-style-type: none"> •Some Substances 	<ul style="list-style-type: none"> • Purchasing Letter of Access • Making SIP documents (Substance Identification 	<ul style="list-style-type: none"> • Review on SIEF agreement • Purchasing Letter of Access • Registration

9/16

11/30

The REACH collaboration between Korea companies

- Overview
- Chemical category in KPRC
- KPRC organization and function
- KPRC activities

3

Overview

- Seven petrochemical companies in Korea formed a consortium to cope with REACH registration together.
 - Korean Petrochemicals REACH Consortium(KPRC)
 - Members : Kumho petrochemical, Korea Petrochemical Ind., Samsung Total, Yeochun NCC, KP chemical, SK energy, Hyosung
- Consortium agreement entered into the May 15 2009
- The purposes ;
Sharing information between members, joint preparation of REACH registration to meet the registration timeline and cost saving(Only representative and local consulting fee)

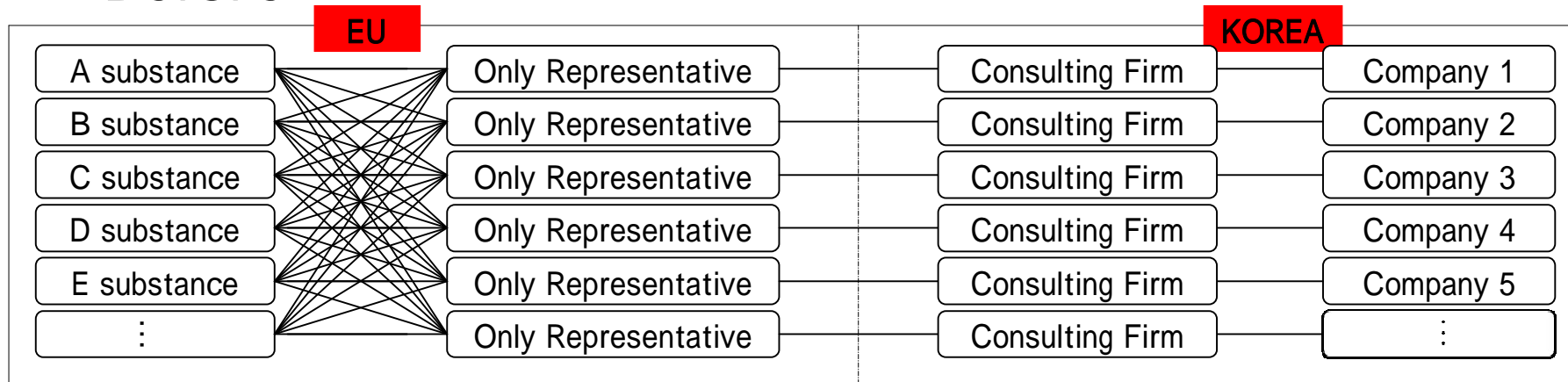
Chemical category in KPRC

- Main four categories and 13 substances which are manufactured by 7 companies covered by KPRC.

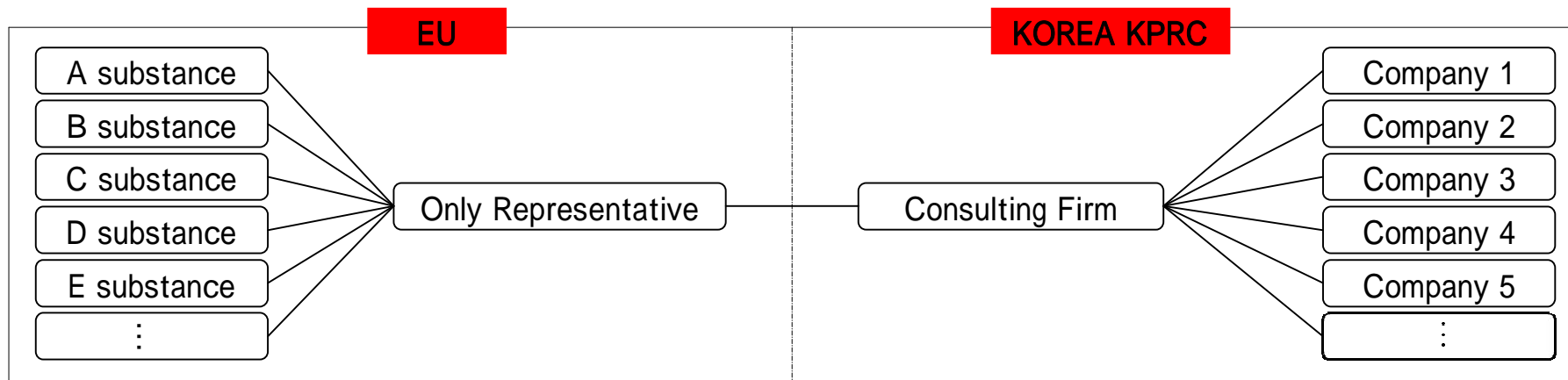
Group	Chemical Name	CAS No.
C2C3	Ethylene	74-85-1
	Propylene	115-07-1
C4	1,3-Butadiene	106-99-0
	1-Butene	106-98-9
	iso-Butene	115-11-7
BTX	Benzene	71-43-2
	Toluene	108-88-3
	o-Xylene	95-47-6
	m-Xylene	108-38-3
	p-Xylene	106-42-3
	Xylene	1330-20-7
Others	Styrene	100-42-5
	Solvent naphtha	64742-95-6

KPRC organization and function

■ Before



■ After



KPRC activities

- The collaboration between members for same substance
 - The information sharing to reach the decision of relevant consortium, SIEF communication, the lead registrant's activity follow up
 - The cost saving through streamlining work flow between Only representative and member companies or avoiding duplicate work for same substance
- The development of supply chain management tool to survey supply chain jointly and the preparation of individual dossier
- The follow up of chemical regulatory status in main exporting foreign countries and information exchange
 - USA, EU, Japan, China, Taiwan, Turkey, Malaysia, etc.
 - Chemical notification related regulation, GHS or CLP, etc.

Supply chain management survey form developed by the KPRC (sample)

[Company Logo]

[Company Information]

Date: 11 August, 2009

To:

Dear Sir or Madam

This letter is to inform you about the
Evaluation, Authorisation and
take the following action with

In the event that we export
be answered under EU R
would be blocked unless r
customs duty in relation to
and patiently respond to our
importer(s) does/do not in

Format 1. Direct export into EU

Please fill in the following form on EU importer if you make direct exports into the EU.
Note that domestic/international distributor in the EU is not an importer.

e.g) Our company → Your Company → Domestic/international distributor → **EU importer**
(Product name: AAA) (Product name: BBB)

A. Your company's information - Non EU

Company name			
Person in charge			
Contact	Tel.	e-mail:	

B. Importer's information - EU

Company name ^{1,2,4}			
Country			
Address			
Person in charge			
Tel			
E-mail			

C. Material information

Product name provided by our company	AAA
Export Product name	BBB
Form of export product ³	<input type="checkbox"/> substance <input type="checkbox"/> preparation <input type="checkbox"/> polymer <input type="checkbox"/> article (Choose one)

1 페이지

Thank you

감사합니다