

## 용도 조사 및 노출 정보 확보 방법

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18<sup>th</sup> August 2009, Seoul, Korea



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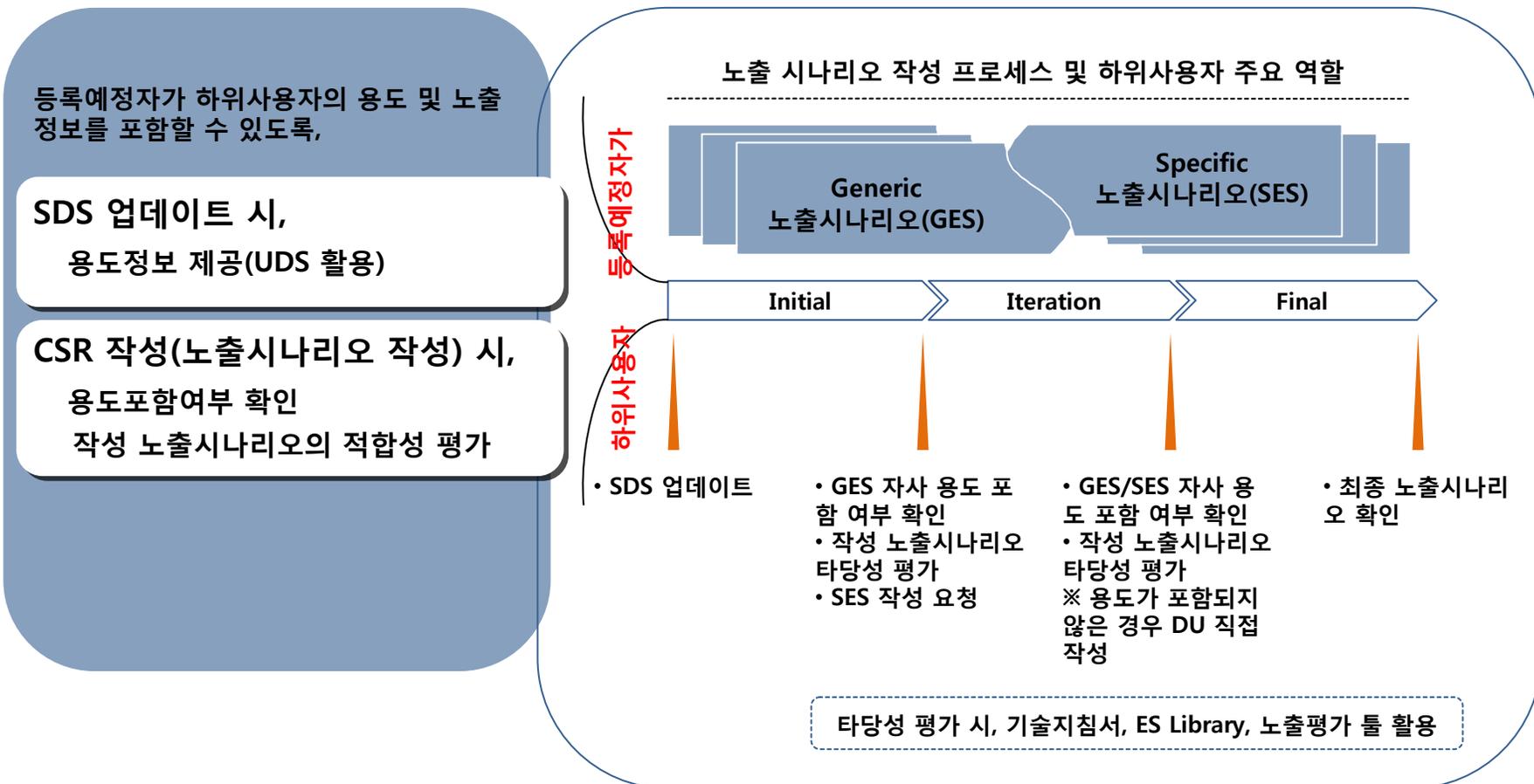
## 용도 조사 및 노출 정보 확보 방법

1. 용도정보 필요성
2. 용도맵 작성 단계
3. 용도맵 정보 확보
4. 용도 정보 구성
5. 물질 용도 맵 구성
6. 하위 사용자와의 communication

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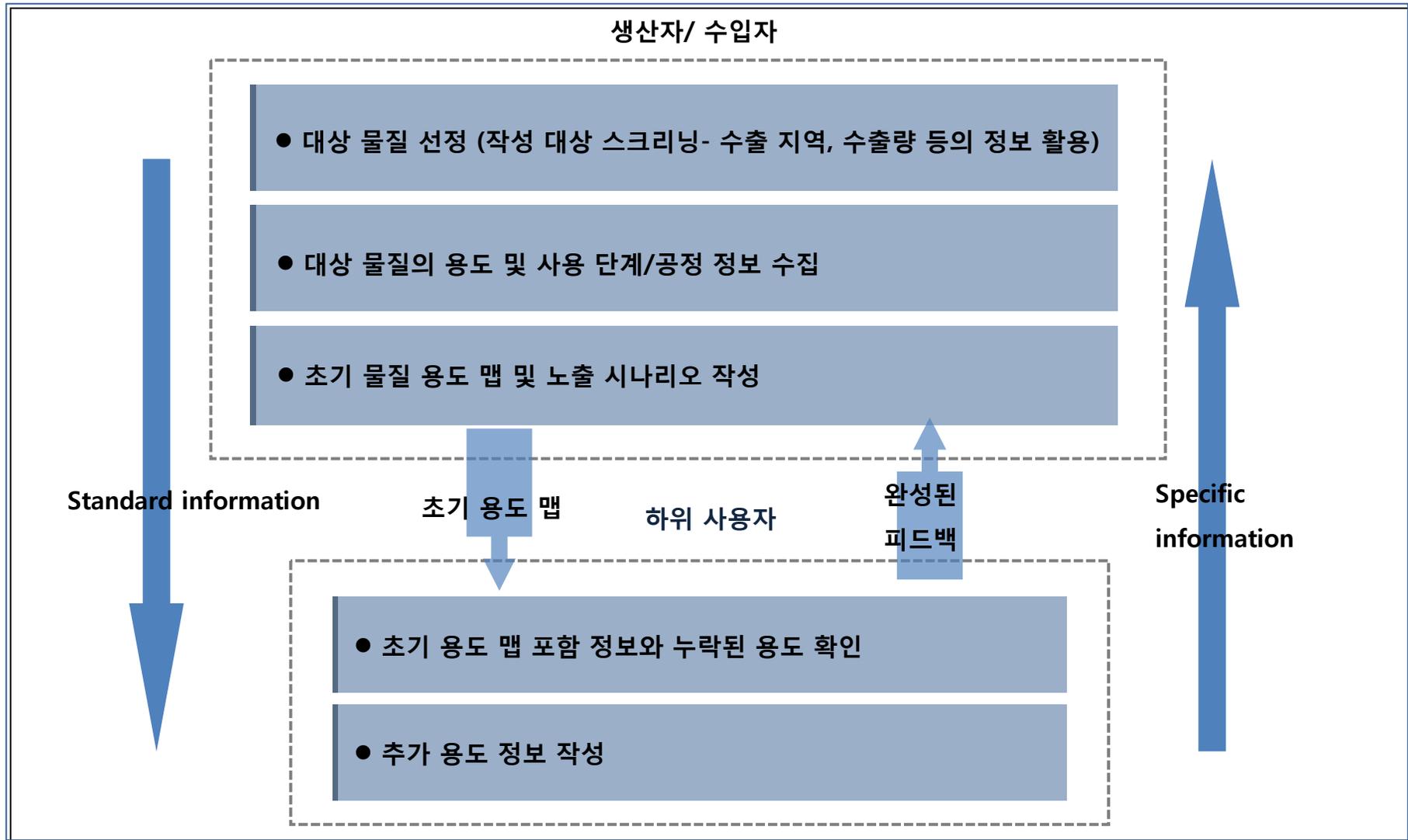
## 상하위 공급망 내 정보 교환

- REACH의 등록과정은 물질제조자 혹은 수입자부터 최종사용자까지 하나의 '책임사슬(chain of responsibilities)' 하에 있음
- 본등록 예정자가 해당물질에 대한 등록 준비 또는 SDS 업데이트 과정에서 하위사용자의 용도 정보를 포함해야 함
- 이 때 하위사용자가 용도정보를 제공하지 않으면 자신의 용도와 관련된 위해성 평가의 책임을 져야 함(별도 본등록 의무 발생)





## 전체 업무 Process



## 용도 및 사용 공정 정보 수집- 필요한 주요 정보

1

### 주요 사용 주체 관련 정보

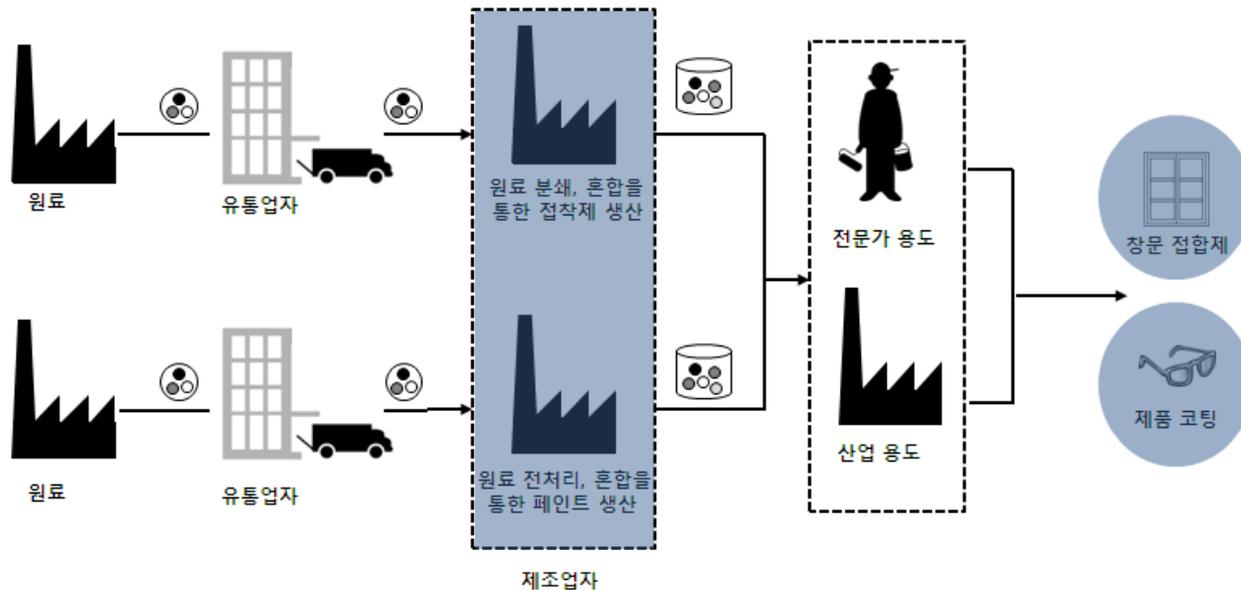
(제품 전생애 기준으로 해당 제품의 주요 사용자 확인)



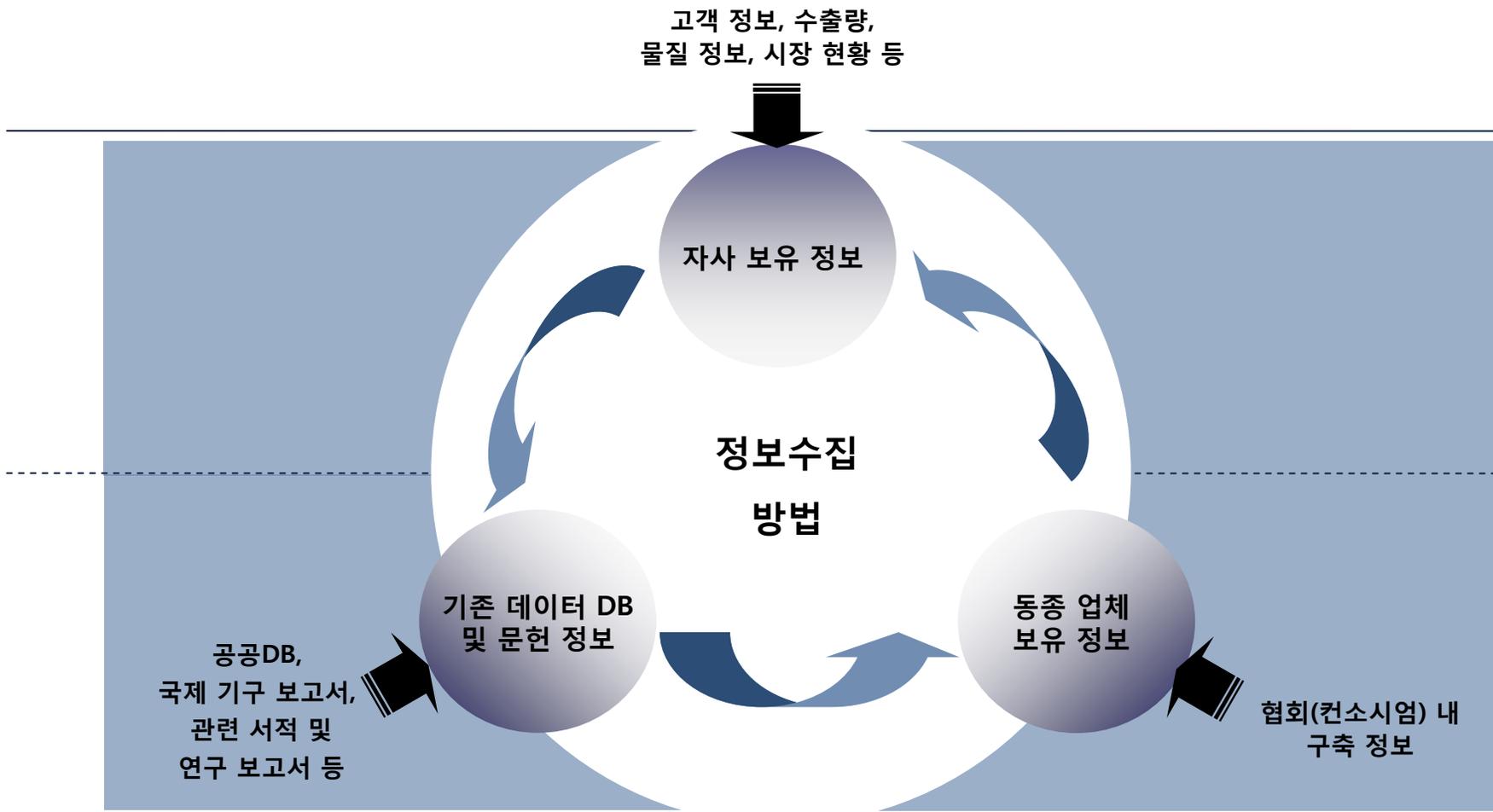
2

### 제조 또는 사용 공정 관련 정보

(해당 제품 제조 또는 사용 단계 및 방법에 대한 간단한 기술)

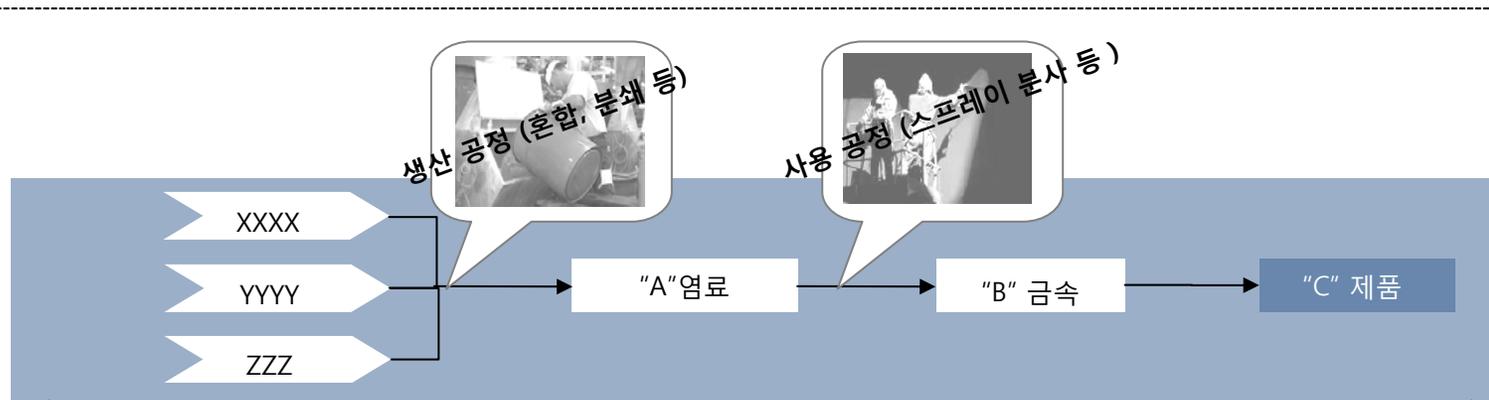


## 용도 및 사용 공정 정보 수집- 주요 정보 수집 방법

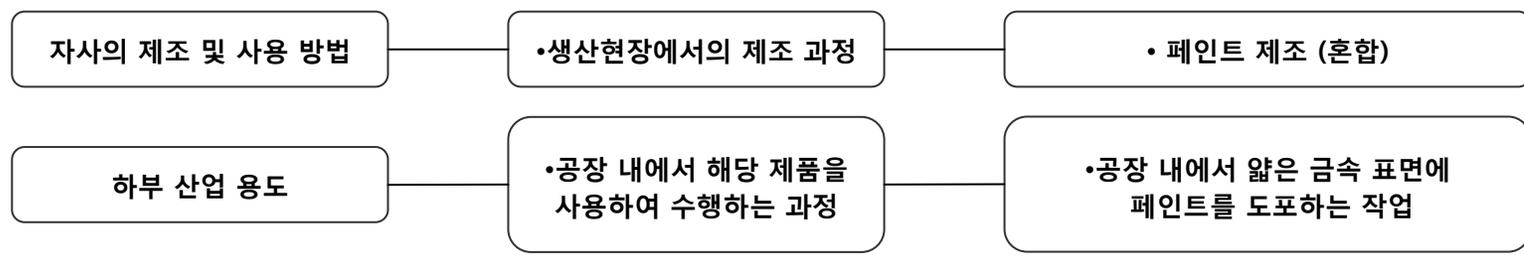


## 용도 및 사용 공정 정보 수집- 자사 보유 정보 수집

- 선별된 물질에 대해 자사가 보유하고 있는 정보 수집 - 제품 생산 공정. 물리 • 화학적 정보(MSDS), 형태 등 (물질 선정 시 수집된 공급망 현황 분석 정보 포함)



생산 공정 (혼합, 분쇄 등)



## 용도 및 사용 공정 정보 수집- 기존 정보 수집 (I)

- 화학물질의 용도 및 사용 공정을 확인할 수 있는 공개된 DB와 문헌 자료를 이용하여 관련 정보를 수집

목록	개요	출처
SPIN (Substances in Preparations In the Nordic Countries) Data Base	북유럽 제품 등록 정보 제공 DB로, 23,000여종의 물질에 대한 북유럽 국가에서의 사용 용도, 사용량 및 물리/화학적 정보 등이 제공됨	<a href="http://www.spin2000.net">http://www.spin2000.net</a>
Kirk Othmer Encyclopedia of Chemical Technology	해당물질의 속성, 제조, 사용에 관한 정보, 공정 및 공학 용어 등에 대한 정보를 전문 화학용어로 다양하게 정리하여 제시한 백과사전	<a href="http://mrw.interscience.wiley.com/emrw/9780471238966/home/">http://mrw.interscience.wiley.com/emrw/9780471238966/home/</a>
Ullmann's Encyclopedia of Industrial Chemistry	화학관련 회사 및 연구 기관의 전문가가 작성한 800여가지 완제품을 토대로, 화학 물질, 관련 공정, 물리화학적 데이터 등의 정보를 검색할 수 있는 백과사전	<a href="http://www.wiley-vch.de/vch/software/ullmann/index.php?page=home">http://www.wiley-vch.de/vch/software/ullmann/index.php?page=home</a>
OECD ESDs	20여 개의 산업 범주(industry category. IC)에 대해 작성된 배출 시나리오 문서	<a href="http://www.oecd.org/document/46/0,3343,en_">http://www.oecd.org/document/46/0,3343,en_</a>
EU risk assessment reports	EU에서 수행한 기존 화학물질에 대한 위해성 평가 결과 보고서 (화학물질의 용도 및 노출시나리오 정보가 포함되어 있음)	<a href="http://ecb.ei.jrc.it/existing-chemicals/">http://ecb.ei.jrc.it/existing-chemicals/</a>
EU Biocides	23여종의 biocide 사용 용도에 대해 개발된 신규 배출 시나리오	
IUCLID	화학물질에 대해 제출된 사용 용도, 물리화학적 특성, 독성자료 등이 정리된 보고서	
BREF	유럽의 IPPC (Integrated Pollution Prevention and Control) Bureau는 IPPC Directive 96/61/EC 에 따라 가용한 기술 정보 교류를 촉진하고, 관련 참고문헌(BREFs)을 개발하고자 구성된 기관. BREFs는 산업체가 환경 수행 능력을 증진시키기 위해 가용한 정보들을 의사결정자에게 제공	<a href="http://eippcb.jrc.es/">http://eippcb.jrc.es/</a>
US EPA	선정된 주요 산업(32개)에 대한 정보를 제공함, 대기, 물, 토양으로의 배출데이터가 주요 지표가 됨	<a href="http://www.epa.gov/compliance/resources/publications/assistance/sectors/notebooks/index.html">http://www.epa.gov/compliance/resources/publications/assistance/sectors/notebooks/index.html</a>

## 용도 및 사용 공정 정보 수집- 기존 정보 수집 (II)

- 국제 기구 및 국가 차원에서 공개하고 있는 자료에서 수집 가능한 정보의 형태는 다음과 같음

**European Commission**  
**Joint Research Centre**  
Institute for Health and Consumer Protection

European Commission > JRC > IHCP > Ex-ECB

The environmental exposure assessment of DNP will be based on the expected releases of the substance during the following life cycle steps:

I.	Production	
II.	Distribution	
IIIa.	Processing in PVC polymers	
IIIb.	Processing in non-PVC polymers	
IIIc.	Additive for adhesives, glues and sealing compounds	Processing in PVC (life cycle step IIIa) As mentioned above, 101,500 t/a of DNP is used in PVC. In this context, a generic exposure scenario has been carried out with default values of the Use Category Document on Plastic Additives (BRE, 1998).  The initial losses will be to air inside the processing facilities; however subsequent condensation will result in losses to liquid waste. Neither BRE (1998), nor industry information specifies the partition to the different environmental compartments. In a first approach, the releases will be evenly distributed to air and wastewater.
IIIc.	Additive for inks (pulp and paper)	The air treatment (percentages per processing step are documented in ECPI, 1996) will conduct to a lower emission of DNP into the environment; this will be taken into account in the estimation of the emission factor.
IIIe.	Additive in paints	
IVa.	Exterior and interior use of DNP-containing PVC	
IVb.	Use of non-PVC polymers containing DNP	The basic processes used by the PVC industry are distinguished. Local emissions will be calculated for PEClocal estimations.
IVc.	Applied adhesives, glues and sealing containing DNP	A: Raw materials handling The handling of raw material from their arrival on site to their addition to polymers is undertaken by a variety of means. These include manual handling of bags and sacks, conveyor belts, etc.
IVd.	Paper recycling	
IVe.	Applied paints containing DNP	
V.	Disposal of endproducts	DNP products are not notably volatile at room temperature, and thus no evaporation should be expected from ambient temperature handling. Minimal loss can therefore be assumed, this being most likely during transfer (e.g. splashing or accidental spillage).  The estimated release is 0.01% (on the basis of incidental losses), of which 50% are supposed to be released to wastewater.

For life cycle stages I and III site-specific and/or generic calculating the predicted environmental concentrations compartments.

Stages II, IV and V can be regarded as diffuse sources considered in PECregional calculations.

Site-specific scenarios are based on actual data from industry on emission patterns etc. whereas generic scenarios are fully based on model calculations for a realistic worst-case situation.

The exposure assessment is based on the TGD (EC, 1996). Regional concentrations are evaluated with the model SIMPLEBOX included in the program EUSES.

<(예시) DNP EU risk assessment report에 포함된 용도/노출 정보->

**Industry Sector Notebooks**

Spanish - Notebooks that have been translated into Spanish are marked by a double asterisks (\*\*).

- [Profile of the Agricultural Chemical, Pesticide and Fertilizer Industry](#) (2000)
- [Profile of the Agricultural Crop Production Industry](#) (2000)
- [Profile of the Agricultural Livestock Production Industry](#) (2000)
- [Profile of the Aerospace Industry](#) (1998)
- [Profile of the Air Transportation Industry](#) (1997)
- [Profile of the Dry Cleaning Industry](#) (1995)
- [Profile of the Electronics and Computer Industry](#) (1995) \*\*
- [Profile of the Fossil Fuel Electric Power Generation Industry](#) (1997)
- [Profile of the Ground Transportation Industry](#) (1997)
- [Profile of the Healthcare Industry](#) (2005)
- [Profile of the Inorganic Chemical Industry](#) (1995) \*\*
- [Profile of the Iron and Steel Industry](#) (1995)
- [Profile of the Lumber and Wood Products Industry](#) (1995)
- [Profile of the Metal Casting Industry](#) (1997)
- [Profile of the Metal Fabrication Industry](#) (1995) (html) \*\*
- [Profile of the Metal Mining Industry](#) (1995)
- [Profile of the Motor Vehicle Assembly Industry](#) (1995)
- [Profile of the Nonferrous Metals Industry](#) (1995)
- [Profile of the Non-Fuel, Non-Metal Mining Industry](#) (1995)
- [Profile of the Oil and Gas Extraction Industry](#) (1999)

ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT  
**OECD**

**Environment Directorate**

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**Published: Four new Emission Scenario Documents (ESDs)**  
02-Feb-2006  
OECD published four new Emission Scenario Documents (ESDs) which describe methods for estimating emissions of chemicals from various industry sectors and from uses of chemicals. They relate to the following industry/use categories: Insecticides for Stables and Manure Storage Systems (Main Report / Annex), Kraft Pulp Mills, Non-Integrated Paper Mills, and Recovered Paper Mills. Including these four, OECD has so far published 17 ESDs. Users are encouraged to provide updated information for their continuous development.

**Published: Comparison of emission estimation methods used in Pollutant Release and Transfer Registers and Emission Scenario Documents: Case study of pulp and paper and textile sectors**  
02-Feb-2006  
The purpose of this case study document is to identify the similarities and differences between the emission estimation methods used in Pollutant Release and Transfer Registers (PRTRs) and Emission Scenario Documents (ESDs). The applicability of PRTR methods to the risk assessments intended by ESDs is also evaluated. Pulp and paper manufacture and textile wet processing are focused on in this document.

## 용도 및 사용 공정 정보 수집- 동종업체 보유 정보

- REACH 대응 준비를 지원하고 있는 협회에서 구축해 놓은 자료 또는 컨소시엄에 참가하여 동종 업체와 공동 준비를 진행함으로써 정보 교환 및 확보 가능

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**Exposure Scenarios Workshop**

Date: 26-03-2009

Organiser: EuroMetaux

Location: Marriott Hotel, Brussels

Contact: [Violaine Verougstraete](mailto:Violaine.Verougstraete@eurometaux.org)

Documents: [Draft Programme](#)

**Presentations**

- 01 - Introduction (V. Verougstraete, EM)
- 02 - Stepwise approach for metals GES: main principles & workflow (F. Van Assche, IZA & V. Verougstraete, EM)
- 03 - Step A: Data gathering on uses, information, processes (I. Schoeters, Rio Tinto)
- 04 - Tool: MMQ Part I (A. Flade, IZA)
- 05 - Step B: Check in the existing list of GES if a scenario corresponds to outcome of Step A (I. Schoeters, Rio Tinto)
- 06 - Step C: Interaction with DU to refine the GES (to move to an ES) (I. Schoeters, Rio Tinto)
- 07 - Step D: Best Available Communication Techniques: MMQ Part II (F. Capon, ENIA)
- 08 - Blood lead data analysis (A. Davidson, ILA-Europe)
- 09 - Possible refinement of occupational predictions (R. Battersby, EBRC)
- 10 - IT tool for equipment (G. Verdoorn, EUPA-ADCADIS)

**Use**

- Manufacturing of metal M (S24: Manufacture of basic metals)
- Use 1 (P2: Iron waste and alloy)
- Use 3 (S18: Manufacture of bulk, large scale chemicals (e.g. metal oxides))
- Use 2a (S22: Manufacture of fabricated metal products)
- Use 2b (AC20: Metal products (particulate) (e.g. paint, pipe))
- Use 2c (P23: Writing and labelling products)
- Use 3a (P22: Fertilisers)
- Use 3b (P2: Biocidal products (e.g. metal fungicide))

- Handling of ores, concentrates, raw metal oxides and scrap **PROC 4, 8b**
- Activities at smelters, furnaces, refineries, coke ovens including oxides production **PROC 22**
- Substantial thermal or kinetic energy applied to substance by forming/rolling, grinding, mechanical cutting, drilling or sanding, hot extrusion **PROC 24**
- Sand and die casting, tapping and casting of melted solids, drossing of melted solids, hot dip galvanising **PROC 23**
- Metal powder production by hot (atomisation, dry dispersion) and wet (electrolysis, wet dispersion) metallurgical processes, spinning (fibres) **PROC 8a**
- "Leaching processes, use in closed, continuous process with occasional controlled exposure (including solvent extraction)" **PROC 2**
- Packaging, unpacking, mixing/blending and weighing of metal powder/inorganics **PROC 8b**

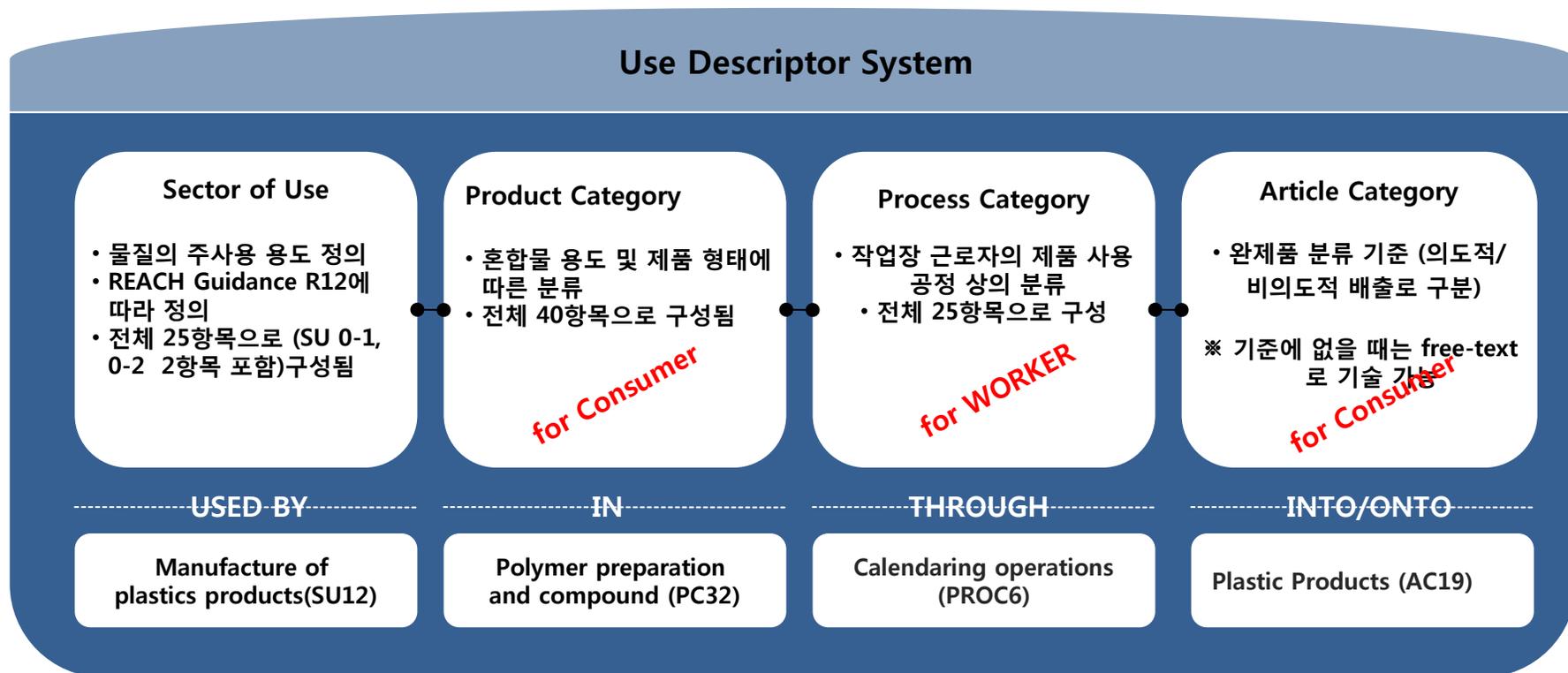
<(예시) EuroMetaux\*의 철강의 용도 정보>

\*유럽 철강 산업협회(European Association of Metals)

Substance	Contacts	Details
Acrylic monomers	European Basic Acrylic Monomers Group	Acrylic acid and basic alkyl esters, including methyl, ethyl, butyl and 2-ethylhexyl esters.
Alkylamines	TSGE <a href="mailto:nick.leeming@tsg-europe.com">nick.leeming@tsg-europe.com</a>	Primary, secondary and tertiary alkylamines, other amines and derivatives
Biodiesel	REACH Biodiesel Consortium	Biodiesel
Bisphenol A	Harlan Laboratories - formerly RCC Switzerland (Only Rep)	Bisphenol A. (Japanese firms only.)
1,4-butanediol (BDO)	CEFC BDO sector group <a href="mailto:wcr@cefic.be">wcr@cefic.be</a>	1,4-butanediol, gamma-butyrolactone (GBL), tetrahydrofuran (THF), N-methylpyrrolidone (NMP), N-ethylpyrrolidone (NEP) and 2-pyrrolidone.
Caprolactam	REACHCentrum	Caprolactam, bis(hydroxyl ammonium) sulphate, reaction mass of bis(hydroxyl ammonium) sulphate and ammonium sulphate.
Cadmium	International Zinc Association	Cadmium, cadmium oxide, cadmium hydroxide, cadmium nitrate, cadmium carbonate, cadmium sulphide, cadmium sulfo selenide (red), cadmium zinc sulphide (yellow), cadmium telluride.
Fatty Esters	<a href="mailto:awolters@dr-knoell-onsult.com">awolters@dr-knoell-onsult.com</a>	a600 fatty esters and related compounds
Phenol and derivatives	REACHCentrum	Phenol, acetone, cumene, alpha-methyl styrene, acetophenone, di-isopropyl benzene, CHP and 'high-boiler'.

## 초기 물질 용도 맵 작성 - 용도 맵의 구성 양식

- REACH 에서는 물질 **사용 용도 명확화 및 노출시나리오 작성과 하위 사용자와의 커뮤니케이션을 용의하게 하기 위해 UDS (Use Descriptor system)**을 개발 하였으며, 이를 기본 양식으로 활용하여 물질 용도 맵 이 작성됨
- UDS는 Sector of Use와 Product -, Process -, Article Category 4단계로 구분하여 물질용도를 정의



▶ 초기 물질 용도 맵 작성 후 하위사용자와의 **communication** 시 최종 사용자로부터 완제품 분류(AC)까지 확인하기 위하여 상당한 시간이 필요할 것으로 예상됨(작성 준비가 시급함!!)

## 초기 물질 용도 맵 작성 – Sector of use [SU] 선택 (I)

- 산업 활동 형태에 대한 분류 단계로써 전체 25항목으로 (SU 0-1, 0-2 2항목 포함 ) 구성 되어 있음
- 하위 사용자 정보가 수집된 경우, 보유 정보에 기반하여, 적합한 [SU] 선택  
(선택이 불가능할 경우, [SU 0] 기재 후, EU 내 산업 분류 코드로써 사용되고 있는 NACE Code를 사용하여 분류)
- 하위 사용자 정보가 부족한 경우, 하위사용자가 사용하고 있는 NACE \*Code 정보를 활용하여 SU 결정

\*EU의 표준산업분류 코드: Nomenclature des Activites Economiques (statistical classification of economic activities in Europe)

	산업 활동 분류	NACE *code
SU 0-1	Other activity related to manufacturing of chemical products ( NACE Code to be used only)	
SU 0-2	Other activities related to manufacture and services ( NACE Code to be used only)	
SU1	Agriculture, forestry, fishery	A
SU2	Mining, (including offshore industries	B
SU3	Industrial Manufacturing(all)	C
SU4	Manufacture of food products	10,11
SU5	Manufacture of textiles, leather, fur	13-15
SU6	Manufacture of pulp, paper and paper products	17
SU7	Printing and reproduction of recorded media	18
SU8	Manufacture of bulk, large scale chemicals (including petroleum products)	19.2+20.1
SU9	Manufacture of fine chemicals	20.2-20.6
SU10	Formulation [mixing] of preparations and/or re-packaging	

<Sector of use [SU] 와 NACE 코드 비교 >

## 초기 물질 용도 맵 작성 – Sector of use [SU] 선택 (II)

- NACE Code는 국내의 한국표준산업분류(KSIC)와 같은 역할을 하는 EU의 분류 Code임
- A부터 U까지의 알파벳과 99까지의 숫자를 사용하여 산업 활동 형태를 세부적으로 분류하고 있음  
( [http://ec.europa.eu/comm/competition/mergers/cases/index/nace\\_all.html](http://ec.europa.eu/comm/competition/mergers/cases/index/nace_all.html) 에서 전체 List 열람 가능)

 <b>Competition</b> <span style="float: right;">Important legal notice</span>		
EUROPA > European Commission > Competition <span style="float: right;">Contact   Search on EUROPA</span>		
<b>A - Agriculture, forestry and fishing</b> A1 - Crop and animal production, hunting and related service activities A1.1 - Growing of non-perennial crops A1.1.1 - Growing of cereals (except rice), leguminous crops and oil seeds A1.1.2 - Growing of rice A1.1.3 - Growing of vegetables and melons, roots and tubers A1.1.4 - Growing of sugar cane A1.1.5 - Growing of tobacco A1.1.6 - Growing of fibre crops A1.1.9 - Growing of other non-perennial crops A1.2 - Growing of perennial crops A1.2.1 - Growing of grapes A1.2.2 - Growing of tropical and subtropical fruits A1.2.3 - Growing of citrus fruits A1.2.4 - Growing of pome fruits and stone fruits A1.2.5 - Growing of other tree and bush fruits and nuts A1.2.6 - Growing of oleaginous fruits A1.2.7 - Growing of beverage crops A1.2.8 - Growing of spices, aromatic, drug and pharmaceutical crops A1.2.9 - Growing of other perennial crops A1.3 - Plant propagation A1.3.0 - Plant propagation A1.4 - Animal production A1.4.1 - Raising of dairy cattle A1.4.2 - Raising of other cattle and buffaloes A1.4.3 - Raising of horses and other equines A1.4.4 - Raising of camels and camelids A1.4.5 - Raising of sheep and goats A1.4.6 - Raising of swine/pigs A1.4.7 - Raising of poultry A1.4.9 - Raising of other animals A1.5 - Mixed farming A1.5.0 - Mixed farming A1.6 - Support activities to agriculture and post-harvest crop activities A1.6.1 - Support activities for crop production A1.6.2 - Support activities for animal production A1.6.3 - Post-harvest crop activities A1.6.4 - Seed processing for propagation	<b>B - Mining and quarrying</b> B5 - Mining of coal and lignite B5.1 - Mining of hard coal B5.1.0 - Mining of hard coal B5.2 - Mining of lignite B5.2.0 - Mining of lignite B6 - Extraction of crude petroleum and natural gas B6.1 - Extraction of crude petroleum B6.1.0 - Extraction of crude petroleum B6.2 - Extraction of natural gas B6.2.0 - Extraction of natural gas B7 - Mining of metal ores B7.1 - Mining of iron ores B7.1.0 - Mining of iron ores B7.2 - Mining of non-ferrous metal ores B7.2.1 - Mining of uranium and thorium ores B7.2.9 - Mining of other non-ferrous metal ores B8 - Other mining and quarrying B8.1 - Quarrying of stone, sand and clay B8.1.1 - Quarrying of ornamental and building stone, limestone, gypsum, chalk and slate B8.1.2 - Operation of gravel and sand pits; mining of clays and kaolin B8.9 - Mining and quarrying n.e.c. B8.9.1 - Mining of chemical and fertiliser minerals B8.9.2 - Extraction of peat B8.9.3 - Extraction of salt B8.9.9 - Other mining and quarrying n.e.c. B9 - Mining support service activities B9.1 - Support activities for petroleum and natural gas extraction B9.1.0 - Support activities for petroleum and natural gas extraction B9.9 - Support activities for other mining and quarrying B9.9.0 - Support activities for other mining and quarrying <b>C - Manufacturing</b> C10 - Manufacture of food products C10.1 - Processing and preserving of meat and production of meat products C10.1.1 - Processing and preserving of meat C10.1.2 - Processing and preserving of poultry meat C10.1.3 - Production of meat and poultry meat products C10.2 - Processing and preserving of fish, crustaceans and molluscs C10.2.0 - Processing and preserving of fish, crustaceans and molluscs	<b>S - Other services activities</b> S94 - Activities of membership organisations S94.1 - Activities of business, employers and professional membership organisations S94.1.1 - Activities of business and employers membership organisations S94.1.2 - Activities of professional membership organisations S94.2 - Activities of trade unions S94.2.0 - Activities of trade unions S94.9 - Activities of other membership organisations S94.9.1 - Activities of religious organisations S94.9.2 - Activities of political organisations S94.9.9 - Activities of other membership organisations n.e.c. S95 - Repair of computers and personal and household goods S95.1 - Repair of computers and communication equipment S95.1.1 - Repair of computers and peripheral equipment S95.1.2 - Repair of communication equipment S95.2 - Repair of personal and household goods S95.2.1 - Repair of consumer electronics S95.2.2 - Repair of household appliances and home and garden equipment S95.2.3 - Repair of footwear and leather goods S95.2.4 - Repair of furniture and home furnishings S95.2.5 - Repair of watches, clocks and jewellery S95.2.9 - Repair of other personal and household goods S96 - Other personal service activities S96.0 - Other personal service activities S96.0.1 - Washing and (dry-)cleaning of textile and fur products S96.0.2 - Hairdressing and other beauty treatment S96.0.3 - Funeral and related activities S96.0.4 - Physical well-being activities S96.9 - Other personal service activities n.e.c. <b>T - Activities of households as employers; undifferentiated goods - and services - producing activities</b> T97 - Activities of households as employers of domestic personnel T97.0 - Activities of households as employers of domestic personnel T97.0.0 - Activities of households as employers of domestic personnel T98 - Undifferentiated goods- and services-producing activities of private households for own use T98.1 - Undifferentiated goods-producing activities of private households for own use T98.1.0 - Undifferentiated goods-producing activities of private households for own use T98.2 - Undifferentiated service-producing activities of private households for own use

### <NACE code 와 산업 분류 >

## 초기 물질 용도 맵 작성 – Chemical Product Category [PC] 선택 (I)

- 화학제품 형태에 대한 분류 단계로써 전체 40항목으로 구성 되어 있음
- [PC]에 포함되지 않는 제품의 경우, [PC 0]으로 분류하고, RIVM의 ConsExpo<sup>1)</sup> 모델 세부 분류 항목과 UCN<sup>2)</sup> 사용
- 특정 [PC] (e.g. PC 1, 5, 6 등)로 분류된 경우 ConsExpo 모델/ ECETOC TRA (Target Risk Assessment) 모델에 세부 분류표가 탑재되어 있으므로, 보다 상세한 정의 가능

1) ConsExpo: 소비자 노출 모델(Consumer Exposure mod) 2) UCN: 노르웨이 용도 분류 카테고리 (Use categories Nordic)

	화학 제품 용도 분류	참고 자료
PC0	Other products 8 (use ConsExpo subcategories or UCN codes)	
PC1	Adhesives, Sealants	ECETOC TRA
PC2	Adsorbents	
PC3	Air care products	
PC4	Anti-Freeze and De-icing products	
PC5	Artists Supply and Hobby preparations	ECETOC TRA
PC6	Automotive Care Products***	ECETOC TRA
PC7	Base metals and alloys	
PC8	Biocidal Products (e.g. Disinfectants, pest control)	ConsExpo
PC9	Coatings and Paints, Fillers, Putties, Thinners	
PC10	Building and construction preparations not covered elsewhere	
PC11	Explosives	
PC12	Fertilizers	
PC13	Fuels	ECETOC TRA

### <Chemical Product Category [PC] 리스트>

## 초기 물질 용도 맵 작성 - Chemical Product Category [PC] 선택 (II)

- ConsExpo는 가정용 살충제 등을 비롯한 소비자 제품 노출량을 계산하기 위해 RIVM에서 개발한 평가 틀임
- 7개의 소비자 제품 군에 대한 세부 분류와 각각의 사용 특성에 맞게 관련 노출 경로 별 노출 시나리오가 정의되어 탑재되어 있으며, 해당 자료는 RIVM 웹사이트에서 PDF형태의 Fact sheet로도 제공되고 있음

The screenshot shows the RIVM website interface. The main content area is titled 'Product safety' and contains a paragraph about consumer exposure and a list of links. A red box highlights the 'Fact sheets' section, which includes: Update of Fact Sheets for ConsExpo 4.1, General Fact Sheet, Children's Toys Fact Sheet, Cleaning Products Fact Sheet, Cosmetics Fact Sheet, Disinfectants Products Fact Sheet, Do-it-Yourself Products Fact Sheet, Paints Products Fact Sheet, and Pest Control Products Fact Sheet. A red arrow points from the 'Cleaning Products Fact Sheet' link to the table on the right.

소비자 제품 군 주요 카테고리

<RIVM의 ConsExpo Fact sheets>

세부 분류	제품형태
Laundry products	Powders Liquids Fabric conditioners Laundry pre-treatment products - Sprays - Liquids - Pastes
Dishwashing products	Hand dishwashing liquids Machine dishwashing products - Powders - Liquids
All-purpose cleaners	Liquids Sprays Wet tissues
Abrasives	Liquids Powders
Sanitary products	Bathroom cleaners - Sprays - Liquids Toilet cleaners Toilet rim cleaners

(예시) 세정제에 대한 세부 분류

## 초기 물질 용도 맵 작성 - Chemical Product Category [PC] 선택 (III)

- UCN (Use Categories Nordic): 북유럽(노르웨이, 스웨덴, 덴마크)에서 화학제품의 허가/등록 시 제품 형태 분류를 위해 개발한 Code로써, 현재 EU의 물질 신고 시 사용하고 있는 분류 체계보다 상세함
- 북유럽 화학 제품 등록 정보 제공 DB인 SPIN에서 제품별 UCN 코드/NACE 코드, 용도 정보 등 다양한 정보 확인 가능함

The screenshot displays the SPIN database interface. The main window shows a list of substances with columns for PId, CAS, and Name. The substance L-Ascorbic acid (CAS 50-81-7) is selected. A detailed view window for this substance shows its use in various products across different countries and years. The table below summarizes the usage data for L-Ascorbic acid from the screenshot.

Country	Year	Code	Industry	# of Preparations	Tonnes
DK	2007	15	Manufacture of food products and beverages	7	9.74
DK	2007	24	Manufacture of chemicals and chemical products	5	0.00
DK	2007	28	Manufacture of fabricated metal products, except machinery a	7	0.01
DK	2007	50	Sale, maintenance and repair of motor vehicles and motorcycl	11	0.01
DK	2007	85	Health and social work	6	0.00
FIN	2007	41	Collection, purification and distribution of waste	0	0.00
FIN	2007	93	Other service activities	0	0.00
S	2007	01	Agriculture and hunting	7	1.00
S	2007	15	Manufacture of food products and beverages	14	137.00
S	2007	17	Manufacture of textiles	4	0.00

< SPIN (Substances in Preparations In the Nordic Countries) Data Base >

## 초기 물질 용도 맵 작성 – Chemical Product Category [PC] 선택 (IV)

- ECETOC TRA는 EU 독성연구센터(ECETOC)에서 화학물질의 신속한 스크리닝 및 노출 상황 별 우선 순위를 두어 심도 있는 평가가 요구되는 상황 별로 위해성을 평가하기 위해 개발한 틀임
- 인터넷 웹 기반의 평가 틀로, 20여 가지의 소비자 제품 군에 대해 주요 용도와 이에 대한 노출 경로가 탑재되어 있음

**ECETOC TARGETED RISK ASSESSMENT MODEL**

Summary of Results for Consumer Product Exposure (Worst-Case for Sentinel Products)

CLICK TO UNHIDE DERMAL EXPOSURE PARAMETERS
CLICK TO HIDE DERMAL EXPOSURE PARAMETERS
CLICK TO UNHIDE ORAL EXPOSURE PARAMETERS
CLICK TO HIDE ORAL EXPOSURE PARAMETERS
CLICK TO UNHIDE INH EXPOSURE PARAMETERS
CLICK TO HIDE INH EXPOSURE PARAMETERS

DERMAL											
Descriptor <sup>1</sup>	Worst-case Product Subcategory <sup>2</sup>	Product Ingredient (g/g)	Contact Area (cm <sup>2</sup> )	Frequency of use (events / day)	Thickness of Layer (cm)	Density (g/cm <sup>3</sup> )	Conversion Factor	Body Weight (kg)	Dermal Exposure Estimate (mg/kg/day)	Dermal Risk Characterisation Ratio	Dermal Exposure Dermal RefVal
		(PI x	CA x	FQ x	TL x	D x	1000)	/ BW			
PC7_n: Base metals and alloys											
PC8_n: Biocidal products											
PC9: Coatings and paints, fillers, putties, thinners											
PC10: Building and construction preparations not covered elsewhere											
PC11_n: Explosives											
PC12: Fertilizers											
PC13: Fuels											
PC14_n: Metal surface treatment products											
PC15_n: Non-metal surface treatment products											
PC16_n: Heat transfer fluids											
PC17_n: Hydraulic fluids											
PC18_n: Ink and toners											

< ECETOC TRA와 용도 카테고리 >

제품 용도 카테고리
Artists supplies and craft/hobby materials
Adhesives, binding agents and sealants
Automotive care products
Electrical and electronic products
Glass and ceramic products
Fabrics, textiles and apparel
Lawn and garden products (non-pesticide/herbicide)
Leather products
Lubricants, greases, fuel and fuel additives
Metal products
Paper products
Paintings and coatings
Photographic and reprographic products
Polishes
Rubber products
Soaps and detergents (washing and cleaning agents)
Transportation products
Wood and wood furniture
Other
Construction materials
Plastic products

ECETOC TRA에 탑재된 소비자 제품군

## 초기 물질 용도 맵 작성 – Process Category [PROC] (공정 범주) 선택

- 작업장 근로자의 화학제품 사용 상황을 고려하는 단계로써 전체 25항목으로 구성 되어 있음
- 해당 물질에 대한 공정 형태 분류 후, 예시 및 설명을 통해 작업장 환경을 간략하게 명시함

	공정 형태 분류	예시 및 설명
PROC0	Other Process or activity	
PROC1	Use in closed process, no likelihood of exposure Industrial setting;	Use of the substances in high integrity contained system where little potential exists for exposures, e.g. any sampling via closed loop systems.
PROC2	Use in closed, continuous process with occasional controlled exposure (e.g. sampling) Industrial setting;	Continuous process but where the design philosophy is not specifically aimed at minimizing emissions It is not high integrity and occasional expose will arise e.g. through maintenance, sampling and equipment braking
PROC3	Use in closed batch process (synthesis or formulation) Industrial setting;	Batch manufacture of a chemical or formulation where the predominant handling is in a contained manner, e.g. through enclosed transfers, but where some opportunity for contact with chemicals occurs, e.g. through sampling
PROC4	Use in batch and other process (synthesis) where opportunity for exposure arises Industrial setting;	Use in batch manufacture of a chemical where significant opportunity for exposure arises, e.g. during the charging, the sampling or discharge of material, and when the nature of the design is likely to result in exposure.
PROC5	Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact) Industrial setting	Manufacture or formulation of chemical products or articles using technologies related to mixing and blending of solid or liquid materials, and where the process is in stages and provides the opportunity for significant contact at any stage.

<Chemical Process Category [PROC] 리스트>

## 초기 물질 용도 맵 작성 – Article Category [AC] (완제품 범주) 선택 (I)

\*TARIC: EU 통합 관세 제도(Tarif Integre Communautaire)

- 완제품 분류는 의도적 배출의 유/무를 기준으로 각각의 리스트가 별도로 존재하며, ECETOC TRA의 소비자 제품 군 분류에 환경으로의 배출을 고려해야 하는 몇 가지 제품 군 을 추가하여 작성되었음
- [AC 0]~[AC 13]은 의도적 배출이 없는 제품에, [AC 30]~[AC 39]는 의도적 배출이 있는 제품 분류에 사용되어짐
- [AC] 리스트를 사용하여 분류가 어려운 제품의 경우 TARIC\* 시스템을 사용하여 분류함
- 완제품으로 생산되지 않고, 혼합물 또는 중간 부산물 형태로 사용될 경우 [AC] 선택 불가

	완제품 형태 분류
AC 0	Other Articles (use TARIC terminology)
AC 1-1	Passenger cars and motor cycles
AC 1-2	Other vehicles: Railway, aircraft, vessels, boats, trucks, and associated transport equipment
AC 2	Machinery and mechanical appliances thereof
AC 3-1	Electrical and electronic products, e.g. computers, office equipment, video and audio recording,
AC 3-2	Electrical batteries and accumulators
AC 3-3	Electrical and electronic products: Household appliances (white ware)
AC 3-4	Photographic and reprographic articles: cameras, video cameras
AC 4	Glass and ceramic products: dinner ware, pots, pans, food storage containers
AC 5-1	Fabrics, textiles and apparel: bedding and clothing
AC 5-2	Fabrics, textiles and apparel: curtains, upholstery, carpeting/flooring, rugs
AC 6	Leather products: apparel and upholstery

	완제품 형태 분류
AC30	Other articles with intended release of substances
AC31	Scented clothes
AC32	Scented eraser
AC34	Scented Toys
AC35	Scented paper articles
AC36	Scented CD
AC37	Other scented articles
AC38	Packaging material for metal parts, releasing grease/corrosion inhibitors
AC39	Other articles releasing grease or corrosion inhibitors; please specify13

<Article Category [AC] 리스트>

## 초기 물질 용도 맵 작성 – Article Category [AC] (완제품 범주) 선택 (II)

- TARIC 코드는 유럽 단일시장 운영의 용이성 도모와 수입국 및 수입물품별 제품에 부여되는 상세 관세율의 관리를 위해 만들어진 EU 상품분류번호로서, EU TARIC 웹사이트를 통해 검색할 수 있으며 농산물에서 예술품까지 상세한 분류 가능

The screenshot shows the 'Taxation and Customs Union' website. The main heading is 'TARIC Table of Contents'. A red arrow points from the 'Section VI' link in the table of contents to the detailed view of 'Chapter 29 - ORGANIC CHEMICALS'.

**TARIC Table of Contents**

- Section I -Live animals; animal products
- Section II -Vegetable products
- Section III -Animal or vegetable fats and oils and their cleavage products; prepared edible fats; animal or vegetable waxes
- Section IV -Prepared foodstuffs; beverages, spirits and vinegar; tobacco and manufactured tobacco substitutes
- Section V -Mineral products
- Section VI -Products of the chemical or allied industries
- Section VII -Plastics and articles thereof; rubber and articles thereof
- Section VIII -Raw hides and skins, leather, furskins and articles thereof; saddlery and harness; travel goods, handbags and suitcases
- Section IX -Wood and articles of wood; wood charcoal; cork and articles of cork; manufactures of straw, of esparto or of other fibrous vegetable material
- Section X -Pulp of wood or of other fibrous cellulosic material; waste and scrap of paper or paperboard; paper and paperboard
- Section XI -Textiles and textile articles
- Section XII -Footwear, headgear, umbrellas, sun umbrellas, walking-sticks, seat-sticks, whips, riding-crops and parts thereof; artificial flowers; articles of human hair
- Section XIII -Articles of stone, plaster, cement, asbestos, mica or similar materials; ceramic products; glass and glassware
- Section XIV -Natural or cultured pearls, precious or semi-precious stones, precious metals, metals clad with precious metal
- Section XV -Base metals and articles of base metal
- Section XVI -Machinery and mechanical appliances; electrical equipment; parts thereof; sound recorders and reproducers, television image and sound reproducing apparatus and parts and accessories of such articles
- Section XVII -Vehicles, aircraft, vessels and associated transport equipment
- Section XVIII -Optical, photographic, cinematographic, measuring, checking, precision, medical or surgical instruments and apparatus and accessories thereof
- Section XIX -Arms and ammunition; parts and accessories thereof
- Section XX -Miscellaneous manufactured articles
- Section XXI -Works of art, collectors' pieces and antiques

**Chapter 29 - ORGANIC CHEMICALS**

Simulation date 09/05/2009

TARIC code	Description
2901	Acyclic hydrocarbons
2901	I. HYDROCARBONS AND THEIR HALOGENATED, SULPHONATED, NITRATED OR NITROSATED DERIVATIVES
2902	Cyclic hydrocarbons
2903	Halogenated derivatives of hydrocarbons
2904	Sulphonated, nitrated or nitrosated derivatives of hydrocarbons, whether or not halogenated
2905	II. ALCOHOLS AND THEIR HALOGENATED, SULPHONATED, NITRATED OR NITROSATED DERIVATIVES
2905	Acyclic alcohols and their halogenated, sulphonated, nitrated or nitrosated derivatives
2906	Cyclic alcohols and their halogenated, sulphonated, nitrated or nitrosated derivatives
2907	Phenols; phenol-alcohols
2907	III. PHENOLS, PHENOL-ALCOHOLS, AND THEIR HALOGENATED, SULPHONATED, NITRATED OR NITROSATED DERIVATIVES
2908	Halogenated, sulphonated, nitrated or nitrosated derivatives of phenols or phenol-alcohols
2909	IV. ETHERS, ALCOHOL PEROXIDES, ETHER PEROXIDES, KETONE PEROXIDES, EPOXIDES WITH A THREE-MEMBERED RING, ACETALS AND HEMIACETALS, AND THEIR HALOGENATED, SULPHONATED, NITRATED OR NITROSATED DERIVATIVES
2909	Ethers, ether-alcohols, ether-phenols, ether-alcohol-phenols, alcohol peroxides, ether peroxides, ketone peroxides (whether or not chemically defined), and their halogenated, sulphonated, nitrated or nitrosated derivatives
2910	Epoxides, epoxyalcohols, epoxyphenols and epoxyethers, with a three-membered ring, and their halogenated, sulphonated, nitrated or nitrosated derivatives
2911	Acetals and hemiacetals, whether or not with other oxygen function, and their halogenated, sulphonated, nitrated or nitrosated derivatives
2912	V. ALDEHYDE-FUNCTION COMPOUNDS
2912	Aldehydes, whether or not with other oxygen function; cyclic polymers of aldehydes; paraformaldehyde
2913	Halogenated, sulphonated, nitrated or nitrosated derivatives of products of heading 2912

## 초기 물질 용도 맵 작성 - 초기 용도 맵 작성 사례

- 초기 용도 맵 은 전문가용(산업용/특수한 용도) 소비자용으로 구분하여 작성될 수 있으며, 소비자용 제품 군의 경우 작업장 사용환경을 분류하는 [PROC] 부분에 대한 분류는 제외 가능함
- 접착제의 경우 최종 제품 형태가 혼합물의 형태이므로, 완제품 범주인 [AC] 분류는 제외됨

구분	Sector of Use (SU)	Product Category (PC)	Process Category (PROC)
Formulation End Use  전문가용 제품 (산업용 포함)	•SU3: Industrial manufacturing •SU10: Chemical formulation and packing	•PC1: Adhesives and sealants	•PROC1: Closed continuous process (no sampling) •PROC2: Closed continuous process (sampling) •PROC4: Open batch process •PROC6: Spray application •PROC7: Discharging to/from vessels •PROC8: Filing containers •PROC9: Roller application •PROC11: Treatment by dipping/pouring
End Use	•SU22: Public domain	•PC1: Adhesives and sealants	•PROC5: Batch process (e.g. mixing) •PROC6: Spray application •PROC7: Discharging to/from vessels •PROC9: Roller application •PROC11: Treatment by dipping/pouring
소비자 제품 End Use	•SU21: Private household	•PC1: Adhesives and sealants	N/A

<접착제 용품에 대해 작성된 초기 용도 맵>

## 하위사용자와의 Communication- IUCLID5 활용

- 작성된 초기 용도 맵 은 IUCLID5 시스템을 활용하여 export 파일 형식으로 작성하여 공급 망 내에서 교환될 수 있음
- IUCLID5 파일을 활용할 경우 추후 등록 서류 작성 시 완성된 용도 맵을 따로 입력하는 것이 아니라 다시 import 하여 사용함으로써 업무 진행이 용이할 수 있음

해당 화학물질에 대해 접착제 이외의 용도로 생산 및 사용이 예상될 경우 Column 추가하여 작성 가능

Identified Use reference	Sector of Use (SU)	Product Category (PC)	Subst/Prep	PROCess Category (PROC)	Article Category (AC)	Exposure Scenario reference	Attachment
[CBI, xxxxxxxx]	EU: REACH						
XXXXXXXXXX	SU 10: Formulation of preparation	PC 1: adhesives PC 9: coatings PC32: polymer preparation	P	PROC 5: mixing or blending in batch processes			

<IUCLID5 -용도 맵 입력 화면 >

## 하위사용자와의 Communication- 설문지 활용

- 설문지 구성은 작성 방법 및 양식을 상세하게 설명한 안내문과 하위 사용자가 보유 정보를 기입하고 전달된 정보를 확인할 수 있는 세부 문서로 구성됨

**1. Manufacturers / Importers (MI)**  
 MI should first select which worksheet they want to pre-populate: worker, consumer or combined. Please note that the template downloaded from Cefic website is pre-filled with an example, please make sure you empty it before sending it to your customers!

**2.1. Filling in the Worksheet Combined Template**  
 MI could fill in all relevant information in the worksheet combined template if  
 - the DU is familiar with Tier 1 risk assessments  
 - the direct DU has more higher tier DU as customers

**2.2 Filling in the Worksheet Worker**  
 - MI should pre-populate this simplified worksheet to allow his customer (DU) to provide feedback for his use (either professional or industrial).  
 - Product Categories (PCs), are usually not relevant in the professional or industrial use and therefore need not be filled in.  
 - MI should select the operational conditions and RMM applicable for the use from the drop-down menus in each

**2.3 Filling in the Worksheet Consumer**  
 - MI should pre-populate this simplified worksheet to allow his customer (DU), who produces a formulation / article which goes in the consumer use, to provide feedback in a simplified form.  
 - Process Categories (PROCs), are usually not relevant in the consumer use, and therefore need not be filled in.  
 - Furthermore, the Sector of Use (SU) is limited to SU 21 (only private household holds)  
 - MI should select the operational conditions and RMM applicable for the use from the drop-down menus in each

**3. Dialogue with selected customers/ downstream users**  
 - Once the template is pre-populated, MI engages in a dialogue with selected Downstream Users (DU) who should verify the pre-populated information.  
 - The selected DU should be representative of the typical supply chain and use of the product under discussion

**4. Feedback from Downstream Users during the dialogue**  
 Feedback on the deviations from the proposed Conditions of Use and/or Risk Management Measures (RMM) in the different sections of the template needs to be provided only in the blue fields.

**4.1. Feedback from DU on the Worksheet Combined Template**  
 - DU verifies all relevant information which has been filled in by the MI.  
 - The template allows a quick check (per proposed ES/product) whether the DU's use can be reflected by the combination of use descriptors (SU, PC, PROC, AC and ERC) as proposed. If not, see orange sections "Identification of a new use by the DU" below.  
 - PROCs and ERCs defined by the MI should not be modified by the DU in the blue fields.  
 - The DU should also verify whether the tier 1 relevant Operational Conditions (e.g. duration of exposure) and/or RMM match his own conditions. If the DU identifies deviations from the proposed conditions or RMM, the appropriate selection from the drop-down should be made in the blue column

**4.2 Identification of a new use (combined) by the DU**  
 - If the DU concludes that the proposed combination of use descriptors in section 1 does not describe his own use, the DU should populate a new inserted orange column under "New ES introduced by DU"  
 - In this new inserted ES the DU may describe his use independently from the proposal made by the MI. The identification of new Processes or Environmental Categories must be accompanied of certain basic information in order to allow the MI to carry out a first assessment. This basic information required must be indicated by the DU in the appropriate sections as follows:

Instruction / Combined Template / Worker+Env / Consumer+Env

Information item	Available options (plus explanatory notes)	Proposed Uses1 (to be completed by MI)	Deviation from proposed Uses1 (to be completed by DU)
<b>Product Identification</b>			
Product name as it appears on SDS	Free text		
Short title exposure scenario	Free text		
Internal name	Free text		
Sector(s) of Use (SU)	Listing [full description in glossary in line below] - multiple SU per ES possible. Please list as: SU 1, SU 3, ...	SU 1, SU 3	SU 5
ALL Except SU21 private house holds			
Process Category(ies) (PROC)	Selection [full description in glossary in line below]	PROC 3	
Product OR Article category	Select EITHER product OR article category in 1.4.1 or 1.4.2		
Product Category(ies), (PC)	Listing [full description in glossary in line below] - multiple PC's per ES possible. Please list as: PC 1, PC 3, ... The use of PC's in worker scenario's is optional and can often be indicated as DC not applicable	PC1, PC 3	
<b>Article</b>			
<b>Product Identification</b>			
Product name as it appears on SDS	Free text		
Short title exposure scenario	Free text		
Internal name	Free text		
Sector(s) of Use (SU)	Sector of use ie SU 21 reflecting exposure to consumers	SU21	
Product OR Article category	Select EITHER product OR article category in 1.4.1 or 1.4.2		
Product Category(ies), (PC)	Selection (preferably use descriptors from dropdown list without an "n" after the PC_no, allowing the consideration of process subcategories in consumer risk assessments) [full description in glossary in line below]	PC_6	
Article Category(ies), (AC)	Selection (preferably use descriptors from dropdown list without an "n" after the AC no, allowing the consideration of article subcategories in consumer risk assessments) [full description in glossary in line below]	AC_1_2_n	
Environmental Release Category(ies) (ERC)	Selection [full description in glossary in line below]	ERC4 - air	
<b>Processes and activities</b>			
<b>Life Cycle Stage</b>			
Optional: Provide additional information on processes and activities if needed			

<예시> CEFIC 에서 제안한 설문지 양식

감사합니다!!

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REACH

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