

LCID Example 5a - Introduction

1) Purpose of the example

The purpose of example 5a is to illustrate how relevant exposure scenario information for lead components would be i) identified in the incoming extended SDS for the raw materials and ii) included into the SDS of the mixture by means of an annex. The example addresses in particular the following situation:

- The application of the LCID method would lead to the identification of two different lead components for the different routes (here: inhalation and dermal/environment).
- The exposure scenarios for the individual substances had been generated using similar approaches (i.e. format and content largely harmonised).
- The exposure scenarios describe the conditions of use for the substance in a concentration of up to 100%. Concentration adjusted ES for coatings were not available in the extended SDS for the substances (*Note: TRA not designed to differentiate between 100% and 25% content in mixture*).
- The exposure scenarios describe the environmental conditions of use with an unrealistically high daily amount of substance used at site (up to 25 t/d, which equals to more than 100 t/d of a coating). Amount-adjusted ES for typical coating processes were not available in the extended SDS for the substances. The formulator may need to make a linear tonnage adjustment to address conditions of use where no onsite pre-treatment of waste water is required.

This example also illustrates a few challenges that a formulator could face when consolidating OC and RMM for two lead components, even though their exposure scenarios are largely harmonised in structure and content:

- Anticipating the route-specific impact of an OC/RMM is not always straightforward and would, in some cases, even require knowledge of the exposure assessment tool (and its functioning) that had been used for the CSA. An example for this is the impact of local exhaust ventilation on the dermal exposure in a TRA based assessment. Usually, the formulator receiving an extended SDS for a substance would not know whether the supplier has assumed dermal effectiveness of LEV or not.
- For the environmental lead component identified by the LCID (naphtha), the OC/RMM in the SDS are less stringent (up to 25 t/d and 78% waste water treatment effectiveness) than the OC/RMM for the non-lead component (Mixed xylene; up to 17 t/d at 94% waste water treatment efficiency). This is due to the fact that the LCID disregards a substance without environmental classification at an early stage of the decision tree (identification of the 'relevant component').
- The assumed effectiveness of a good standard of room ventilation slightly differs between the two exposure scenarios. In such cases, the formulator needs to decide whether he selects the information relevant for the lead component or the more stringent condition.

2) Mixture description

a) Information on the mixture

COMPOSITION:	Naphtha – 20% Mixed xylene ¹ – 25%
CLASSIFICATION OF THE MIXTURE:	H226 - Flammable liquid and vapour. H319 - Causes serious eye irritation. H315 - Causes skin irritation. H335 - May cause respiratory irritation. H373 - May cause damage to organs through prolonged or repeated exposure (hearing organs) H412 - Harmful to aquatic life with long lasting effects
USE OF THE MIXTURE:	The mixture is a 1-pack, acrylic modified top coat. It is recommended to apply the paint by airless spray, brush or roller. It is intended for industrial use only.

b) Hazardous substances entering in the composition of the mixture

Substance	DNEL(s) (systemic-LT) Lowest PNEC(s) [other limit values]	CLP classification
Naphtha, light aromatic (918-668-5)	DNEL inhalation: 150 mg/m ³ DNEL dermal: 25 mg/kg bw/day DNEL oral (population: 11 mg/kg bw/day) PNEC: not available	Flam. Liq. 3, H226 STOT SE 3, H335 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Chronic 2, H411
Mixed xylene (905-588-0)	DNEL inhalation: 221 mg/m ³ DNEL dermal: 212 mg/kg BW/day PNEC (Marine Water): 0.327 mg/L <i>OEL (Xylene): 220 mg/m³</i> <i>OEL (Ethylbenzene): 441 mg/m³</i>	Flam. Liq. 3, H226 Acute Tox. 4, H312 Acute Tox. 4, H332 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335 STOT RE 2, H373 Asp. Tox. 1, H304

¹ The correct substance identity name of this substance under REACH is 'Reaction mass of Xylene and Ethylbenzene'

3) Outcome of the LCID methodology

LEAD COMPONENT INHALATION:	Mixed xylene
LEAD COMPONENT DERMAL:	Naphtha, light aromatic
COMPONENT DRIVING HAZARD FOR EYE:	Mixed xylene
RELEVANT LOCAL EFFECT (BEYOND THE EYES):	H335 (STOT SE – respiratory tract): Naphtha, light aromatic and Mixed xylene H315 (skin irritation): Mixed xylene
LEAD COMPONENT ENVIRONMENT:	Naphtha, light aromatic
LEAD COMPONENT OZONE LAYER HAZARD:	N.A. – because no hazard identified

4) Operational conditions (OC) and risk management measures (RMM) relevant for the selected use of the mixture

The OC/RMM below are those reported in the SDS of each individual substance: either in section 8 of the SDS or in the relevant ES attached to the SDS.

The identification and naming of the contributing activities is from the ESs on industrial coating in the extended SDS of the two lead substances. Both ES cover the foreseen activities with the mixture. Contributing activities not relevant for the industrial use of the coating have been eliminated (e.g. PROC 3 activities).

In addition, we identify the relevant OCs and RMMs based on the lead components identified previously for each exposure route. Route specific OC/RMM of the lead component for that route are **indicated in bold**. If incompatible OC/RMM relate to the same activity, the practically more relevant/practical is maintained.

It is assumed that local respiratory effects from Naphtha and the Mixed xylene are prevented by the OC and RMM addressing the long term systematic effect from Naphtha.

In this chapter, we consolidate also the OC and RMM selected for each contributing activity.

At the end, a set of OC/RMM (allocable to all activities) and a list of CA (with or without assignment of PROCs) with few specified OC/RMM remains (i.e. **the one indicated in bold**). This can then be consolidated for inclusion as an annex into the mixture SDS.

	Naphtha (lead component dermal and environment)	Mixed Xylene (lead component inhalation)
Use	Uses in Coatings: at industrial site	Uses in Coatings: Industrial - Covers the use in coatings (paints, inks, adhesives, etc.) including exposures during use (including materials receipt, storage, preparation and transfer from bulk and semi-bulk, application by spray, roller, spreader, dip, flow, fluidised bed on production lines and film formation) and equipment cleaning, maintenance and associated laboratory activities
OC and RMM per contributing activity		
All activities	<p>Concentration of substance in product: Up to 100% Frequency and duration of use: 8 hours/day (no restriction) Assumes use not > 20°C above ambient temperature (except PROC2) Assumes a good basic standard of occupational hygiene is implemented</p> <p><u>Respiratory protection¹:</u></p> <ul style="list-style-type: none"> - Required, if exposure limit is exceeded (e.g. OEL). - In case of brief exposure or low pollution use breathing filter apparatus. - In case of intensive or longer exposure use breathing apparatus that is independent of circulating air. - Recommended Filter type: Combination filter A-P2 <p><u>Hand protection¹:</u></p> <ul style="list-style-type: none"> - Protective gloves. The following materials are suitable: Material: Nitrile rubber - Break through time : > 480 min - Glove thickness : 0,4 mm <p><u>Eye protection¹:</u> Advice : Tightly fitting safety goggles</p> <p><u>Skin and body protection¹:</u> Flame retardant antistatic protective clothing</p>	<p>Concentration of substance in product: Up to 100% Frequency and duration of use: 8 hours/day (no restriction) Assumes use not > 20°C above ambient temperature² Assumes a good basic standard of occupational hygiene is implemented</p> <p><u>Exposure control and personal protection¹:</u> Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately.</p> <p>Provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop. Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying.</p> <p>Wear goggles for use against liquids and gas. Wear full face shield if splashes are likely to occur. Approved to EU Standard EN166.</p> <p>Where hand contact with the product may occur the use of gloves approved to relevant standards (e.g. EN374) made from the following materials may provide suitable chemical protection. Longer term protection: Viton. Incidental contact/Splash protection: Nitrile rubber.</p> <p>For continuous contact we recommend gloves with breakthrough time of more than 240 minutes with preference for > 480 minutes where suitable gloves can be identified.</p> <p>Glove thickness should be typically greater than 0.35 mm</p> <p>Wear chemical resistant gloves/gauntlets and boots. Where risk</p>

	Naphtha (lead component dermal and environment)	Mixed Xylene (lead component inhalation)
		of splashing, also wear an apron. Wear antistatic and flame retardant clothing.
PROC1: Storage	Store substance within a closed system	Store substance within a closed system.
PROC2: Film formation - force drying, stoving and other technologies.	Film formation – force drying (50-100°C). Stoving (>100°C). UV/EB radiation curing Operation is carried out at elevated temperature (> 20°C above ambient temperature).	Handle substance within a closed system. Provide extraction ventilation at points where emissions occur.
PROC3: Use in closed batch process (synthesis or formulation) ²	-	General exposures (closed systems)
PROC4: Film formation – air drying	Provide extract ventilation to points where emissions occur ⁴	Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).
PROC5: Preparation of material for application. Mixing operations (open systems)	Provide a good standard of controlled ventilation ⁴ (10 to 15 air changes per hour)	Provide a good standard of general or controlled ventilation (5 to 15 air changes per hour).
Mixing operation (closed system)	-	Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).
PROC7: Spraying Manual	Provide enhanced general ventilation by mechanical means. Wear a respirator conforming to EN140 with Type A filter or better	Provide a good standard of general or controlled ventilation (5 to 15 air changes per hour). Wear a respirator conforming to EN140 with Type A filter or better.
PROC7: Spraying (automatic/robotic)	Carry out in a vented booth provided with laminar airflow	Carry out in a vented booth provided with laminar airflow.
PROC8a/PROC8b : Material transfers	Provide a good standard of controlled ventilation (10 to 15 air changes per hour)	Ensure material transfers are under containment or extract ventilation.
PROC28: Equipment cleaning and maintenance	Drain down and flush system prior to equipment opening or maintenance.	Drain down system prior to equipment opening or maintenance.
PROC10: Roller, spreader, flow application	Provide a good standard of controlled ventilation (10 to 15 air changes per hour)	Provide extraction ventilation at points where emissions occur.
PROC13: Dipping, immersion and pouring	Provide a good standard of controlled ventilation (10 to 15 air changes per hour)	Provide a good standard of general or controlled ventilation (5 to 15 air changes per hour).
PROC9: Material transfers Drum/batch transfers Transfer from/pouring from containers	Provide a good standard of controlled ventilation (10 to 15 air changes per hour) If above technical/organisational control measures are not feasible, then adopt following PPE: Wear a respirator conforming to EN140 with Type A filter or better	Provide a good standard of general or controlled ventilation (5 to 15 air changes per hour).
PROC14: Production of preparations or articles by	Provide a good standard of controlled ventilation (10 to 15 air changes per hour)	Provide a good standard of general or controlled ventilation (5 to 15 air changes per hour).

	Naphtha (lead component dermal and environment)	Mixed Xylene (lead component inhalation)
tableting, compression, extrusion, pelettisation		
PROC15 : Use as laboratory reagent		
ERC4 : Industrial use of processing aids in processes and products, not becoming part of articles	Daily amount used: 25 T/day³ Prevent discharge of undissolved substance to or recover from wastewater Treat air emissions to provide a typical removal efficiency of 90% Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency ≥77.7% Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed	Daily amount used: 17 T/day Prevent discharge of undissolved substance to or recover from wastewater Treat air emissions to provide a typical removal efficiency of 90% Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency ≥93.6% Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed

Note

1: This information was available in sections 7 and 8 of the substance SDS

2: This OC / RMM is conflicting with other OC / RMM. It has therefore been removed during the consolidation.

3: The daily amount for safe use of the lead component is less stringent than the daily amount of the other component. One may wonder if in this specific situation, the lowest tonnage should be considered for safe use of the substance.

4: It is not possible to know if the local exhaust ventilation is an OC relevant for the dermal route, as the source SDS does not contain any information on the exposure estimates calculation. The proper selection of relevant OC/RMM relies therefore on expert judgement. In this case, it is likely that the local exhaust ventilation refers to the inhalation route only.

Example 5a - Safety Data Sheet content

Extract of relevant safe use information derived by application of the LCID methodology

SAFETY DATA SHEET

My Super Paint



SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Product name : My Super Paint

1.2 Relevant identified uses of the substance or mixture and uses advised against

Product description : Coatings and paints, thinners, paint removers (PC9a)

1.3 Details of the supplier of the safety data sheet

My company, Maalitie 1, FI-00370 HELSINKI, FINLAND. Tel. +358 9 000 000.

e-mail address of person responsible for this SDS : prod-safe@mycompany.com

National contact

My company, Maalitie 1, FI-00370 HELSINKI, FINLAND. Tel. +358 9 000 000

1.4 Emergency telephone number

Telephone number : +358 9 000 000; Opening hours: MON-FRI, 7am – 6pm.

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition : Mixture

Classification according to Regulation (EC) No. 1272/2008 (CLP/GHS)

Flam. Liq. 3, H226

Skin Irrit. 2, H315

Eye Irrit. 2, H319

STOT SE 3, H335

STOT RE 2, H373

Aquatic Chronic 3, H412

The product is classified as hazardous according to Regulation (EC) 1272/2008 as amended.

See Section 16 for the full text of the H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

2.2 Label elements

Hazard pictograms :**Signal word** : Warning

Hazard statements :

- H226 - Flammable liquid and vapour.
- H319 - Causes serious eye irritation.
- H315 - Causes skin irritation.
- H335 - May cause respiratory irritation.
- H373 - May cause damage to organs through prolonged or repeated exposure.
- H412 - Harmful to aquatic life with long lasting effects.

Precautionary statements

General : Not applicable.My Super Paint **Version** : 3**Label No** : XXXX**Date of issue**/**Date of revision**

: 18/04/2018

Date of previous issue

: 22/06/2016

Page 1 of 10

SECTION 2: Hazards identification

Prevention	: P280 - Wear protective gloves. Wear eye or face protection. P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P273 - Avoid release to the environment.
Response	: P304 + P312 - IF INHALED: Call a POISON CENTER or physician if you feel unwell. P303 + P353 - IF ON SKIN (or hair): Rinse skin with water or shower.
Storage	: P403 - Store in a well-ventilated place.
Disposal	: P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
Hazardous ingredients	: Solvent naphtha (petroleum), light aromatic Mixed xylene
Supplemental label elements	:
Annex XVII - Restrictions	:

2.3 Other hazards

Other hazards which do not result in classification	: None known.
--	---------------

SECTION 3: Composition/information on ingredients

3.2 Mixtures : Mixture

Product/ingredient name	Identifiers	%	Regulation (EC) No. 1272/2008 [CLP]	Type
Solvent naphtha (petroleum), light Aromatic	EC: 918-668-5 CAS: 64742-95-6 Index: 649-356-00-4 Registration: 01-2119455851-35-XXXX	20	Flam. Liq. 3, H226 STOT SE 3, H335 (Respiratory tract irritation) STOT SE 3, H336 (Narcotic effects) Asp. Tox. 1, H304 Aquatic Chronic 2, H411	[1]
Mixed xylene	EC: 905-588-0 CAS: 1330-20-7 Registration: 01-2119488216-XX-XXXX	25	Flam. Liq. 3, H226 Acute Tox. 4, H312 Acute Tox. 4, H332 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335 (Respiratory tract irritation) STOT RE 2, H373 (Hearing organs) Asp. Tox. 1, H304 See Section 16 for the full text of the H statements declared above.	[1] [2]

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment, are PBTs, vPvBs or Substances of equivalent concern, or have been assigned a workplace exposure limit and hence require reporting in this section.

Type

- 1] Substance classified with a health or environmental hazard
- 2] Substance with a workplace exposure limit
- 3] Substance meets the criteria for PBT according to Regulation EC No 1907/2006, Annex XIII
- 4] Substance meets the criteria for vPvB according to Regulation EC No 1907/2006, Annex XIII
- 5] Substance of equivalent concern

Occupational exposure limits, if available, are listed in Section 8.

SECTION 4: First aid measures

SECTION 5: Firefighting measures

SECTION 6: Accidental release measures

SECTION 7: Handling and storage

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).

7.1 Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Do not breathe vapor or mist. Do not ingest. Avoid contact with eyes, skin and clothing. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

7.2 Conditions for safe storage, including any incompatibilities

7.3 Specific end use(s)

- Recommendations** : Not available.
- Industrial sector specific solutions** : Not available.

SECTION 8: Exposure controls/personal protection

The information in this section contains generic advice and guidance. Information is provided based on typical anticipated uses of the product. Additional measures might be required for bulk handling or other uses that could significantly increase worker exposure or environmental releases.

8.1 Control parameters

Occupational exposure limits

Xylene

EH40/2005 WELs (United Kingdom (UK), 12/2011). Absorbed through skin.

STEL: 441 mg/m³ 15 minutes.

TWA: 50 ppm 8 hours.

TWA: 220 mg/m³ 8 hours.

STEL: 100 ppm 15 minutes.

Ethylbenzene

EH40/2005 WELs (United Kingdom (UK), 12/2011). Absorbed through skin.

STEL: 552 mg/m³ 15 minutes.

STEL: 125 ppm 15 minutes.

TWA: 100 ppm 8 hours.

TWA: 441 mg/m³ 8 hours.

SECTION 8: Exposure controls/personal protection

Recommended monitoring procedures

If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

DNELs/DMELs components:

WORKER:

Solvent Naphtha (light, aromatic):	DNEL inhalation long term/systemic:	150 mg/m3
	DNEL dermal long term/systemic:	25 mg/kg BW/day
Mixed xylene:	DNEL inhalation long term/systemic:	221 mg/m3
	DNEL inhalation acute/systemic:	442 mg/m3
	DNEL inhalation long term/local:	221 mg/m3
	DNEL inhalation acute/local:	442 mg/m3
	DNEL dermal long term/systemic:	212 mg/kg BW/day

PNECs:

Solvent Naphtha (light aromatic):	Not available
Mixed xylene:	PNEC Fresh Water: 0.327 mg/L
	PNEC Marine Water: 0.327 mg/L
	PNEC STP: 6.58 mg/L
	PNEC Fresh Water sediment: 12.46 mg/kg dwt
	PNEC Marine Water sediment: 12.46 mg/kg dwt
	PNEC Soil: 2.31 mg/kg dwt

8.2 Exposure controls

Appropriate engineering controls

Use only with adequate ventilation. Use process enclosures, local exhaust ventilation and other engineering controls such as automation to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment. Observe operational conditions described in the annexed safe use information.

Lead compound information – Mixed xylene

Individual protection measures

Hygiene measures

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection

Safety eyewear complying with EU Standard EN166 should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. Wear goggles for use against liquids and gas. Wear full face shield if splashes are likely to occur

Skin protection

Hand protection

Chemical-resistant, impervious gloves complying with EU Standard EN374 should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Recommendations: Wear suitable gloves tested to EN374

➤ 8 h (breakthrough time): Viton^R > 0.3 mm

Wash hands before breaks and immediately after handling the product.

SECTION 8: Exposure controls/personal protection

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Refer to European Standard EN 14605 for further information on material and design requirements and test methods. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static and flame retardant overalls, boots and gloves.

Lead compound information
Naphtha

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Lead compound information
– Mixed xylene

Filter type: A
Spray application Filter type: AP

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. Observe operational conditions and risk management measures described in the annexed safe use information.

Lead compound information - Naphtha

SECTION 9: Physical and chemical properties

SECTION 10: Stability and reactivity

SECTION 11: Toxicological information

SECTION 12: Ecological information

SECTION 13: Disposal considerations

SECTION 14: Transport information

SECTION 15: Regulatory information

SECTION 16: Other information

Abbreviations and acronyms

: ATE = Acute Toxicity Estimate
CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
DMEL = Derived Minimal Effect Level
DNEL = Derived No Effect Level
EUH statement = CLP-specific Hazard statement
PBT = Persistent, Bioaccumulative and Toxic
PNEC = Predicted No Effect Concentration
RRN = REACH Registration Number
vPvB = Very Persistent and Very Bioaccumulative

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Classification	Justification
Flam. Liq. 3, H226 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335 STOT RE 2, H373 Aquatic Chronic 3, H412	On basis of test data Calculation method Calculation method Calculation method Calculation method Calculation method

Full text of abbreviated H statements

H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H304	May be fatal if swallowed and enters airways.
H312	Harmful in contact with skin.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H373 (oral)	May cause damage to organs through prolonged or repeated exposure if swallowed.
H373	May cause damage to organs through prolonged or repeated exposure.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

SECTION 16: Other information

[Full text of classifications \[CLP/GHS\]](#)

Acute Tox. 4, H312	ACUTE TOXICITY (dermal) - Category 4
Acute Tox. 4, H332	ACUTE TOXICITY (inhalation) - Category 4
Aquatic Chronic 2, H411	LONG-TERM AQUATIC HAZARD - Category 2
Aquatic Chronic 3, H412	LONG-TERM AQUATIC HAZARD - Category 3
Asp. Tox. 1, H304	ASPIRATION HAZARD - Category 1
EUH066	Repeated exposure may cause skin dryness or cracking.
Eye Irrit. 2, H319	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2
Flam. Liq. 2, H225	FLAMMABLE LIQUIDS - Category 2
Flam. Liq. 3, H226	FLAMMABLE LIQUIDS - Category 3
Skin Irrit. 2, H315	SKIN CORROSION/IRRITATION - Category 2
STOT RE 2, H373 (oral)	SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE (oral) - Category 2
STOT RE 2, H373	SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 2
STOT SE 3, H335	SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (Respiratory tract irritation) - Category 3
STOT SE 3, H336	SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (Narcotic effects) - Category 3

Date of issue/ Date of revision : 30/11/2018

Date of previous issue : 22/06/2016

Version : 3

[Notice to reader](#)

Relevant exposure scenario information for the components of this mixture has been included in the annex attached to this SDS.

Annex

SAFE USE INFORMATION FOR MIXTURE

Table of Contents

ES 1 – Use at industrial sites; Coatings and Paints, Thinners, paint removers (PC 9a)

P.9

1. ES 1: Use at industrial sites; Coatings and Paints, Thinners, paint removers (PC 9a)

1.1. Title section

ES name: Industrial coating

Product category: Coatings and Paints, Thinners, paint removers (PC 9a)

Environment	
1: Industrial coating	ERC 4
Worker	
2: Storage	PROC 1
3: Film formation - force drying, stoving and other technologies	PROC 2
4: Film formation - air drying	PROC 4
5: Preparation of material for application; Mixing operations; Open systems	PROC 5
6: Preparation of material for application; Mixing operations; Closed systems	PROC 5
7: Spraying; Automated task	PROC 7
8: Spraying; Manual	PROC 7
9: Drum/batch transfers; Transfer from/pouring from containers	PROC 8a
10: Material transfers	PROC 8b
11: Equipment cleaning and maintenance	PROC 28
12: Roller, spreader, flow application	PROC 10
13: Dipping, immersion and pouring	PROC 13
14: Material transfers; Drum/batch transfers; Transfer from/pouring from containers	PROC 9
15: Production or preparation of articles by tableting, compression, extrusion or pelletisation	PROC 14
16: Laboratory activities	PROC 15

1.2. Conditions of use affecting exposure

Lead compound information - Naphtha

1.2.1. Control of environmental exposure: Industrial coating (ERC 4)

Daily amount per site <= 125 T/day of the mixture
Treat air emissions to provide a typical removal efficiency of 90%
Prevent discharge of undissolved substance to or recover from onsite wastewater; Consider technical advances and process upgrades (including automation) for the elimination of releases.
Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency $\geq 77.7\%$
Do not apply industrial sludge to natural soils; Sewage sludge should be incinerated, contained or reclaimed.

1.2.2. Control of worker exposure

Conditions of use applicable to all contributing scenarios

Lead compounds information

Covers use up to 8.0 h/day
Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).
Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training; If skin contamination is expected to extend to other parts of the body, then these body parts should also be protected with impervious garments in a manner equivalent to those described for the hands; For further specification, refer to section 8 of the SDS.
Use suitable eye protection; For further specification, refer to section 8 of the SDS.
Assumes room temperature except for PROC 2: elevated process temperature up to 100.0 °C

Specific conditions of use per contributing scenario*Lead compounds information*

Contributing scenario	Specific conditions of use
Storage (PROC 1)	Store substance within a closed system.
Film formation - force drying, stoving and other technologies (PROC 2)	Handle substance within a closed system; Provide extract ventilation to points where emissions occur.
Film formation - air drying (PROC 4)	Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).
Preparation of material for application; Mixing operations; Open systems (PROC 5)	Provide a good standard of controlled ventilation (5 to 15 air changes per hour).
Preparation of material for application; Mixing operations; Closed systems (PROC 5)	Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).
Spraying; Automated task (PROC 7)	Carry out in a vented booth provided with laminar airflow.
Spraying; Manual (PROC 7)	Provide a good standard of controlled ventilation (5 to 15 air changes per hour). Wear suitable respiratory protection; Inhalation - minimum efficiency of 90.0 %; For further specification, refer to section 8 of the SDS.
Drum/batch transfers; Transfer from/pouring from containers (PROC 8a)	Ensure material transfers are under containment or extract ventilation.
Material transfers (PROC 8b)	Ensure material transfers are under containment or extract ventilation.
Equipment cleaning and maintenance (PROC 28)	Drain down and flush system prior to equipment break-in or maintenance.
Roller, spreader, flow application (PROC 10)	Provide extract ventilation to points where emissions occur.
Dipping, immersion and pouring (PROC 13)	Provide a good standard of controlled ventilation (5 to 15 air changes per hour).
Material transfers; Drum/batch transfers; Transfer from/pouring from containers (PROC 9)	Provide a good standard of controlled ventilation (5 to 15 air changes per hour).
Production of mixtures or articles by tableting, compression, extrusion or pelletisation (PROC 14)	Provide a good standard of controlled ventilation (5 to 15 air changes per hour).
Laboratory activities (PROC 15)	-

Conditions of use and disclaimer

The project whose deliverables are explained in this report including safety data sheet fragments has been performed by a Task Force led by Cefic (The European Chemical Industry Council) and VCI (Verband der Chemischen Industrie e.V.) involving experts from industry, trade associations, SDS authoring service provider and the European Chemicals Agency ECHA, September 2019.

Copying is authorised, except for commercial purposes, provided that the source is mentioned and acknowledged.

The content of this report and examples included are based on the understanding of the situation as of today and updates may be required in the future.

Each party may decide to use or not use these deliverables based upon their own decision-making criteria. Whilst the information is provided in utmost good faith and has been based on the best information currently available, it is to be relied upon at the user's own risk. No representations or warranties are made with regards to its completeness or accuracy and no liability will be accepted by anyone having prepared this report, including Cefic, VCI and its members, for damages of any nature whatsoever resulting from the use of or reliance on the information.

This does not apply if damage was caused intentionally or by gross negligence by Cefic or VCI or by parties assisting them or in case of bodily harm and damage caused to health or life.