Use Chemicals Safely Seminar

20th October, 2016

Spencer Hotel, IFSC, Dublin 1

Understanding hazard communication in the workplace

Caroline Walsh

HEALTH AND SAFETY AUTHORITY

Content

- Chemical Safety
- **C**lassification
- **L**abelling
- **P**ackaging
- Information sources

HEALTH AND SAFETY AUTHORITY

Chemical Safety

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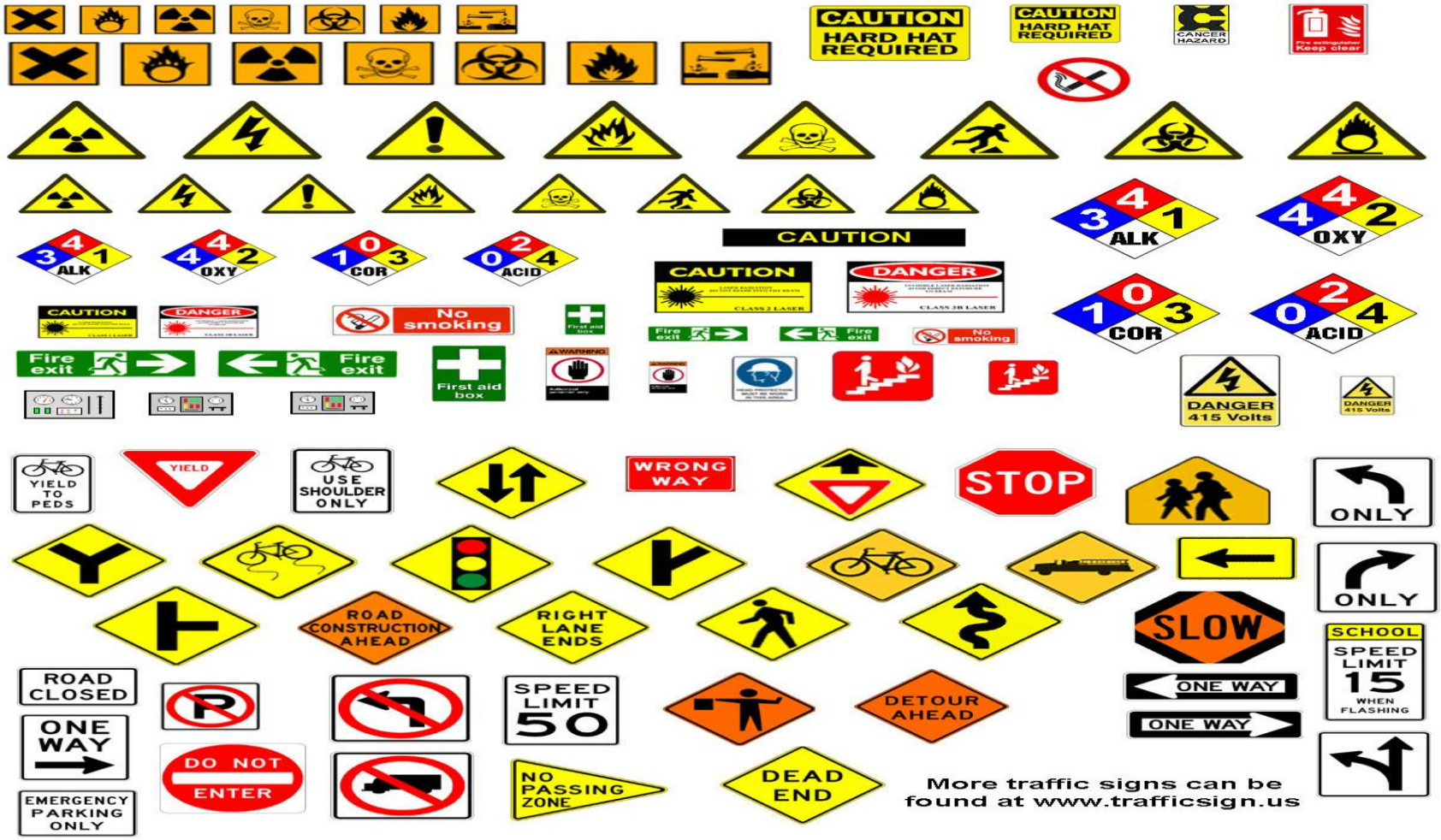
Hazard Communication



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Hazard Classification

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Physical Hazards

- Substance or Mixture meeting hazard criteria in parts 2 of Annex I
- Physical hazards:

- **Gather all relevant** and reliable information
- **16 classes:** Explosive, Flammable gases, Aerosols, Oxidising liquids , Oxidising solids, Gases under Pressure, Flammable Liquids, Flammable solids, Self reactive, pyrophoric liquids, pyrophoric solids, self-heating, organic peroxides, corrosive to metals

Health Hazards

- Substance or Mixture meeting hazard criteria in parts 3 of Annex I
- Human Health:

- Gather all relevant and reliable information
- **11 classes:** Acute toxicity, skin corrosion/irritation, serious eye damage/eye irritation, respiratory sensitisation, skin sensitisation, germ cell mutagenicity, carcinogenicity, reproductive toxicity, specific target organ toxicity- single exposure, specific target organ toxicity- repeated exposure, aspiration hazard,

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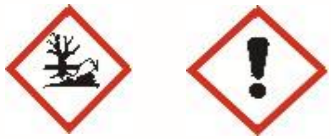
Environmental Hazards

- Substance or Mixture meeting hazard criteria in parts 4 -5 of Annex I
- Environmental Hazards : 
- **Gather all relevant** and reliable information
- **3 classes:** Hazardous to the aquatic environment, short-term (Acute), Hazardous to the aquatic environment, long term (Chronic), Hazardous to the ozone layer

How to classify

5 steps to classification

- **Identify** all the relevant information for **ALL** relevant hazard classes/categories
- **Examine** all the information for validity/relevance
- **Evaluate** against the CLP criteria (Annex I to CLP)
- **Decide** on the classification- then label/package/prepare SDS
- **Review** when new information/change in criteria

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C&L Inventory

- Database with 6 million notifications to date
- For >123,431 notified substances
- Also includes registered substances received from manufacturers & importers
- Includes harmonised classifications
- Established and maintained by ECHA
- 30,000 substances have different C&L
- Notifiers encouraged to reach agreements on differences

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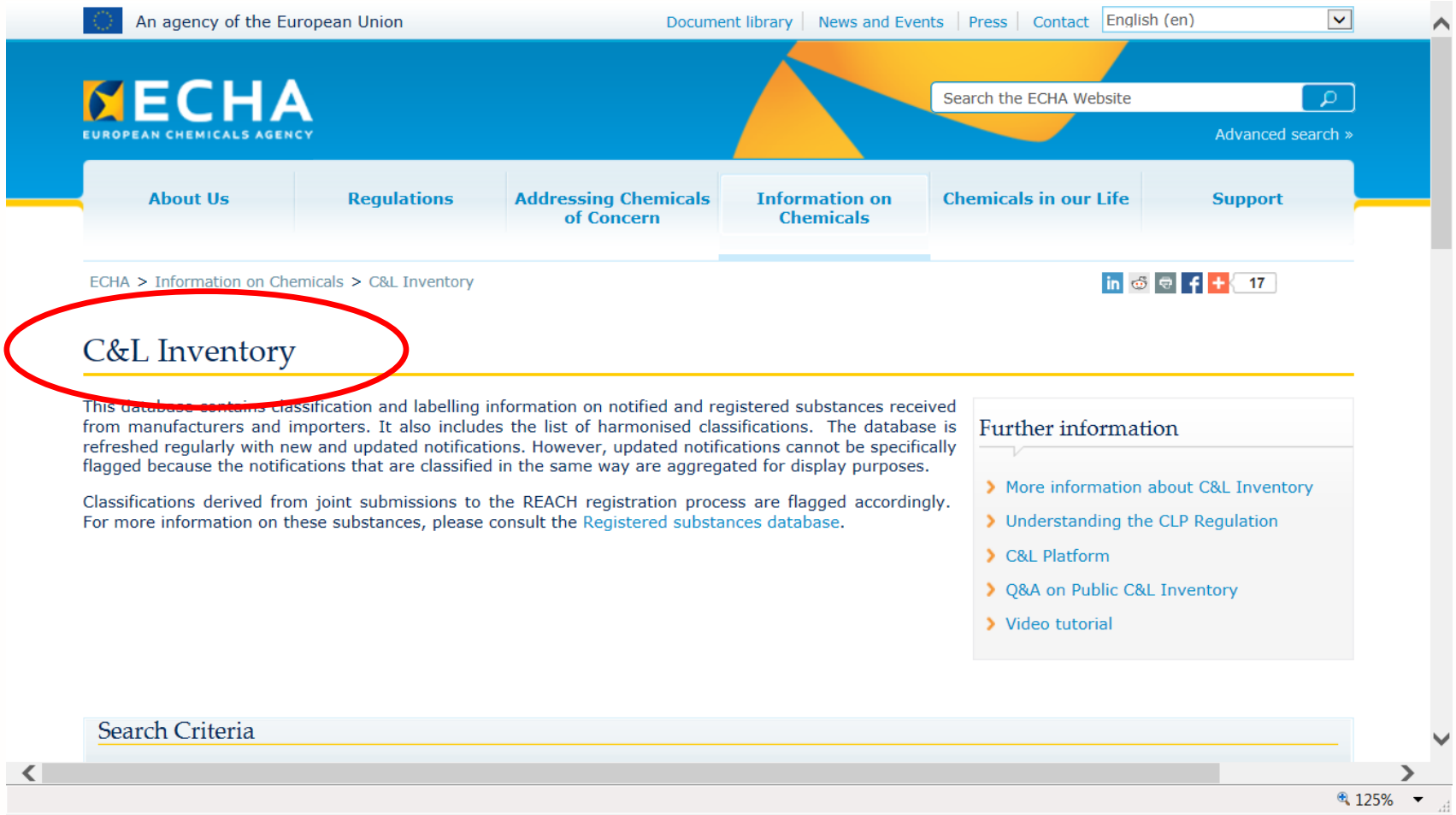

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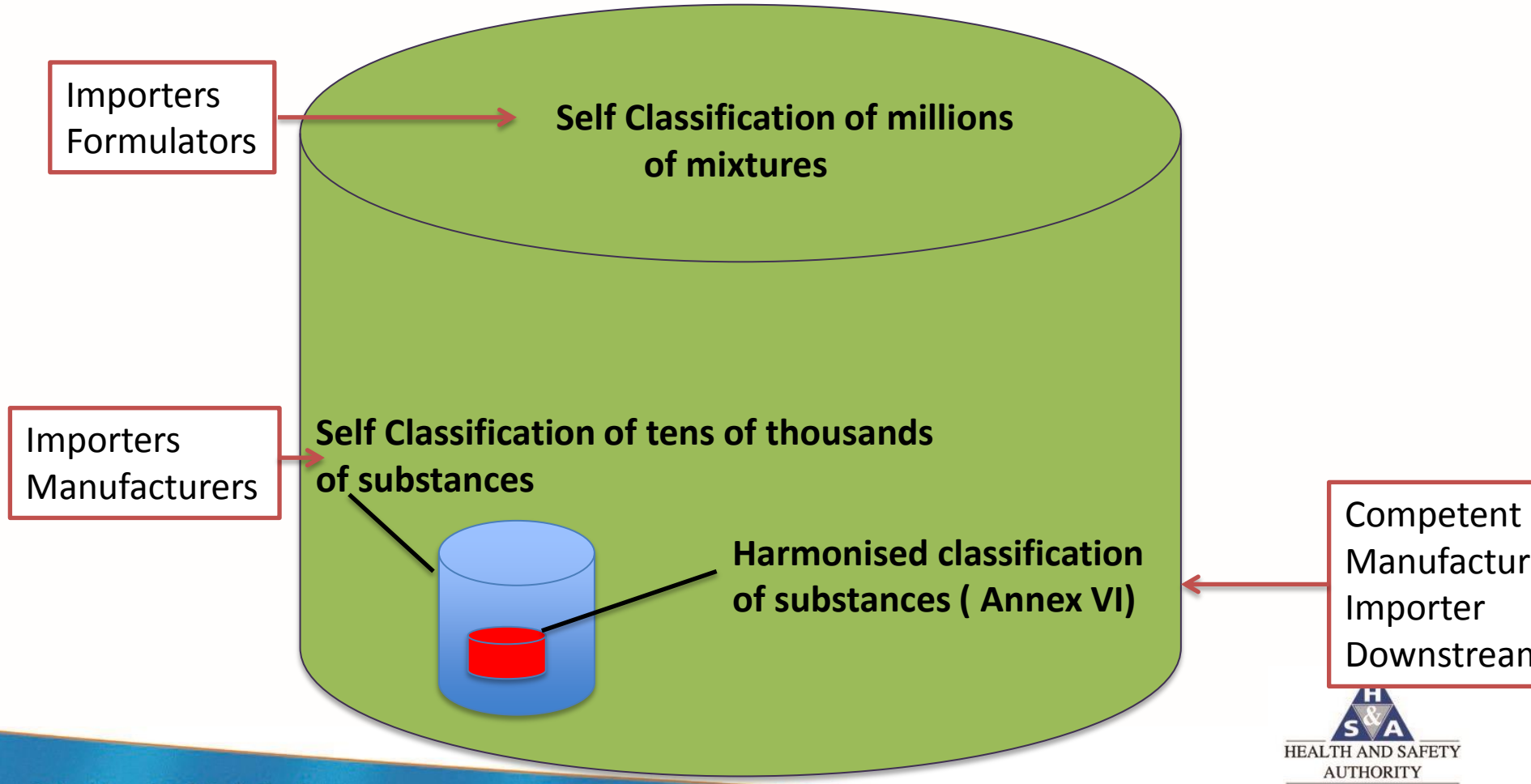
Classification in practice

- Most classifications are done by suppliers themselves



Harmonised Classification (HCL)

- Substances can be **part- harmonised** and **part self-classified**

- Example : Hydrochloric Acid %

  - HCL = H314, H335

  - CL* = H290

- * self- classified by notifiers/registrants

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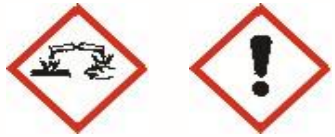
Self-Classification

- Most substances are **self- classified**

- Example : Portland Cement
  - H318, 315, H317, H335



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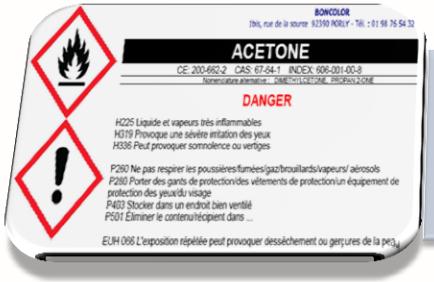
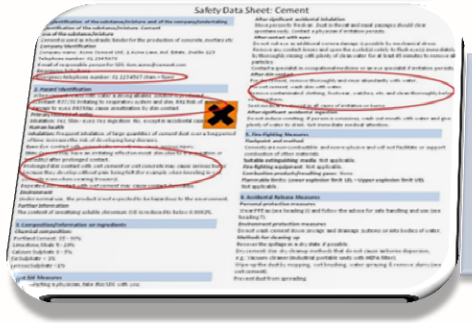
Hazard Communication



Label



SDS

Tools for using chemicals safely

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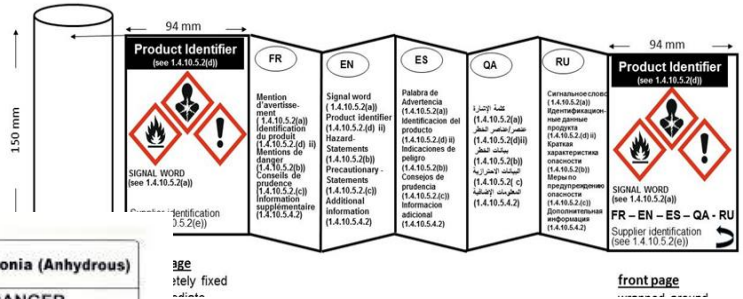
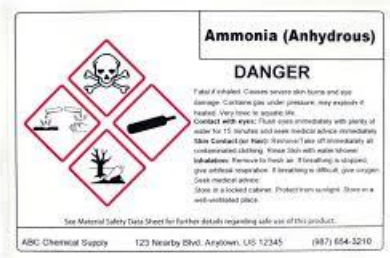
Labelling





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Label elements

- Name, address & telephone number of supplier
- Nominal quantity
- Product identifier
- Hazard Pictogram(s)
- Signal word
- Hazard (H) Statements
- Precautionary (P) Statements
- Supplemental information
- Official language = **English**
- **Article 17**

Labelling

Product Identifier

Hazard Pictogram

Signal Word

Nominal quantity

PRODUCT ABC

Danger

Highly flammable liquid and vapour. May be fatal if swallowed and enters airways. Causes skin irritation. May cause drowsiness or dizziness. Very toxic to aquatic life with long lasting effects.

Keep away from heat/sparks/open flames/hot surfaces. – No smoking. Avoid breathing dust/fume/gas/mist/vapours/spray. Wear protective gloves/protective clothing/eye protection/face protection. IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. IF ON SKIN: Wash with plenty of soap and water. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Avoid release to the environment.

Contains substance XYZ

200 L*

Company X Y Z
Alphabet Street
Number Town
Code ABCD
Phone: +353 1 0000000

Supplier Information

Hazard & Precautionary Statements

Space for Supplemental information

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Labelling rules

- **Article 31**
- Firmly affixed to immediate packaging
- Readable horizontally when set down
- Hazard pictogram stands out clearly
- Text easy to read
- “Non-Toxic” “Non-Harmful” “Non-polluting” or other misleading statements **NOT** to be used on Label
- Must be in official language(s) of Member State

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Updating the label

- **Article 30**
- New requirement under CLP
- Supplier to ensure label is updated without undue delay if a more severe C&L required
- Other changes within 18 months
- PPP and Biocides label update in accordance with their Directives

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Supplier details

- **Article 17**
- Must be an EU legal entity
- More than one supplier possible
- Name : Company X Y Z
- Address: Alphabet Street

  Number Town

  Code ABCD

- Telephone :+123 4 000000

Product identifier

- **Article 18**
- Product Identifier for substance or mixture on the label must be the same as that used on the SDS
- Product Identifier for a mixture consists of Trade name or designation of the mixture
- The identity of the substances contribute to the classification of mixture if:
- Acute toxicity, skin corrosion, serious eye damage, CMR's, STOT, skin or respiratory sensitisation, aspiration Hazards
- Max of 4 names required unless more needed to reflect severity of hazards

Label example

Product identifier

Supplier details

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Label issue

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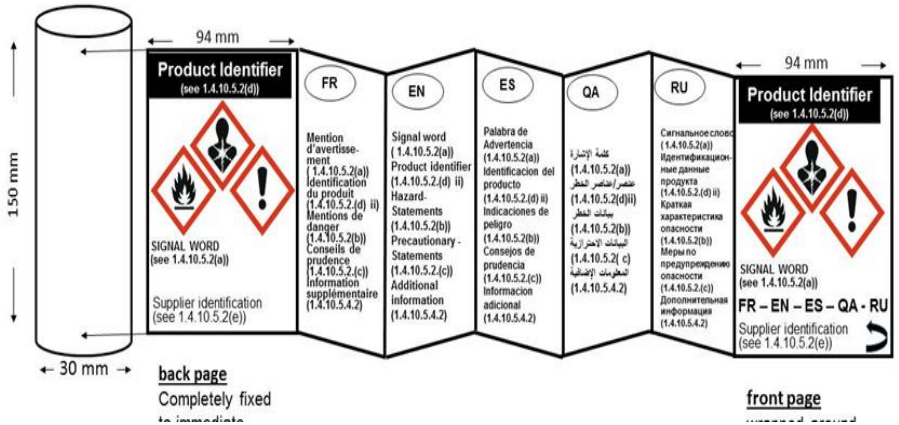
Exemptions

- **Article 29(1)**
- Packaging so small or such a shape or form impossible to meet requirements of Article 31
- Fold out, tie on and outer packaging



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Exemptions

- **Article 29(2)**
- Labelling of packaging where the contents do not exceed **125ml** - depends on classification
- No labelling of **soluble packaging** at <25ml
- Reduced labelling of **inner packaging** <10ml : RD&E and QA
- Supplied to general public **without packaging-** cement

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Labelling of articles

- A number of articles are required to be labelled in accordance with CLP
- Considered part article-part substance/mixture
- Includes scented candles, matches, air- fresheners

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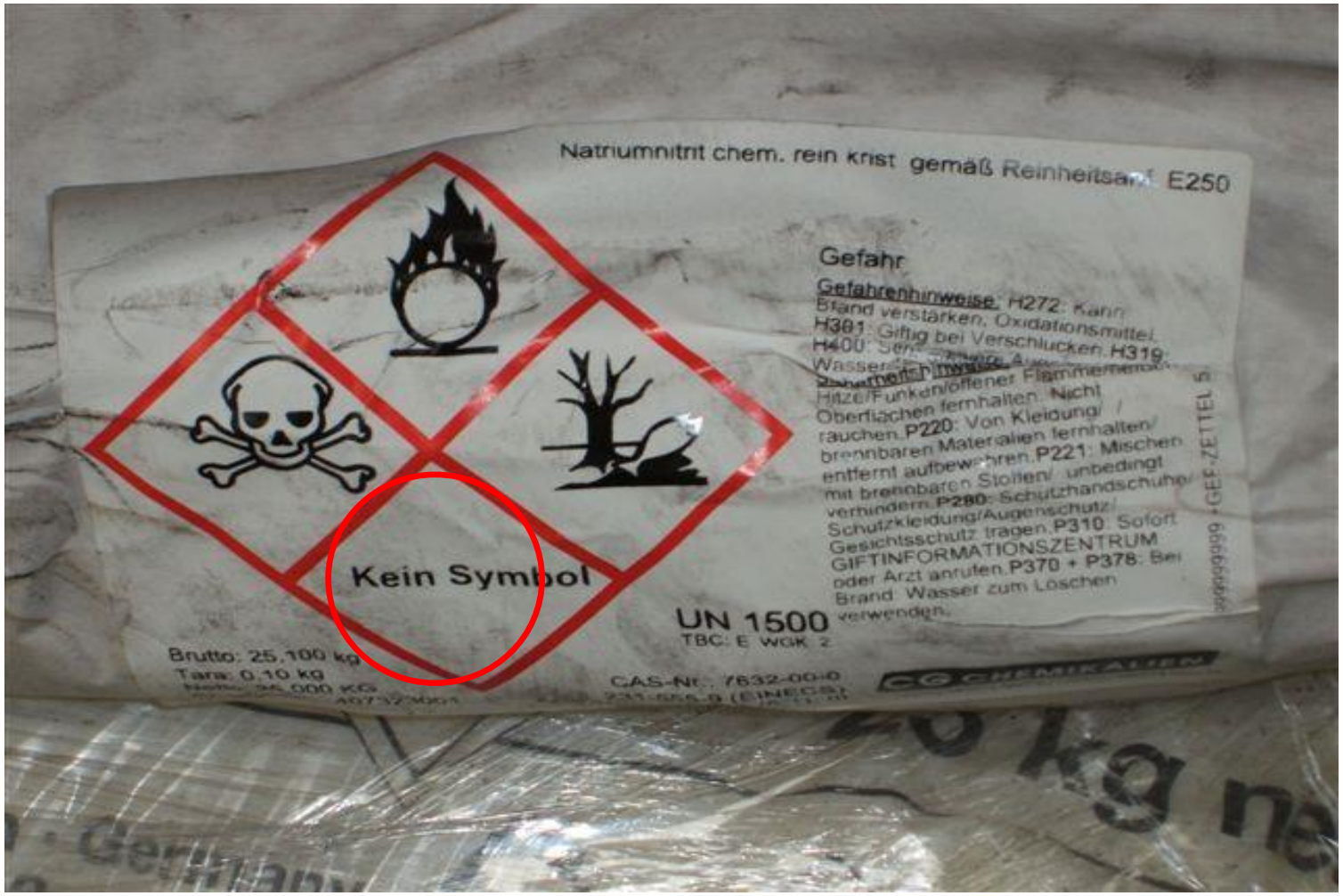
Labelling errors

- 

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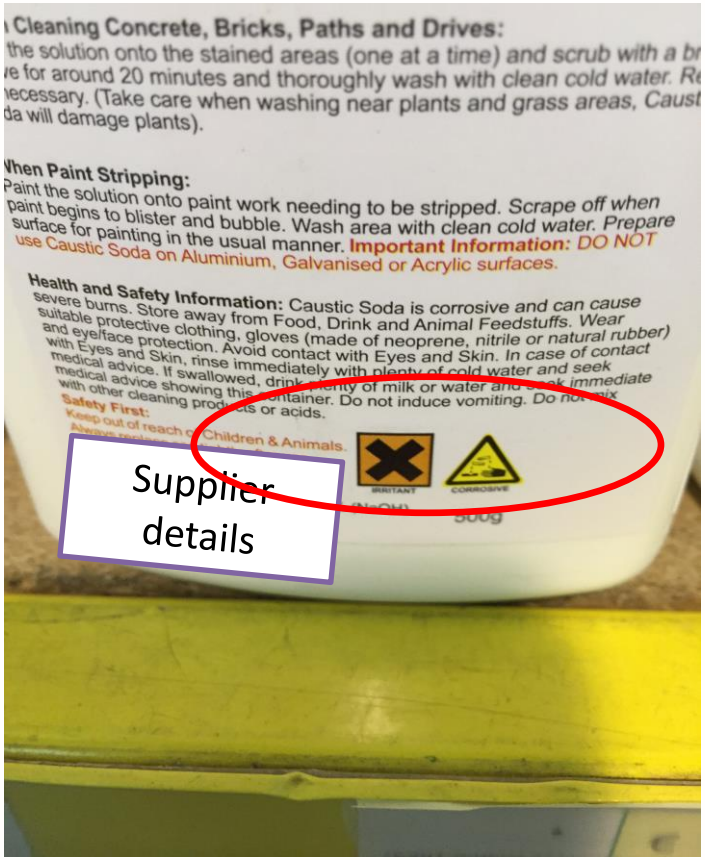
Labelling errors



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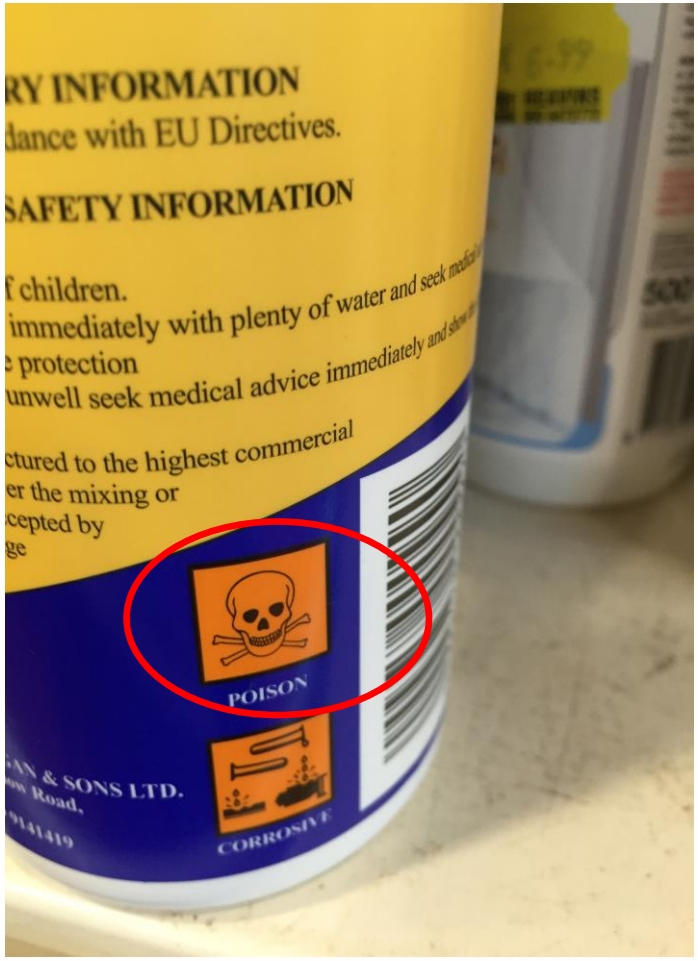
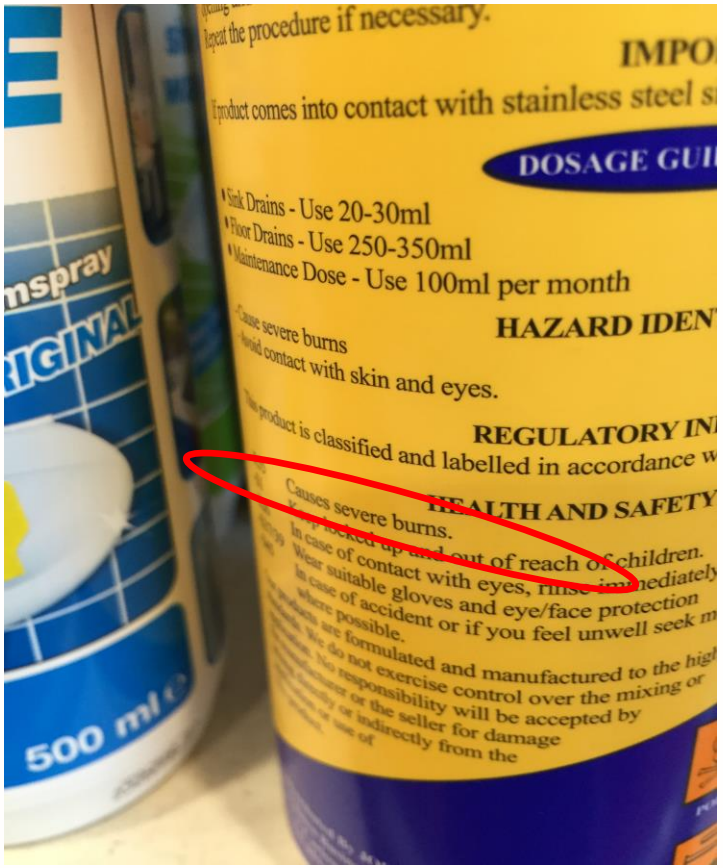
Labelling errors





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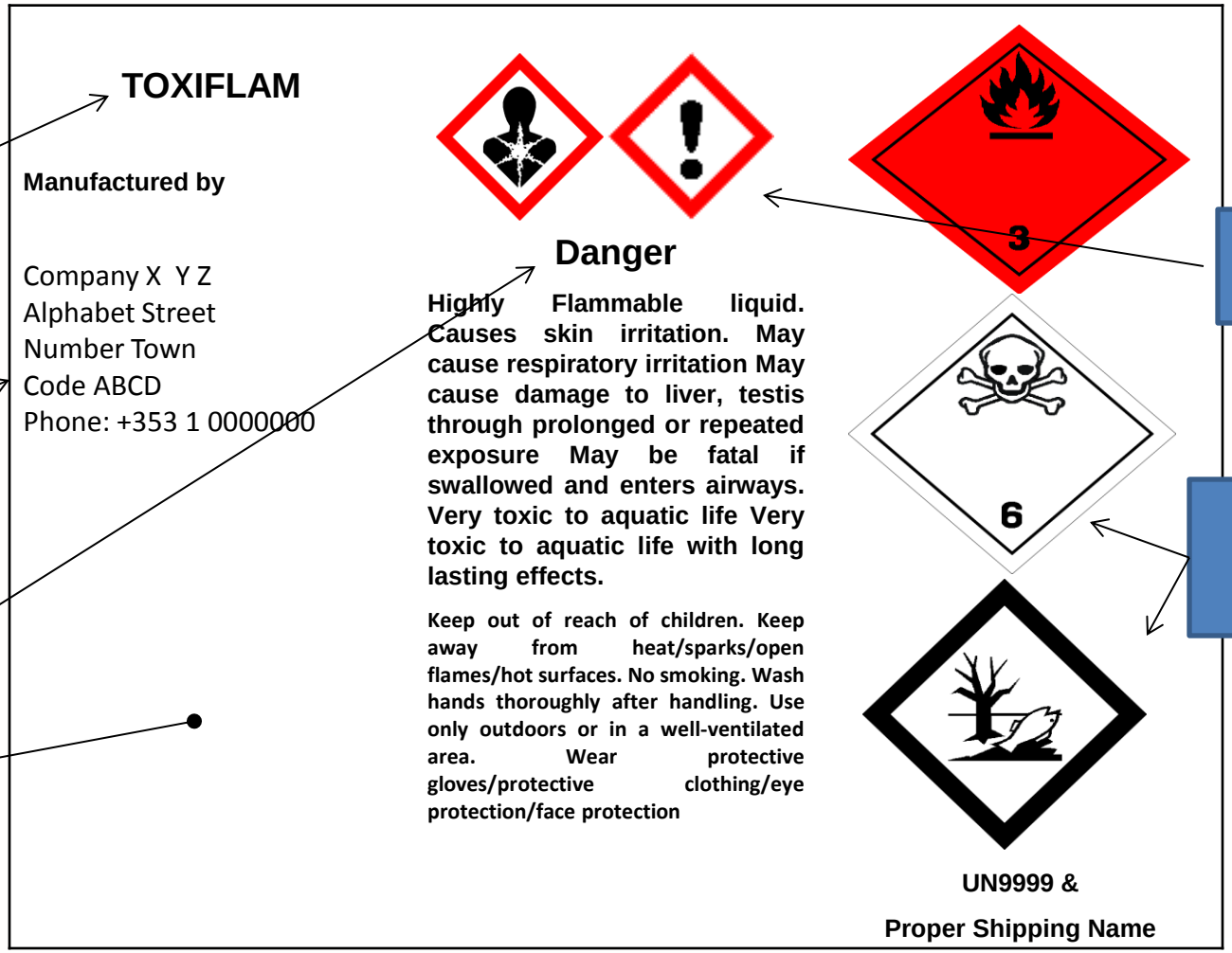
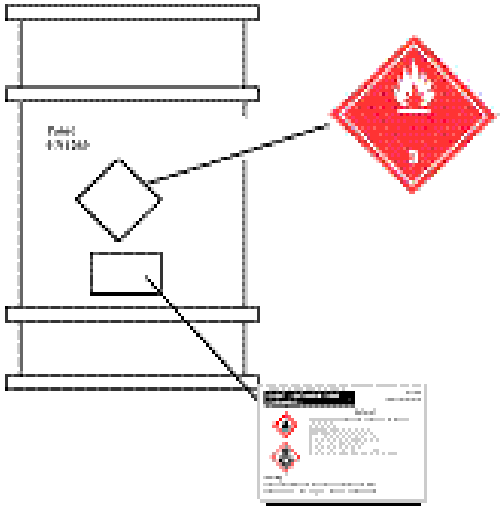
Supply & transport labelling



Supply & transport labels

Supply and transport labels can be combined



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Supply & transport labels

- Supply and transport labels can remain separate

Supply & transport labelling

Issue arising with supply and transport labels being addressed by GHS
CLP pictograms cannot be used on their own on transport containers

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Labelling transition

- Chemicals ‘on the shelf’ on 1st June 2015 do not need to be relabelled and repackaged until 1st June 2017

1 June 2015
CLP for mixtures in force

1 June 2017
Transition period for mixtures ends

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Labelling transition

- Chemicals ‘on the shelf’ on 1st June 2015 do not need to be relabelled and repackaged until 1st June 2017..

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Long life chemicals

- Long life chemicals in the workplace do not need to be relabelled **<u>unless</u>** a workplace **risk assessment** warrants it as they are not in the 'supply chain'.
- They **are not** being placed on the market

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Decanted chemicals

- Decanted laboratory chemicals

- Decanted workplace chemicals

- Labelling requirements are based on workplace risk assessment where workplace signs and chemicals agents apply.

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Workplace signage

- Removed the St Andrew's cross safety sign

- Exclamation mark sign to be used for stores of chemicals only and not for Chemicals assigned GHS07

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Packaging

- Come from DSD/DPD
- Designed so its contents don't damage it or react with contents & fastening remain intact during normal use
- Designed not to arouse curiosity of children/mislead consumers or have similar presentation or design that looks like food.

Child resistant fastening

- Article 35
- Supplied to general public with specified hazards or listed substances
- Reclosable packages– EN ISO standard 8317
- Non-reclosable packages - CEN standard EN 862
- Evidence of conformity required from
- Laboratories with standard EN ISO/IEC17025

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Tactile warning

- Article 35
- Raised triangle on packaging
- Supplied to general public with specified hazards
- Does not apply to aerosols when only classified as extremely flammable or flammable aerosols hazards
- Must conform to EN ISO 11683

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Packaging issue

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Packaging issue

- Liquid consumer laundry detergent
- **Article 35 & Annex II 3.3 (NEW)**
- **Outer Packaging**
- Must be opaque and obscure
- Must bear the mark ‘Keep out of reach of children’
- Impedes ability of young children to open
- Easily reclosable and self standing
- Maintains it functionality after repeated opening and closing

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Packaging issue

- Liquid consumer laundry detergent
- **Article 35 & Annex II 3.3 (NEW)**
- **Outer Packaging**
- Must be opaque and obscure
- Must bear the mark ‘Keep out of reach of children’
- Impedes ability of young children to open
- Easily reclosable and self standing
- Maintains it functionality after repeated opening and closing

manufacturer

distributor

formulator

importer

end user

Professional end user

Industrial end user

Consumer

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Roles & Obligations

	Classify	Label	Package	Notify	Keep info 10 yrs
Manufacturer	✓	✓	✓	✓	✓
Importer	✓	✓	✓	✓	✓
Downstream User	✓*	✓	✓	✗	✓
Distributor	✗**	✓	✓	✗	✓

*If DU changes composition, must classify. If not, use classification other actor

**Dist may use classification of another actor

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Keep information 10 years

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Administration

In Ireland

- Chemicals Act, 2008 & 2010
- EU Regulations – Direct Acting throughout
- Administrative & Enforcement provisions
- EPA, PRCD and NPIC also named in acts
- No requirement for transposition
- Also includes CLP, REACH, Export/Import and Detergents

Chemicals Helpdesk

- All chemical related queries
- chemicals@hsa.ie
- 1890 289 389
- Scope

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Worker supports

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Chemicals Webpages

Safe Supply, Use and Management of Chemicals

www.hsa.ie/chemicals

- Targeted at chemical manufacturers, suppliers, users
- Includes a **Latest News** and **Quick links** section
- Updated with news from ECHA
- Incorporates ALL aspects of occupational chemical safety incl. REACH and CLP

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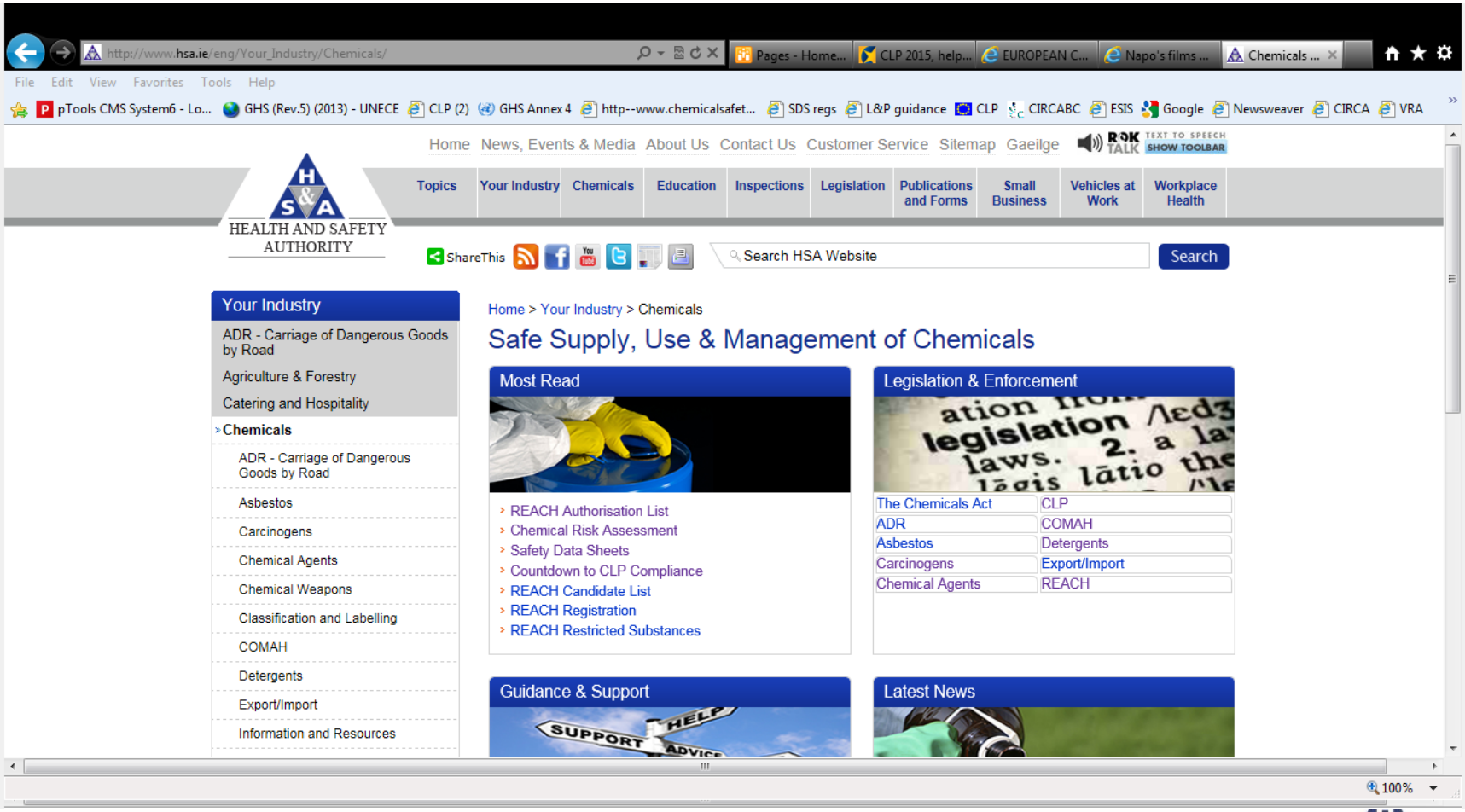
Chemicals Webpages



E-Bulletin and Newsletters

- Quarterly chemicals E-bulletin produced by helpdesk team
  - *Covers all updates on chemical issues*
  - *Subscriber service*

- Articles on REACH, CLP and other chemical topics included in separate quarterly HSA newsletter

- Countdown to CLP E-Bulletin issued regularly up to 1st June 2015

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Chemical e-learning

- https://hsalearning.ie

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European Commission

- DG Employment
- **Responsible for OSH Directives**
- **Worker** awareness on CLP
- Chemical Handling Directive 2014/27/EU
- Publish series of leaflets, posters ,guidance
- Go to link

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EU-OSHA

- **EU- OSHA**
- **Worker** awareness on CLP

- NAPO man short videos

  see link..

- NAPO man poster see link

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Conclusion

- NEW: Hazard communications for chemicals
- Need to clearly identify roles and duties
- Keep **up to date** with REACH and CLP information
- **Raise awareness** about labels and SDSs
- **READ THE LABEL** before using the chemicals

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Use Chemicals Safely Seminar

20th October, 2016

Spencer Hotel, IFSC, Dublin 1

Information is the key to chemical safety

Sinead McMickan

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How (not) to manage chemicals!?

You are a user of chemicals….

- ……..therefore you need a risk assessment
- ……..& you need to make sure you can continue your business

- Why?

- Health – you/employees/co-workers, your family
- Safety
- Business sense
- Legally

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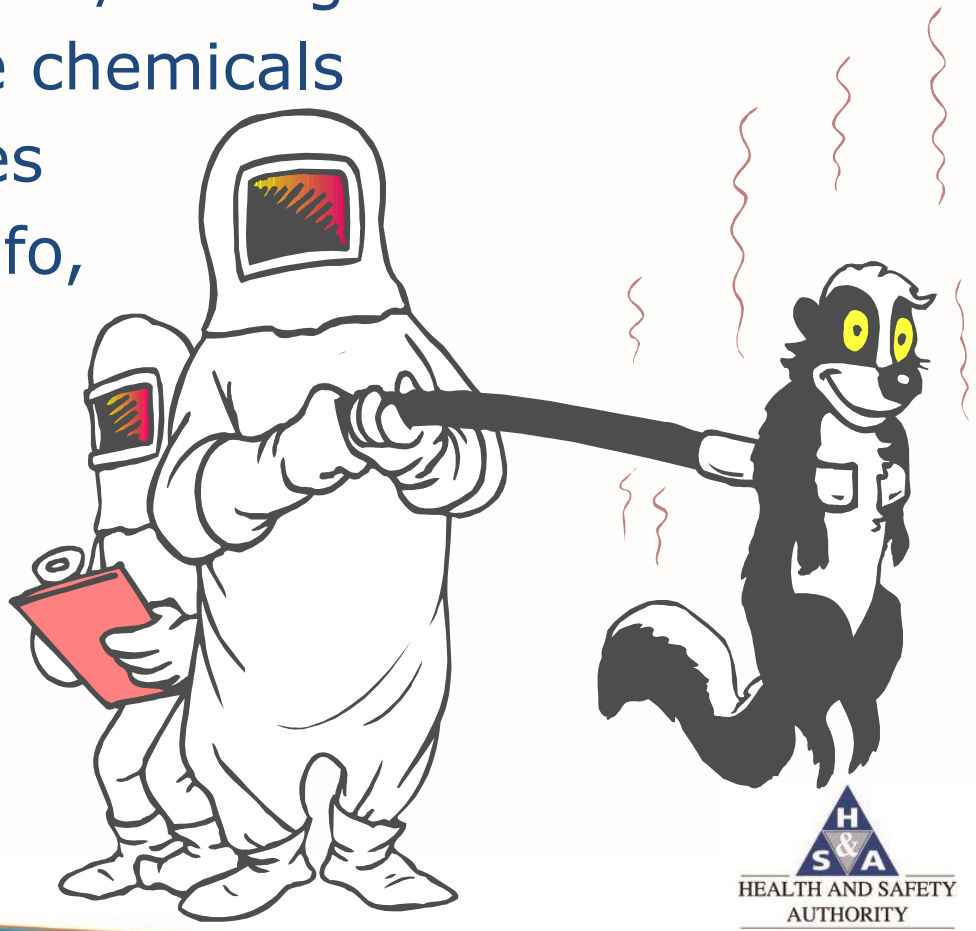
You need a risk assessment & to check your use

- What info do you need?
- Where do you look for the info?
- How do you find it?
- What if info is incorrect?
- How are you going to double check?
- What if info is missing?
- Why didn’t you receive a SDS?
- What do you do with an Exposure Scenario?

What do you need to know to start your Risk Assessment?

- Hazards
- How to control hazards/manage risks
- How to handle/store chemicals
- Emergency measures
- Others…Transport info,

Use(s), Disposal etc…



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Where do you look?
REACH – how will it help?

- Obligatory communication both up and down supply chain…
- Safety Data Sheets (SDSs)
- Exposure scenarios
- Communication where NO SDSs required
- Information to workers

Most importantly…

- Keep yourself informed

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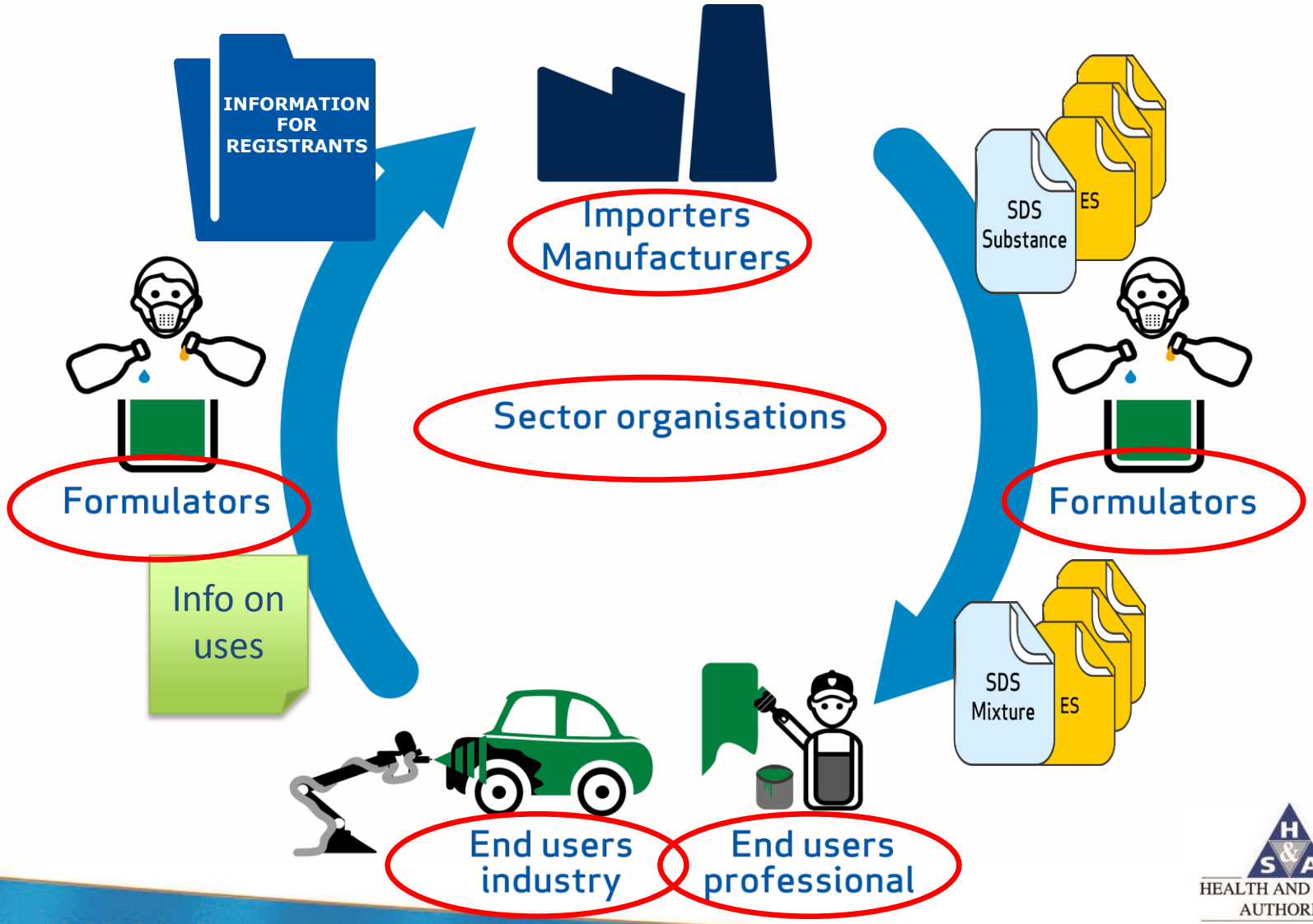
Communication in the Supply Chain



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Safety Data Sheets

- substance/mixture classified as **hazardous** or mixture contains hazardous substance(s)
- REACH **compliant**
- **16** headings
- **English**
- **clear**, understandable
- provided 1st **delivery** & **update**
- consistent with **label**

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SDS Format

SDS Required Headings	
1. Identification of the substance/mixture and of the company/undertaking	9. Physical and Chemical Properties
2. Hazard Identification	10. Stability and Reactivity
3. Composition/Information on Ingredients	11. Toxicological Information
4. First Aid Measures	12. Ecological Information
5. Fire-Fighting Measures	13. Disposal Considerations
6. Accidental Release Measures	14. Transport Information
7. Handling and Storage	15. Regulatory Information
8. Exposure Controls/Personal Protection	16. Other Information

What version of SDS?

- New amendment: Reg. No. 2015/830 (CLP)
- But older SDSs ok
- Dated from 2010 onwards

- If provided before 1 June 15, OK in these formats..

SDS for Mixtures

2. Hazard Identification

2.1 Classification of the mixture
Classification according to Directive 1999/45/EC:
Xi; R36/38

2.2 Label elements:
Labelling according to Directive 1999/45/EC:

Symbol:

Indication of Danger:
Irritant

Risk Phrases:
R36/38 Irritating to eyes and skin

Safety Phrases:
S(2) Keep out of the reach of children

S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S37 Wear suitable gloves

DPD

DPD

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Current SDSs for Substances/Mixtures

2. Hazard Identification

2.1 Classification of the substance

2.1.1 Classification according to Regulation (EC) No 1272/2008 (CLP)
Flam. Liq. 2, H225
Acute Tox. 3 H301

2.1.2 Classification according to Directive 67/548 EEC
F; R11
T; R23/24/25

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 (CLP)

Hazard Pictograms

Signal word: *Danger*

Hazard Statements:
H225 Highly Flammable
H301 Toxic if swallowed

Precautionary Statements:
P210 : Keep away from heat/sparks/open flames/hot surfaces. -No smoking
P301 + P310 IF SWALLOWED: Immediately call a POISON CENTRE or Doctor/Physician

CLP & DPD

CLP Only

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SDS for Substances & Mixtures from 1 June 2015/2017

2. Hazard Identification

2.1 Classification

2.1.1 Classification according to Regulation (EC) No 1272/2008 (CLP)
Flam. Liq. 2, H225
Acute Tox. 3 H301

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 (CLP)

Hazard Pictograms

Signal word: ***Danger***

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CLP ONLY

Reg. 2015/830

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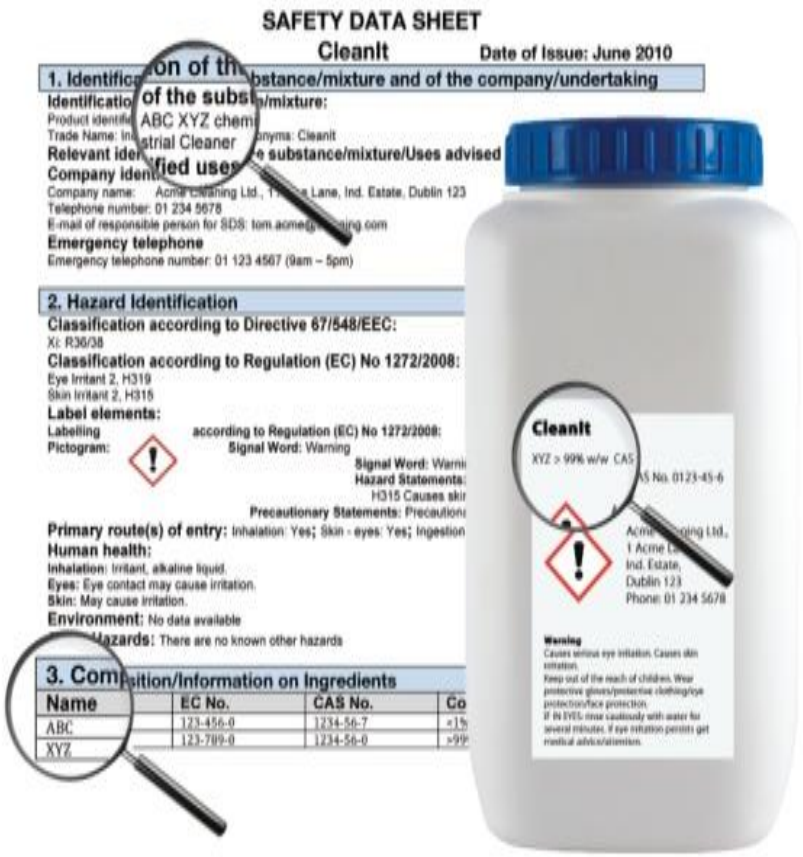
Where do you need to look for……..Hazard info

- ✓ Label
- ✓ SDS:
  - ✓Sections 2 and 3
  - ✓Section 9
  - ✓Sections 10 (and 7)
  - ✓Section 15
  - ✓(Sections 11 & 12)



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How well do you know your hazards?

Irritant or suspected to cause cancer?

BOTH! And more……

READ the wording!

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What should you look for?

- **Cancer causing** - carcinogen
- **Mutagen** – disturbs genetic material
- **Reproductive toxin** – fertility (male & female), risk to unborn child

- **Respiratory sensitiser** – chronic lung diseases

- Skin sensitisers
- Corrosives
- Prolonged effects

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Section 2

2. Hazard Identification

2.1 Classification of the substance

Classification according to Regulation (EC) No. 1272/2008 (CLP):
Flam. Liq 2; H225
Acute Tox 3; H301

Classification according to Directive 67/548/EEC:
F; R11
T; R25

Classification e.g. Highly flammable

2.2 Label elements:

Labelling according to Regulation (EC) No. 1272/2008 (CLP):

Hazard Pictograms:

Signal Word: Danger

Hazard Statements:
H225 Highly Flammable
H301 Toxic if swallowed

Precautionary Statements:
P210: Keep away from heat/sparks/open flames/hot surfaces. – No smoking.
P301 + P310: IF SWALLOWED: Immediately call a POISON CENTRE or doctor/physician.

3.2 Chemical characterization: Mixtures:

Description

Mixture of s rdous additions.

For further i se refe the product technical data sheet.

Identify all hazardous ingredients: name, CAS, EC nos.

Section 3 details

Concentration

Dangerous compone		
CAS: 39420-98-9 EINECS: 247-714-0 Index number: 615-005-00-9	Modified MDI Resp. Sens. 1, H334; Carc. 2, H351; STOT RE 2, H373 Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317; STOT SE 3, H335	50-100%
CAS: 101-68-8 EINECS: 202-966-0 Index number: 615-005-00-9	Diphenylmethane-4,4'-di-isocyanate Resp. Sens. 1, H334; Carc. 2, H351; STOT RE 2, H373 Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317; STOT SE 3, H335	20-25%
CAS: 25686-28-6	4,4'-Methylenediphenyl diisocyanate, Resp. Sens. 1, H334; Carc. 2, H351; STOT RE 2, H373 Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317; STOT SE 3, H335	2.0-5.0%
EC number: 905-806-4 Reg.nr.: 01-2119457015-45-XXXX	Reaction mass of 4,4'-Methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl)phenyl isocyanate Resp. Sens. 1, H334; Carc. 2, H351 Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317; STOT SE 3, H335	2.0-5.0%

Classification details

Additional information: For the wording of the listed risk phrases refer to section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures:

Section 9: hazard info

Physical and Chemical Properties:

- **pH**: If ≤2 ≥11.5 should be H314 (R34/35)
- **Flammability** information (flash point)
- Form (powder or liquid?)

Also:

- Boiling point
- Melting point/freezing point
- Upper & lower Flammability or Explosive limits
- Solubility
- Odour threshold etc.

HEALTH AND SAFETY AUTHORITY

Appearance:	
Form:	Liquid.
Colour:	Light yellow.
Odour:	Characteristic.
Odour threshold:	Not determined.
pH-value (~):	Not determined.
Change in conditions:-	
Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	> 300 °C
Flash point:	> 100 °C
Flammability (solid, gaseous):	Not applicable.
Ignition temperature:	520 °C
Decomposition temperature:	Not determined.
Self-igniting:	Product is not self-igniting.
Danger of explosion:	Product does not present an explosion hazard.
EXPLOSION LIMITS	
Lower:	0.4 Vol %
Upper:	Not determined.
Vapour pressure:	Not determined.
Density at 20 °C:	1.1 g/cm³
Relative density:	Not determined.
Vapour density:	Not determined.
Evaporation rate:	Not determined.
Solubility in/Miscibility with:-	
Water:	Not miscible or difficult to mix.
Partition coefficient (n-octanol/water):	Not determined.
VISCOSITY	
Dynamic:	Not determined.
Kinematic:	Not determined.

Test methods?
Specs of units
Reasons for n/a

Section 10: hazard info

- **Reactivity** hazards
- Chemical **stability** (& relevant storage/handling conditions – see Section 7 also)
- Possibility of hazardous reactions
- Conditions to avoid
- Incompatible materials
- Hazardous decomposition products

HEALTH AND SAFETY AUTHORITY

Decomposition temperature	Not applicable. Endpoint waived according to REACH Annex VII, IX or XI
Viscosity	Kinematic: 1.011 mm^2/s (1.011 cSt) at 25°C
Explosive properties	Not applicable. Endpoint waived according to REACH Annex VII, IX or XI
Oxidising properties	Not applicable. Endpoint waived according to REACH Annex VII, IX or XI

.2 Other information

No additional information.

SECTION 10: Stability and reactivity

0.1 Reactivity	No specific test data available for this product. Refer to Conditions to avoid and Incompatible materials for additional information.
0.2 Chemical stability	The product is stable.
0.3 Possibility of azardous reactions	Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous polymerisation will not occur.
.4 Conditions to avoid	Keep away from heat, sparks and flame. This product should be stored away from oxidising materials and strong bases.
0.5 Incompatible materials	Reactive with metals, oxidising materials, reducing agents, alkalis and alcohols
0.6 Hazardous ecomposition products	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

1.1 Information on toxicological effects

Acute toxicity

Product/ingredient name	Result / Route	Test authority / Number	Species	Dose	Exposure	Remarks
Acetic acid.	LD50 Oral	not guideline -	Mouse	4960 mg/kg	-	Based on sodium acetate

Section 15: hazard info

- **Regulatory info**:
- Legislation specific for subs/mix
- Not included elsewhere e.g. Export/Import, Seveso category, Detergents
- **Authorised** substance
- **Restriction** applies

HEALTH AND SAFETY AUTHORITY

Best Practice Guideline 5 "Safe Use of Gloves (June 2010) published by the European Solvents Industry Group (ESIG) available at www.esig.org/en/library/publications/best-practice-guides

Control of Substances Hazardous to Health (Fifth Edition) (HSE Books L5)

Control of Lead at Work 2002 (Third Edition) (HSE Books L132)

Storage of Dangerous Substances (2003) (HSE Books L135)

Dang[illegible]8)

Authorisations (Title VII Regulation 1907/2006)

Contains substance subject to authorisation
Sunset date is 21 May 2015

This [illegible]06 (REA[illegible])

sunset date was set for 21 May 2015. However, authorisation has been applied for by our supplier. Until such time that authorisation is agreed or the application is turned down, this product may be used. When received, we will pass the authorisation reference to you.

Restrictions (Title VIII Regulation 1907/2006)

Restricted for sale to professional users only (CMR)

[illegible] classified as CMRs for supply to the general public.

15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

Inventories

EU - EINECS/ELINCS

All the ingredients are listed or exempt.

Authorisation under REACH

- **Control risks** from Substances of Very High Concern (SVHCs)
- Replace with **alternatives**

SVHCs:

- Carcinogenic, Mutagenic or toxic for Reproduction (**CMRs**)
- Persistent, Bioaccumulative and Toxic (**PBT**)/ very Persistent & very Bioaccumulative (**vPvB**) in environment
- other serious effects e.g. endocrine disruptors

HEALTH AND SAFETY AUTHORITY

Authorisation contd.

- SVHCs may be included in **Authorisation List** (Annex XIV)
- Manufacturers, importers or users must apply for **authorisation** to **use** substance on list

- These substances **cannot be placed on market or used** after sunset date, unless authorisation granted for **specific use** (or use is exempted from authorisation)

HEALTH AND SAFETY AUTHORITY

Example substance subject to Authorisation

- Lead sulphochromate pigment (yellow)
- Used in paints
- Classified as hazardous (SVHC) – toxic to reproduction Cat. 1A; carcinogen Cat. 1B
- Included because it is:
  - ✓widely used
  - ✓very hazardous

HEALTH AND SAFETY AUTHORITY

Restriction under REACH

- **limit** or **ban** manufacture, placing on market or use of substance
- Member State or ECHA propose restrictions where risk to be addressed
- Added to Annex XVII of REACH

Examples:

- **Acrylamide** in products for grouting applications
- **Toluene** in glues/spray paints
- **Polyaromatic hydrocarbons (PAH's)** in tyres
- **Lead sulphate** in paint
- **Chromium VI** in cement

HEALTH AND SAFETY AUTHORITY

Examples of restricted substances

- Asbestos

HEALTH AND SAFETY AUTHORITY

DMFu burn

HEALTH AND SAFETY AUTHORITY

“Restricted to professional users”

- **CMRs** (Cat 1A and 1B)
- Not for general public
- Covered in Appendices 1-6 of Annex XVII

HEALTH AND SAFETY AUTHORITY

Where to look for……

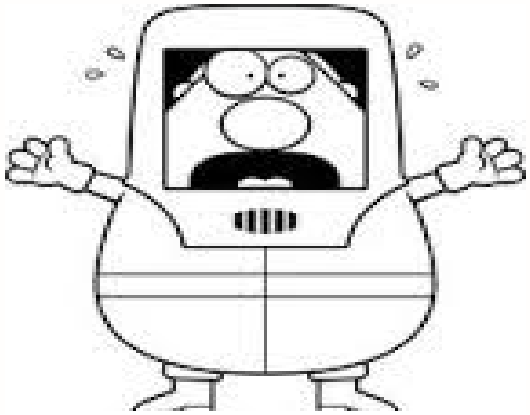
Info on how to control hazards

-Every day exposure controls/risk management measures:

- Section **8**
- Section **7**
- **Exposure scenario**

-Emergency controls:

- Sections **1**, **4**, **5** and **6**

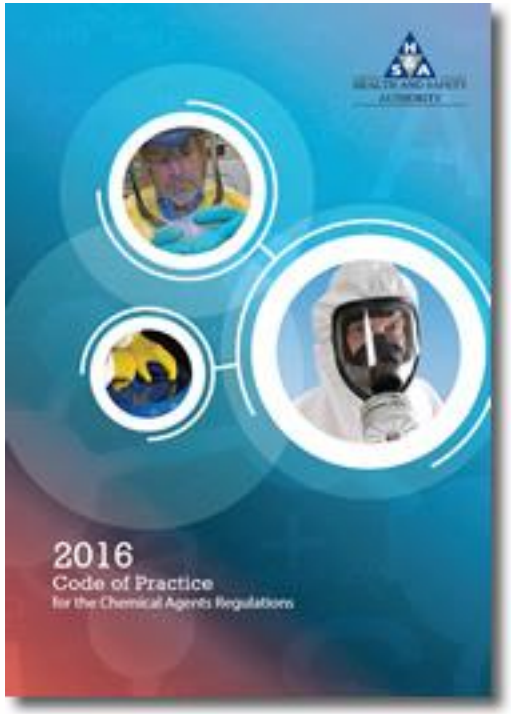


HEALTH AND SAFETY AUTHORITY

Section 8: Exposure Controls/Personal Protection

Control parameters:

- National Occupational Exposure Limit Values (OELVs) for substances in S3



2016 Code of Practice

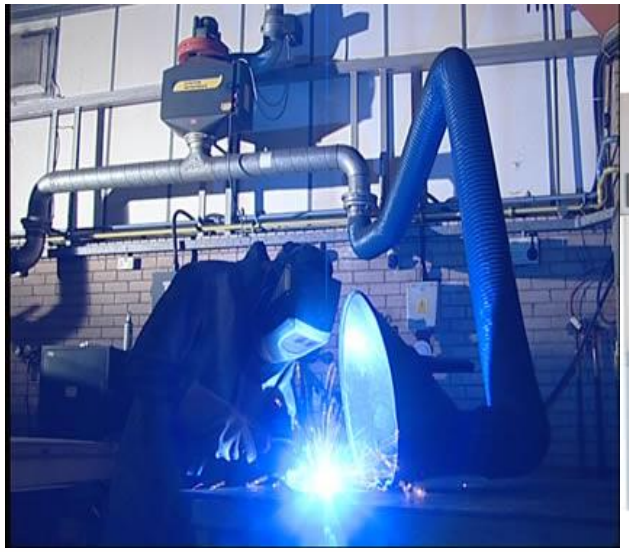
HEALTH AND SAFETY AUTHORITY

N-Methyl-N, 2,4,6-tetranitro-aniline, see Tetryl							
Methyl vinyl ketone	201-160-0	78-94-4	0.2	-	-	-	Sk, S
Metribuzin	244-209-7	21087-64-9		5	-	-	-
Mevinphos (ISO)	232-095-1	7786-34-7	0.01	0.1	0.03	0.3	Sk
Mica total inhalable dust respirable dust	-	12001-26-2	 - -	 10 0.8	 - -	 - -	 - -
Mineral oil Used in Metal working (Inhalable) Pure, Highly & Severely Refined (Inhalable)	-	-	- 0.2 5		-	-	
Mineral wool	-	-	2 fibres per millilitre of air	5	-	-	-
Molybdenum compounds (as Mo), soluble compounds insoluble compounds	231-107-2	7439-98-7	 - -	0.5 (R) 10 (I) 3 (R)	 - -		 - -
Monochloracetic acid	201-178-4	79-11-8	0.3	1	-	-	Sk
Monocrotophos	230-042-7	6923-22-4	-	0.25	-	-	Sk
Morpholine	203-815-1	110-91-8	10	36	20	72	Sk, IO
Naled (ISO), see 1,2 dibromo-2, 2 dichloro ethyl dimethyl phosphate							
Naphtha (rubber solvent)	232-443-2	8030-30-6	400	1590	-	-	C2
Naphthalene	202-049-5	91-20-3	10	50	15	75	-
β-Napthylamine	202-080-4	91-59-8	-	-	-	-	C1
1,5-Naphthylene diisocyanate (as –NCO)	221-641-4	3173-72-6	-	0.02	-	0.07	Sen
Neon	231-110-9	7440-01-9	-	-	-	-	Asph
Nickel	231-111-4	7440-02-0	-	0.5	-	-	-
Nickel carbonyl	236-669-2	13463-39-3	0.05	0.12	0.1	0.24	Repr
Nickel, inorganic compounds (as Ni) soluble compounds insoluble compounds	-	-	 - -	 0.1 0.5	 - -	 - -	 - -
Nickel, organic compounds (as Ni)	-	-	-	1	-	3	-
Nicotine	200-193-3	54-11-5	-	0.5	-	-	Sk, IO
Nitrapyrin	217-682-2	1929-82-4	-	10	-	20	-
Nitric acid	231-714-2	7697-37-2	-	-	1	2.6	IOEL
Nitric oxide	233-271-0	10102-43-9	25	30	35	45	-
4-Nitroaniline	202-810-1	100-01-6	-	6	-	-	Sk
Nitrobenzene	202-716-0	98-95-3	0.2	1	-	-	Sk, IO
4-Nitrodiphenyl	202-204-7	92-93-3	-	-	-	-	Sk, C
Nitroethane	201-188-9	79-24-3	100	310	-	-	-
Nitrogen	231-783-9	7727-37-9	-	-	-	-	Asph
Nitrogen dioxide							

Section 8 information

Exposure controls:

- Engineering controls
- Work processes, ventilation etc (RA)



HEALTH AND SAFETY AUTHORITY

Section 8 information

Personal Protective Equipment (PPE):

- **PPE** with EN standards:
- Glove material type & breakthrough time
- Respiratory Protective Equipment: specific type & filter info
- Other PPE: Goggles, overalls, suits

SPECIFICS



HEALTH AND SAFETY AUTHORITY

Exposure controls

ersonal protective equipment

espiratory protection:
Vear respiratory protection if ventilation is inadequate. Gas filter for gases/vapours of orga
ompounds (boiling point >65 °C, e. g. EN 14387 Type A)

onsi **EN standards, material type, breakthrough time, filter type etc**

and protection:
uitable materials also with prolonged, direct contact (Recommended: Protective index 6,
orresponding > 480 minutes of permeation time according to EN 374):
utyl rubber (butyl) - 0.7 mm coating thickness
anufacturer's directions for use should be observed because of great diversity of types.
upplementary note: The specifications are based on tests, literature data and information
anufacturers or are derived from similar substances by analogy. Due to many conditions
emperature) it must be considered, that the practical usage of a chemical-protective glove
ay be much shorter than the permeation time determined through testing.
hemical resistant protective gloves (EN 374)

ye protection:
afety glasses with side-shields (frame goggles) (e.g. EN 166)

ody protection:
ght protective clothing

Check the exposure scenario (if you receive one)

1. ES 1: Professional end-use (SU 22) – coating of floors

1. Title of Exposure scenario	
Coatings and Paints, Fillers, Putties Thinners PC 9a SU19: Building and construction work	
Environment: Wide dispersive outdoor/indoor use of substance in coatings, release intended	ERC 8d
Worker	
Diluting of the concentrated product - transfer for mixing	PROC 8a
Mixing of the substance into ready-to-use product	PROC 5
Use of hand-held tools - roller or brush application	PROC 10
Use of product in a spray form	PROC 11

2. Conditions of use affecting exposure
2.1 Control of environmental exposure: Wide dispersive outdoor/indoor use of substance in coatings, release intended **(ERC 8d)**
Conditions and measures related to municipal sewage treatment plant
Wastewater is to be treated by a municipal STP. Removal from water effectiveness [Effectiveness : 87.4%]
2.2 Control of workers exposure for Diluting of the concentrated product - transfer for mixing **(PROC 8a)**

2.3 Control of workers exposure for Mixing of the substance into ready-to-use product **(PROC 5)**
Product characteristics
Concentration of substance in product 5 – 25%
Amount used, frequency and duration of use/exposure
Operation carried out for ≤ 8 hours.
Other operational conditions affecting workers exposure
Process at room temperature Good general ventilation at workplace assumed. Indoor use assumed.
Technical and organisational conditions and measures
Partially closed mixing and blending of chemicals. No open substance transfers.
Conditions and measures related to personal protection, hygiene and health evaluation
Wear face shield, goggles or safety glasses with side shield. Wear nitrile rubber, chloroprene rubber, butyl rubber or other suitable gloves, complying with requirements of the EN 374 with the breakthrough time of 480 min. Effectiveness ≥ 90% Training in relation to use and maintenance of the PPE must be provided to ensure required effectiveness of protection.
Additional good practice advice beyond the REACH CSA
Use good occupational hygiene practices
2.4 Control of workers exposure for Use of hand-held tools - roller or brush application **(PROC 10)**
Product characteristics
Concentration of substance in product 5 – 25%
Amount used, frequency and duration of use/exposure

Training in relation to use and maintenance of the PPE must be provided to ensure required effectiveness of protection.
Additional good practice advice beyond the REACH CSA
Use tools with long handles. Use good occupational hygiene practices
2.5 Control of workers exposure for Use of product in a spray form **(PROC 11)**
Product characteristics
Concentration of substance in product 5 – 25%
Amount used, frequency and duration of use/exposure
Operation carried out for ≤ 4 hours
Other operational conditions affecting workers exposure
Process at room temperature Good general ventilation at workplace assumed. Indoor use assumed.
Conditions and measures related to personal protection, hygiene and health evaluation
Wear face shield, goggles or safety glasses with side shield. Wear a respirator conforming to EN140 with Type A/P2 filter or better. Effectiveness ≥ 90% Wear nitrile rubber, chloroprene rubber, butyl rubber or other suitable gloves, complying with requirements of the EN 374 with the breakthrough time of 480 min. Effectiveness ≥ 90% Training in relation to use and maintenance of the PPE must be provided to ensure required effectiveness of protection.
Additional good practice advice beyond the REACH CSA
Use good occupational hygiene practices

Section 7: control info

Handling and Storage:

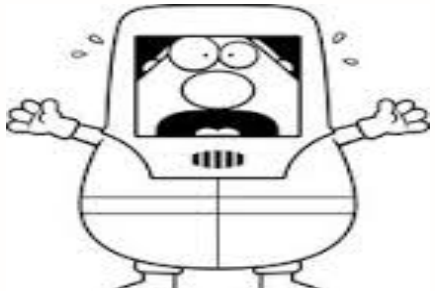
- Precautions for safe handling e.g. any incompatibilities, general hygiene
- How to store safely e.g. Flammability hazards

HEALTH AND SAFETY AUTHORITY

ection 7: Handling and storage

Precautions for safe handling	Provide appropriate exhaust ventilation. Use only in well-ventilated areas. Keep away from incompatible products. To avoid thermal decomposition, do not overheat. Use only equipment and materials which are compatible with the product. Do not confine the product in a circuit, between closed valves, or in a container witho a vent. Emergency eye wash fountains and emergency showers should be available in the immediate vicinity.
Conditions for safe storage, including incompatibilities.	Store in original container. Keep in a well-ventilated place. Keep cool. Keep in properly labelled containers. Keep container closed (vented cap). Keep in a bunded area. Protect from direct sunlight. Store in a cool and dark place to preserve the quality of t product. Keep away from incompatible products.
Materials for packaging:	Suitable material: Reinforced polyester, Steel coated, PVC, Polyethylene, Glass
Materials to avoid:	Metals
Other data:	Stable under recommended storage conditions.
Specific end use(s)	The specified uses for this material are shown in section 1 of this document.

And for emergencies…



Section 1

- Details of supplier of the safety data sheet
  - Person responsible for placing on market (M/I/Dist/DU/OR)
- Full name, address, tel. no., e-mail address
- **Emergency telephone**
  - Limits on service must be specified eg. hours/info given/language

HEALTH AND SAFETY AUTHORITY

Sections 4, 5 & 6: What will you find out here?

- S4: relevant **first aid** measures
- S5: specific advice for **fire fighters**
- S6: methods & material for **containment** & **cleaning up** i.e. how to contain spill, precautions to take

HEALTH AND SAFETY AUTHORITY

For risk assessment also consider

- Uses
- Disposal
- Transport

HEALTH AND SAFETY AUTHORITY

Uses

- **Section 1**
- Identification of substance/mixture
- Use of the substance/mixture and uses advised against (brief description)

- **Exposure scenario**

Table 2. Overview of uses broken down by life cycle stages and the exposure scenarios (ES) described in sections 9.1ff.

Main life cycle stage	Stage No. *)	Manufacture / Use / Subsequent service life	Related subsequent service life	Market sector	Tonnage (tonnes per year)	ES No.
		Manufacture/Import			0.0	
Professional workers uses	PW-1 (IUC-1)	- Wide dispersive outdoor/indoor use of substance in coatings, release intended (ERC 8d) - Diluting of the concentrated product - transfer for mixing (PROC 8a) - Mixing of the substance into ready-to-use product (PROC 5) - Use of hand-held tools - roller or brush application (PROC 10) - Use of product in a spray form (PROC 11)			18000.0	1

*) A stage number consists of an abbreviation of the main life cycle stage followed by a consecutive number.

Disposal/Transport

Section 13:

- Disposal considerations: Waste treatment methods to be described

Section 14:

- Transport info incl. special precautions for user; transport in bulk info

HEALTH AND SAFETY AUTHORITY

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

13.1 Waste treatment methods

Product

Methods of disposal

The generation of waste should be avoided or minimised wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

Hazardous waste

Yes.

Packaging

Methods of disposal

Where possible, arrange for product to be recycled. Dispose of via an authorised person/ licensed waste disposal contractor in accordance with local regulations.

Special precautions

This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Empty containers represent a fire hazard as they may contain flammable product residues and vapour. Never weld, solder or braze empty containers. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

	ADR/RID	ADN/ADNR	IMDG	IATA
14.1 UN number	UN 2789	UN 2789	UN 2789	UN 2789
14.2 UN proper shipping name	Acetic acid, glacial or Acetic acid solution, more than 80 per cent acid, by mass acid solution	Acetic acid, glacial or Acetic acid solution, more than 80 per cent acid, by mass acid solution	Acetic acid, glacial or Acetic acid solution, more than 80 per cent acid, by mass acid solution	Acetic acid, glacial or Acetic acid solution, more than 80 per cent acid, by mass acid solution
14.3 Transport hazard class(es)	8 (3) 	8 (3) 	8 (3) 	8 (3) 
14.4 Packing group	II	II	II	II
14.5 Environmental hazards	No.	No.	No.	No.
14.6 Special	Not available.	Not available.	Not available.	Not available.

- ✓ That's when info is of good quality
- ☹ What to do if it's not?

HEALTH AND SAFETY AUTHORITY

What to do if…

- ….the info is incorrect in the SDS
- ….the info is missing in the SDS
- ….you didn’t receive a SDS

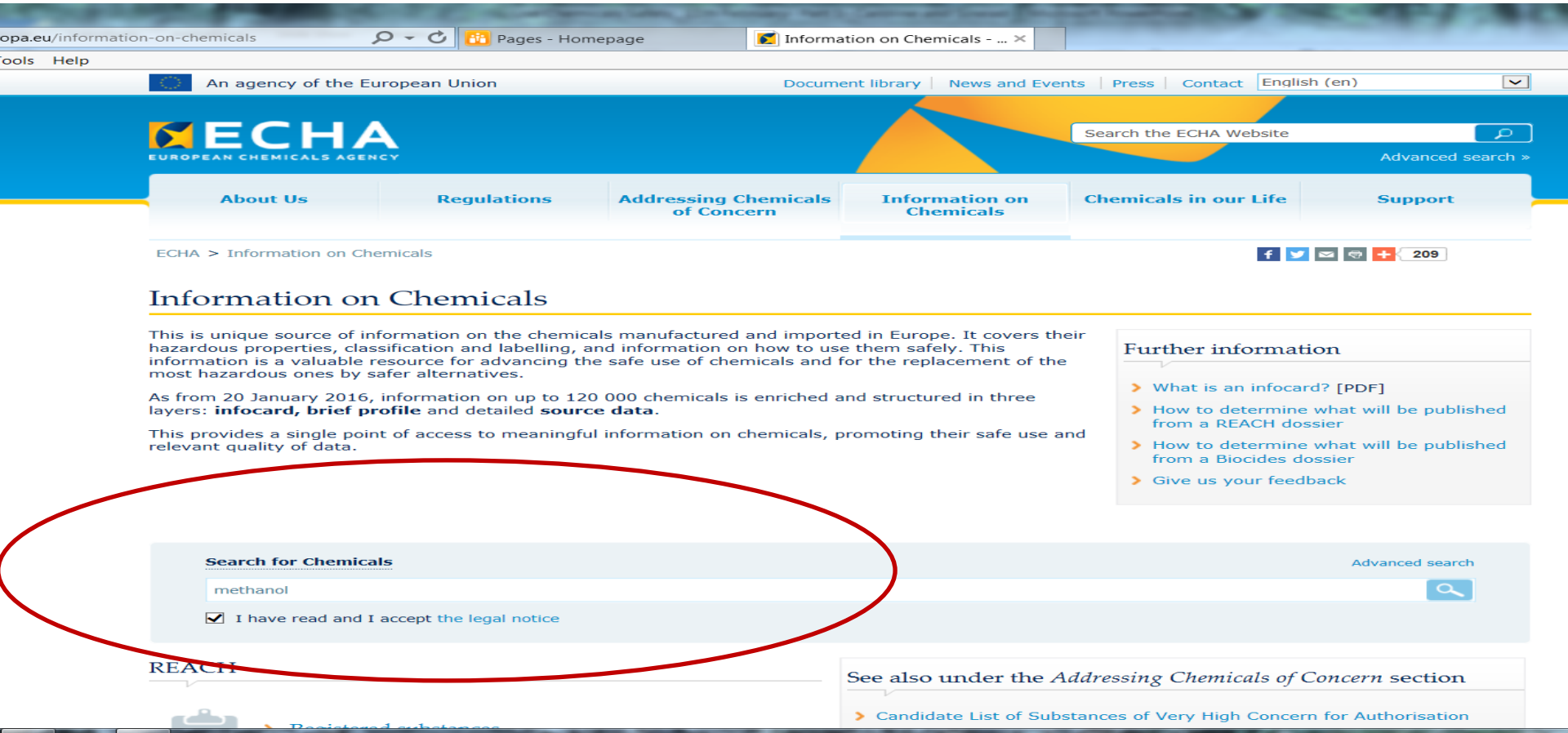
- How are you going to double check?
- What actions should you take

- ….you receive an exposure scenario(s)

HEALTH AND SAFETY AUTHORITY

Info is incorrect/missing

- Double check on ECHA website
- http://echa.europa.eu/information-on-chemicals



ECHA
EUROPEAN CHEMICALS AGENCY

InfoCard

Chromium (VI) trioxide

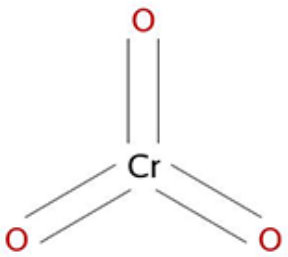
Other names: IUPAC names [18] Regulatory processes names [3] Trade names [5] Groups:

Substance identity

EC no: 215-607-8

CAS no: 1333-82-0

Mol. formula: CrO3



Hazard classification & labelling

Danger! According to the **Harmonised Classification and Labelling** approved by the European Union, this is fatal if inhaled, is very toxic to aquatic life with long lasting effects, causes damage to organs through prolonged or repeated exposure, is very toxic to aquatic life, may cause cancer, causes severe skin burns and eye damage, may cause genetic defects, is toxic if swallowed, is toxic in contact with skin, may cause fire or explosion (strong oxidiser), is suspected of damaging fertility, may cause allergy or asthma symptoms or breathing difficulties if inhaled and may cause an allergic skin reaction.

Additionally, the classification provided by companies to ECHA in **REACH registrations** identifies that this substance is fatal in contact with skin and is very toxic to aquatic life.

About this substance

This substance is manufactured and/or imported in the European Economic Area in 10,000 to 100,000 tonnes per year.

ECHA has no registered data indicating the type of article into which the substance has been processed.

This substance is used in the following products: pH regulators and water treatment products, non-metal-surface treatment products, metal surface treatment products, laboratory chemicals and adsorbents. This substance has an industrial use resulting in manufacture of another substance (use of intermediates). ...

Hazardous effects

C M S

Important to know

- Substance of very high concern (SVHC) and included in the candidate list for authorisation.
- Substance of very high concern requiring authorisation before it is used (Annex XIV of REACH).

How to use it safely

- Precautionary measures suggested by manufactures and importers of this substance.
- Guidance on the safe use of the substance provided by manufactures and importers of this substance.

INFOCARD - last updated: 18/05/2015

ECHA
EUROPEAN CHEMICALS AGENCY

InfoCard

Want more detail?

Brief Profile

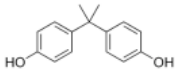
4,4'-isopropylidenediphenol

Short substance description. Lorem ipsum dolor sit amet consectetur adipiscing elit nullam et metus magna.

Substance description | Scientific properties

Brief Profile – Last updated: 08/12/2014 Print

Substance identity



EC Name: 215-607-8

IUPAC Name: 2,2-bis (4-hydroxyphenol) propane

Other names

EC Number:	80-05-7
CAS Number:	C15H16O2
Index Number:	604-030-00-0
Molecular Formula:	C15H16O2

Smiles:	Oc1ccc(cc1)C(c2ccc(O)cc2)(C)C
InChI:	1S/C15H16O2c1-15(2,11-3-7-13(16)8-4-11)12-5-9-14(17)10-6-12/h3-10,16-17H,1-2H3
Type of substance:	Mono constituent substance
Origin:	Organic
Registered compositions:	7
Of which contain:	2 impurities relevant for classification
	0 additives relevant for classification
Substance listed:	EINECS

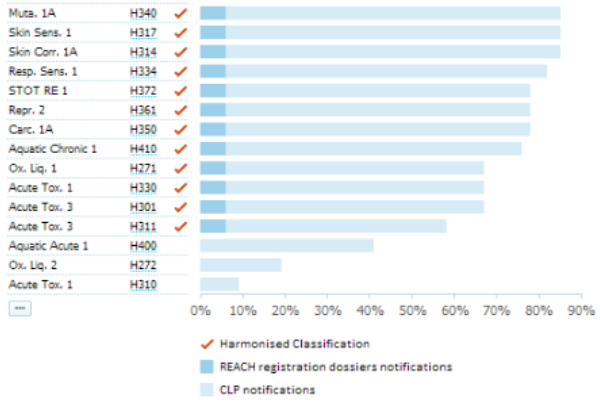
Safety Classification & Labelling

Danger! According to the **Harmonised Classification and Labelling** (ATP 1) approved by the European Union this substance is fatal if inhaled, may cause genetic defects, causes damage to organs through prolonged or repeated exposure, may cause cancer, is very toxic to aquatic life with long lasting effects, is toxic in contact with skin, is toxic if swallowed, causes severe skin burns and eye damage, may cause fire or explosion (strong oxidiser), is suspected of damaging fertility or the unborn child, may cause an allergic skin reaction, and may cause allergy or asthma symptoms or breathing difficulties if inhaled.

Additionally, the Classification provided by companies to ECHA in **CLP notifications** identifies this substance is very toxic to aquatic life, may intensify fire (oxidiser) and is fatal in contact with skin.

Lorem ipsum dolor sit amet.

Breakdown of all 2 605 C&Ls notifications submitted to ECHA

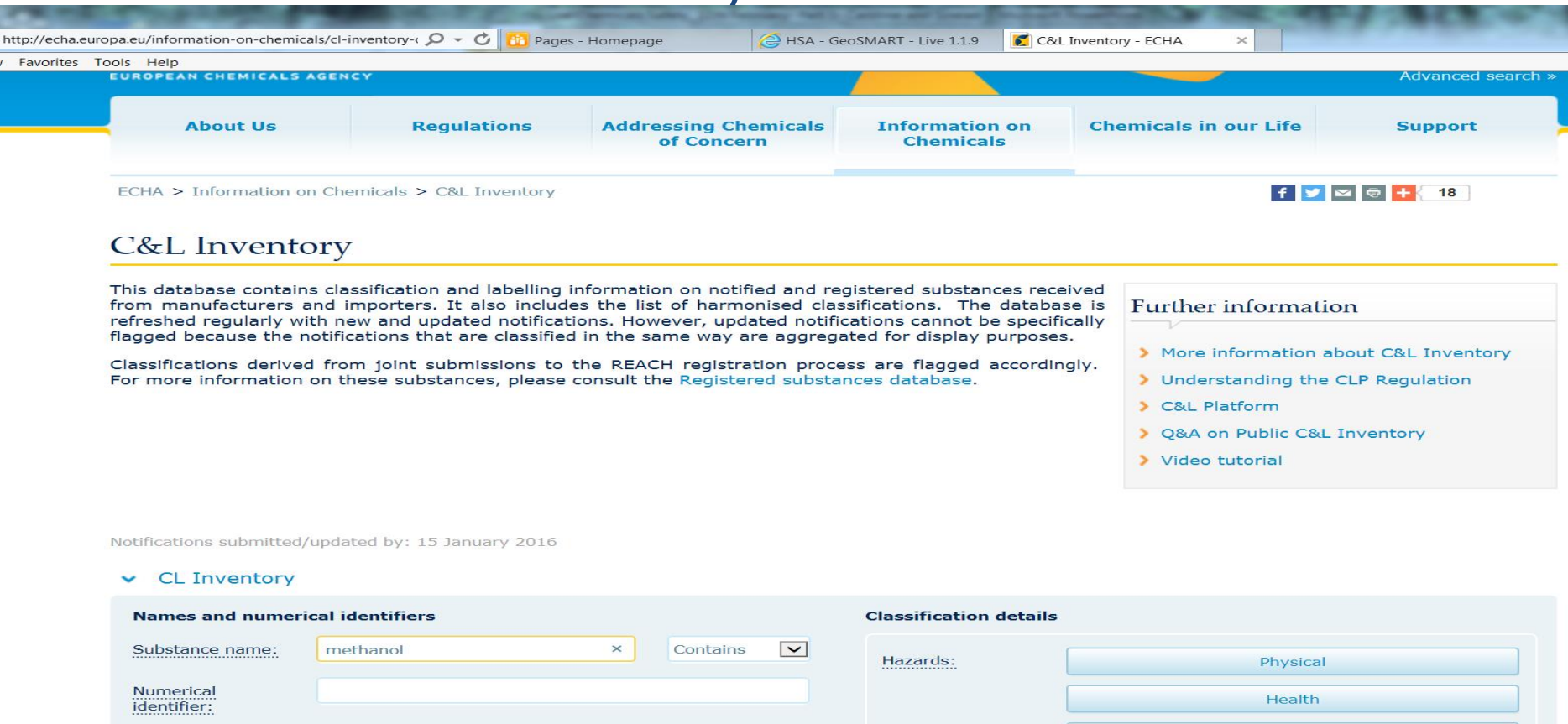


At least one notifier has indicated that an impurity or an additive present in the substance impacts the notified classification.

Classification is incorrect

For classification:

- Double check sections 9, 11 and 12 (competency!)
- Check C&L inventory



Summary of Classification and Labelling

Harmonised classification

Harmonised classification - Annex VI of Regulation (EC) No 1272/2008 (CLP Regulation)

General Information

Index Number	EC Number	CAS Number	International Chemical Identification
603-001-00-X	200-659-6	67-56-1	methanol

ATP Inserted / Updated: CLP00

CLP Classification (Table 3.1)

Classification		Labelling			Specific Concentration limits, M-Factors	Notes
Hazard Class and Category Code(s)	Hazard Statement Code(s)	Hazard Statement Code(s)	Supplementary Hazard Statement Code(s)	Pictograms, Signal Word Code(s)		
Flam. Liq. 2	H225	H225		GHS02 GHS06 GHS08 Dgr	* STOT SE 1; H370: C ≥ 10% STOT SE 2; H371: 3% ≤ C < 10%	
Acute Tox. 3 *	H301	H301				
Acute Tox. 3 *	H311	H311				
Acute Tox. 3 *	H331	H331				
STOT SE 1	H370	H370 **				

Signal Words	Pictograms
Danger	 Flame  Skull and crossbones  Health hazard

200-659-6	methanol	67-56-1

Self classification

Notified classification and labelling according to CLP criteria

Classification		Labelling			Specific Concentration limits, M-Factors	Notes	Classification affected by Impurities / Additives	Additional Notified Information	Number of Notifiers	Joint Entries	
Hazard Class and Category Code(s)	Hazard Statement Code(s)	Hazard Statement Code(s)	Supplementary Hazard Statement Code (s)	Pictograms, Signal Word Code(s)							
Flam. Liq. 2	H225	H225		GHS06 GHS02 GHS08 Dgr	STOT SE 1: C ≥ 10% STOT SE 2: C < 10%			State/Form IUPAC Names	1341	✔	
Acute Tox. 3	H301	H301									
Acute Tox. 3	H311	H311									
Acute Tox. 3	H331	H331									
STOT SE 1	H370 (Optic nerve (ne...)	H370 (target organs: ...)									
Flam. Liq. 2	H225	H225		GHS02 GHS06 GHS08 Dgr	STOT SE 2: 3% ≤ C < 10% STOT SE 1: C ≥ 10%			State/Form IUPAC Names	1945		
Acute Tox. 3	H301	H301									
Acute Tox. 3	H311	H311									
Acute Tox. 3	H331	H331									
STOT SE 1	H370	H370									
Flam. Liq. 2	H225	H225		GHS02 GHS06 GHS08 Dgr				State/Form IUPAC Names	747		
Acute Tox. 3	H301	H301									
Acute Tox. 3	H311	H311									
Acute Tox. 3	H331	H331									
STOT SE 1	H370 (not specified)										
Flam. Liq. 2	H225	H225		GHS07 GHS02 GHS06 GHS08					355		
Acute Tox. 3	H301	H301									
Acute Tox. 3	H311	H311									
Eye Irrit. 2	H319	H319									

Info is missing in the SDS….

- Back to supplier
- New supplier
- RA for worst case in meantime

No SDS received?

- Is one required?
- Do not “google” other SDSs

When a safety data sheet (SDS) must be provided

When substance or mixture is hazardous

- Substance or mixture is classified as hazardous
- Substance is PBT/vPvB
- Substance is on Candidate List
- Non-classified mixture contains certain substances above specified limits (on request)

It is sold to downstream user(s)

- SDS not required for general public but sufficient information for safe use must be provided

Or it has been requested

- When requested by professional user/distributor

May not need SDS….

- ☒ Special exemptions e.g. Waste, chemicals in transit
- ☒ Finished state products for final user:
  - ☒ Medicinal/Veterinary products
  - ☒ Cosmetics
  - ☒ Medical devices
  - ☒ Food/Feeding stuffs
- ☒ If subs not classified as hazardous/mixture contains no haz subs (or haz subs below limit provided)

HEALTH AND SAFETY AUTHORITY

When a SDS is not required….

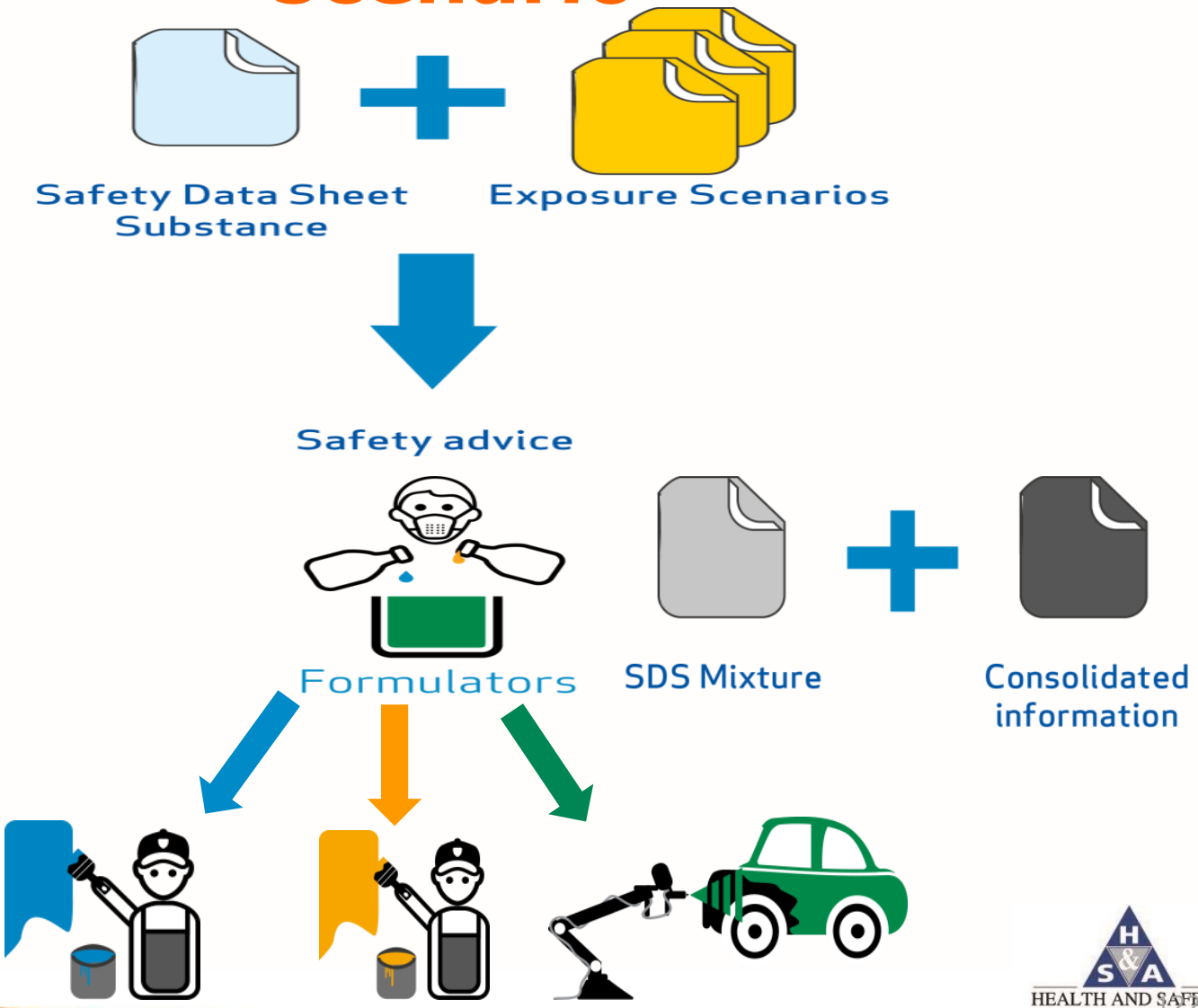
Article 32 of REACH: provide recipient with (where applicable):

- Registration number Details of authorisation
- Details of restriction
- Info/risk management measures

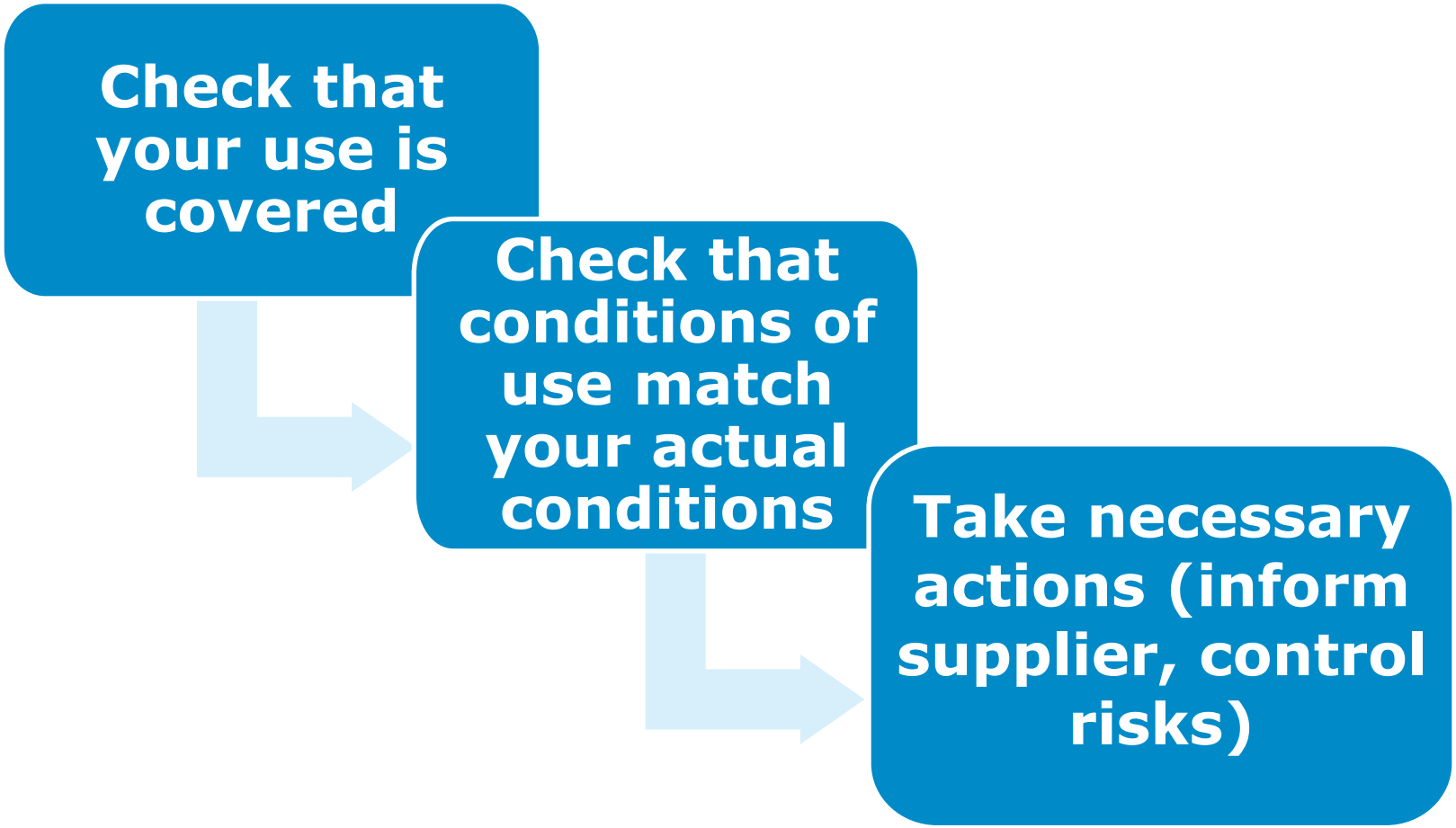
- Free
- Paper/electronically
- 1st delivery/update

HEALTH AND SAFETY AUTHORITY

You may also receive an Exposure scenario



If you receive ESs…..



Version Number: v.1.0

Date of Generation/Revision: 2011-06-22

1. ES 1: Professional end-use (SU 22) – coating of floors

1. Title of Exposure scenario	
Coatings and Paints, Fillers, Putties Thinners PC 9a SU19: Building and construction work	
Environment: Wide dispersive outdoor/indoor use of substance in coatings, release intended	ERC 8d
Worker	
Diluting of the concentrated product - transfer for mixing	PROC 8a
Mixing of the substance into ready-to-use product	PROC 5
Use of hand-held tools - roller or brush application	PROC 10
Use of product in a spray form	PROC 11

2. Conditions of use affecting exposure
2.1 Control of environmental exposure: Wide dispersive outdoor/indoor use of substance in coatings, release intended **(ERC 8d)**
Conditions and measures related to municipal sewage treatment plant
Wastewater is to be treated by a municipal STP. Removal from water effectiveness [Effectiveness : 87.4%]
2.2 Control of workers exposure for Diluting of the concentrated product - transfer for mixing **(PROC 8a)**

Training in relation to use and maintenance of the PPE must be provided to ensure required effectiveness of protection.
Additional good practice advice beyond the REACH CSA
Use tools with long handles. Use good occupational hygiene practices
2.5 Control of workers exposure for Use of product in a spray form **(PROC 11)**
Product characteristics
Concentration of substance in product 5 – 25%
Amount used, frequency and duration of use/exposure
Operation carried out for ≤ 4 hours
Other operational conditions affecting workers exposure
Process at room temperature Good general ventilation at workplace assumed. Indoor use assumed.
Conditions and measures related to personal protection, hygiene and health evaluation
Wear face shield, goggles or safety glasses with side shield. Wear a respirator conforming to EN140 with Type A/P2 filter or better. Effectiveness ≥ 90% Wear nitrile rubber, chloroprene rubber, butyl rubber or other suitable gloves, complying with requirements of the EN 374 with the breakthrough time of 480 min. Effectiveness ≥ 90% Training in relation to use and maintenance of the PPE must be provided to ensure required effectiveness of protection.
Additional good practice advice beyond the REACH CSA
Use good occupational hygiene practices

If you don't get an ES.....

- Substance is……
  - not hazardous
  - exempt from registration
  - not registered yet (next deadline 2018)
  - registered as an intermediate
  - registered below 10 tonnes/year
- SDS is…
  - provided on a voluntary basis
  - for a mixture

When exposure scenarios should be provided

For a substance

… registered > 10 tonnes/year

…and is hazardous

- For mixtures, supplier may communicate information from exposure scenarios for ingredient substances in:
- SDS or
- as one ES or
- as individual ESs

Protect workers

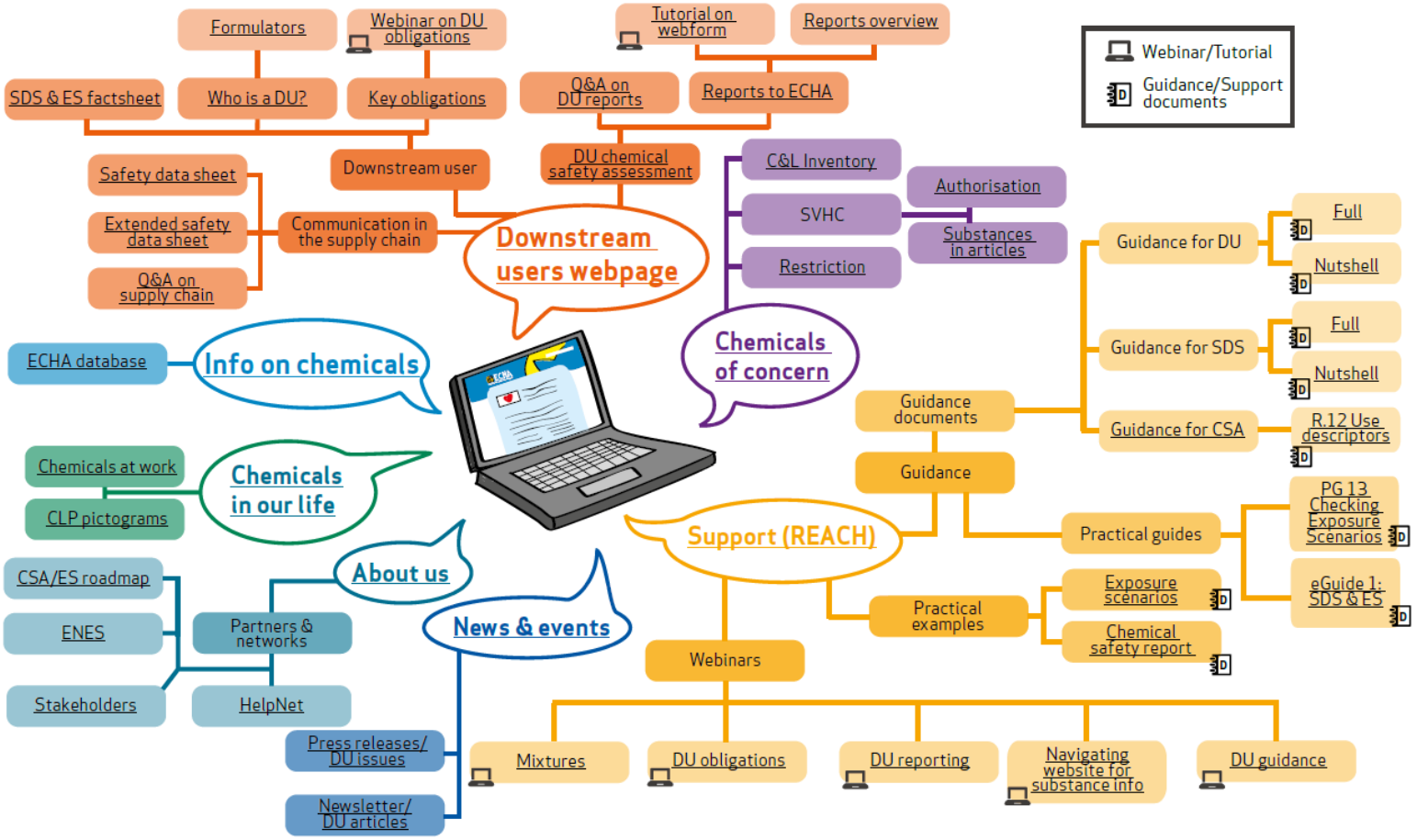
- Provide information as per the SDS to workers and those exposed
- Hazards, emergency info, accidental release measures, 1st aid, disposal, handling, storage, PPE/controls…..
- Information in a clear format

  in a known location and easily accessible

  to workers

Applies to all chemicals on site

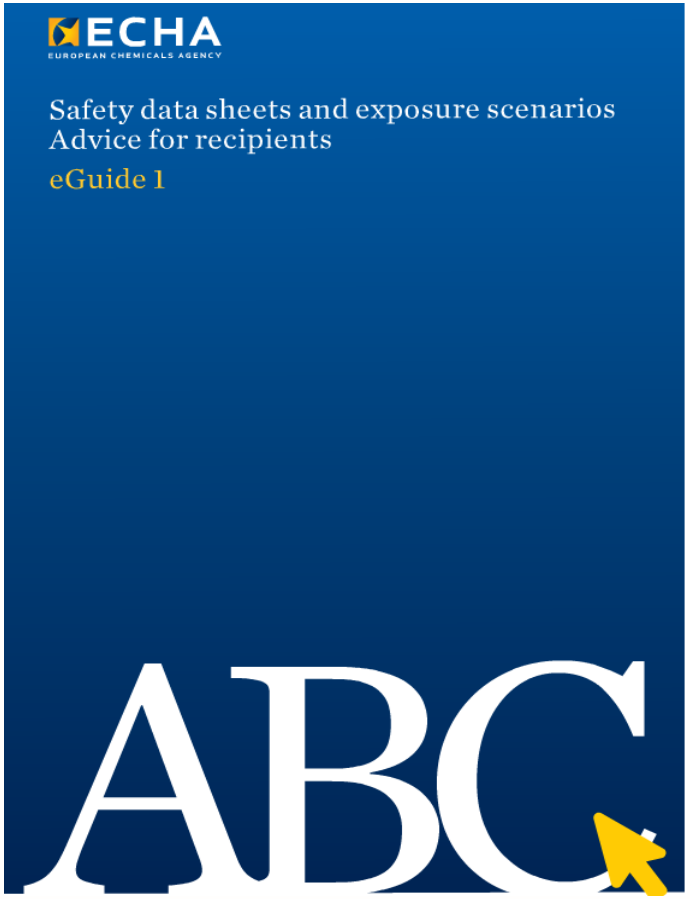
Keep yourself informed



eGuide on safety data sheets & exposure scenarios

- Aimed at recipients of extended safety data sheets
  - Workers
  - Environmental, health and safety managers
- Examples of SDS and exposure scenario
- How to understand and use them

- Hyperlink to eGuide



Question and Answer

Session 1

HEALTH AND SAFETY AUTHORITY