

# SAFETY DATA SHEET

(in accordance with Regulation (EU) 2020/878)



## 73-A

Version 1 Date of compilation: 10/10/2019

Version 21 (replaces version 20)

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### SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING.

#### 1.1 Product identifier.

Product Name: 73-A  
UFI: GXHA-TV2M-320P-AXK3

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

INDUSTRIAL AND PROFESSIONAL ADHESIVE

#### Uses advised against:

Uses other than those recommended.

#### 1.3 Details of the supplier of the safety data sheet.

Company: **ADHESIVOS KEFREN, S.A.**  
Address: Calle del Dolar, Parcela 148. P.I. Las Atalayas. Buzón 20.078  
City: 03114 - ALICANTE  
Province: ALICANTE  
Telephone: +34 965116961  
Fax: +34 965116962  
E-mail: kefren@adhesivoskefren.com  
Web: www.adhesivoskefren.com

#### 1.4 Emergency telephone number: +34 915620420 (Available 24 hours)

### SECTION 2: HAZARDS IDENTIFICATION.

#### 2.1 Classification of the substance or mixture.

In accordance with Regulation (EU) No 1272/2008:

Aquatic Acute 1 : Very toxic to aquatic life.

Aquatic Chronic 3 : Harmful to aquatic life with long lasting effects.

Flam. Liq. 2 : Highly flammable liquid and vapour.

Repr. 2 : Suspected of damaging fertility or the unborn child.

STOT RE 2 : May cause damage to organs through prolonged or repeated exposure.

STOT SE 3 : May cause drowsiness or dizziness.

Skin Irrit. 2 : Causes skin irritation.

#### 2.2 Label elements.

##### Labelling in accordance with Regulation (EU) No 1272/2008:

Pictograms:



Signal Word:

**Danger**

Hazard statements:

H225 Highly flammable liquid and vapour.

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H315	Causes skin irritation.
H336	May cause drowsiness or dizziness.
H361d	Suspected of damaging the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H412	Harmful to aquatic life with long lasting effects.

#### Precautionary statements:

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233	Keep container tightly closed.
P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/...
P370+P378	In case of fire: Use CO <sub>2</sub> , chemical foam or dusty. Never use water.

#### Contains:

toluene  
acetone, propan-2-one, propanone  
Hydrocarbons, C<sub>6</sub>, isoalkanes, <5% n-hexane  
Hydrocarbons, C<sub>7</sub>, n-alkanes, isoalkanes, cyclics

### 2.3 Other hazards.

The mixture does not contain substances classified as PBT.  
The mixture does not contain substances classified as vPvB.  
The mixture does not contain any endocrine disrupting properties substances.

In normal use conditions and in its original form, the product itself does not involve any other risk for health and the environment.

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS.

### 3.1 Substances.

Not Applicable.

### 3.2 Mixtures.

Substances posing a danger to health or the environment in accordance with the Regulation (EC) No. 1272/2008, assigned a Community exposure limit in the workplace, and classified as PBT/vPvB or included in the Candidate List:

Identifiers	Name	Concentrate	(*)Classification - Regulation (EC) No 1272/2008	
			Classification	Specifics concentration limits and Acute toxicity estimate
Index No: 601-021-00-3 CAS No: 108-88-3 EC No: 203-625-9 Registration No: 01-2119471310-51-XXXX	[1] [2] toluene	20 - 50 %	Asp. Tox. 1, H304 - Flam. Liq. 2, H225 - Repr. 2, H361d *** - STOT RE 2 *, H373 ** - STOT SE 3, H336 - Skin Irrit. 2, H315	-

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CAS No: 64742-49-0	Hydrocarbons, C6, isoalkanes, <5% n-hexane	25 - 50 %	Aquatic Acute 1, H400 - Asp. Tox. 1, H304 - Flam. Liq. 2, H225 - STOT SE 3, H336 - Skin Irrit. 2, H315	-
CAS No: 64742-49-0 Registration No: 01-2119475515-33-XXXX	Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	2.5 - 10 %	Aquatic Chronic 2, H411 - Asp. Tox. 1, H304 - Flam. Liq. 2, H225 - STOT SE 3, H336 - Skin Irrit. 2, H315	-
Index No: 606-001-00-8 CAS No: 67-64-1 EC No: 200-662-2 Registration No: 01-2119471330-49-XXXX	[1] [2] acetone, propan-2-one, propanone	1 - 10 %	Eye Irrit. 2, H319 - Flam. Liq. 2, H225 - STOT SE 3, H336	-

(\*) The complete text of the H phrases is given in section 16 of this Safety Data Sheet.

\* \*\* \*\*\* See Regulation (EC) No. 1272/2008, Annex VI, section 1.2.

[1] Substance with a European Union exposure limit in the workplace (see section 8.1).

[2] Substance with a national workplace exposure limit (see section 8.1).

### SECTION 4: FIRST AID MEASURES.

IRRITANT MIXTURE. Its repeated or prolonged contact with the skin or mucous membranes can cause irritant symptoms such as reddening of the skin, blisters, or dermatitis. Some of the symptoms may not be immediate. They can cause allergic reactions on the skin.

#### 4.1 Description of first aid measures.

In case of doubt or when symptoms of feeling unwell persist, get medical attention. Never administer anything orally to persons who are unconscious.

#### Inhalation.

Take the victim into open air; keep them warm and calm. If breathing is irregular or stops, perform artificial respiration. Do not administer anything orally. If unconscious, place them in a suitable position and seek medical assistance.

#### Eye contact.

Remove contact lenses, if present and if it is easy to do. Wash eyes with plenty of clean and cool water for at least 10 minutes while pulling eyelids up, and seek medical assistance.

#### Skin contact.

Remove contaminated clothing. Wash skin vigorously with water and soap or a suitable skin cleaner. NEVER use solvents or thinners.

#### Ingestion.

If accidentally ingested, seek immediate medical attention. Keep calm. NEVER induce vomiting.

#### 4.2 Most important symptoms and effects, both acute and delayed.

Irritant Product, repeated or prolonged contact with skin or mucous membranes can cause redness, blisters or dermatitis, inhalation of spray mist or particles in suspension may cause irritation of the respiratory tract, some symptoms may not be immediate.

Long-term chronic exposure may result in injury to certain organs or tissues.

#### 4.3 Indication of any immediate medical attention and special treatment needed.

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In case of doubt or when symptoms of feeling unwell persist, get medical attention. Never administer anything orally to persons who are unconscious. Keep the person comfortable. Turn him/her over to the left side and stay there while waiting for medical care.

### SECTION 5: FIREFIGHTING MEASURES.

The product is Highly inflammable, it can cause or considerably worsen a fire, the necessary prevention measures should be taken and risks avoided. In case of fire, the following measures are recommended:

#### 5.1 Extinguishing media.

##### Suitable extinguishing media:

Extinguisher powder or CO<sub>2</sub>. In case of more serious fires, also alcohol-resistant foam and water spray.

##### Unsuitable extinguishing media:

Do not use a direct stream of water to extinguish. In the presence of electrical voltage, you cannot use water or foam as extinguishing media.

#### 5.2 Special hazards arising from the substance or mixture.

##### Special risks.

Exposure to combustion or decomposition products can be harmful to your health.

During a fire and depending on its magnitude the following may occur:

- Carbon monoxide, carbon dioxide.
- Flammable vapors or gases.

#### 5.3 Advice for firefighters.

Use water to cool tanks, cisterns, or containers close to the heat source or fire. Take wind direction into account. Prevent the products used to fight the fire from going into drains, sewers, or waterways. Product residues and extinguishing media may contaminate the aquatic environment. Follow the instructions given in the emergency or fire evacuation plan or plans if available.

##### Fire protection equipment.

According to the size of the fire, it may be necessary to use protective suits against the heat, individual breathing equipment, gloves, protective goggles or facemasks, and boots. During extinction and depending on the magnitude and proximity to the fire, additional protective equipment such as chemical protection gloves, heat-reflecting suits or gas-tight suits may be required.

### SECTION 6: ACCIDENTAL RELEASE MEASURES.

#### 6.1 Personal precautions, protective equipment and emergency procedures.

Eliminate possible ignition points and ventilate the area. No smoking. Avoid breathing fumes. For exposure control and individual protection measures, see section 8.

#### 6.2 Environmental precautions.

Product dangerous for the environment, in case of large spills or if the product contaminates lakes, rivers, or sewers, inform the responsible authorities according to local legislation. Prevent the contamination of drains, surface or subterranean waters, and the ground.

#### 6.3 Methods and material for containment and cleaning up.

Contain and collect spillage with inert absorbent material (earth, sand, vermiculite, Kieselguhr...) and clean the area immediately with a suitable decontaminant.

Deposit waste in closed and suitable containers for disposal, in compliance with local and national regulations (see section 13).

#### 6.4 Reference to other sections.

For exposure control and individual protection measures, see section 8.

For later elimination of waste, follow the recommendations under section 13.

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### SECTION 7: HANDLING AND STORAGE.

#### 7.1 Precautions for safe handling.

The fumes are heavier than air and can spread across the ground. They can form explosive mixtures with air. Prevent the creation of flammable or explosive fume concentrations in the air; prevent fume concentrations above work exposure limits. The product must only be used in areas where all unprotected flames and other ignition points have been eliminated. Electrical equipment has to be protected according to applicable standards.

The product can be electrostatically charged: always use earth grounds when transferring the product. Operators must use anti-static footwear and clothing, and floors must be conductors.

Keep the container tightly closed and isolated from heat sources, sparks, and fire. Do not use tools that can cause sparks. For personal protection, see section 8.

In the application area, smoking, eating, and drinking must be prohibited.

Follow legislation on occupational health and safety.

Never use pressure to empty the containers. They are not pressure-resistant containers. Keep the product in containers made of a material identical to the original.

#### 7.2 Conditions for safe storage, including any incompatibilities.

Store according to local legislation. Observe indications on the label. Store the containers between 5 and 35 °C, in a dry and well-ventilated place, far from sources of heat and direct solar light. Keep far away from ignition points. Keep away from oxidising agents and from highly acidic or alkaline materials. Do not smoke. Prevent the entry of non-authorized persons. Once the containers are open, they must be carefully closed and placed vertically to prevent spills.

Classification and threshold amount of storage in accordance with Annex I to Directive 2012/18/EU (SEVESO III):

Code	Description	Qualifying quantity (tonnes) for the application of	
		Lower-tier requirements	Upper-tier requirements
P5b	FLAMMABLE LIQUIDS	50	200
E1	ENVIRONMENTAL HAZARDS - Hazardous to the Aquatic Environment in Category Acute 1 or Chronic 1	100	200

#### 7.3 Specific end use(s).

Not available.

### SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION.

#### 8.1 Control parameters.

Work exposure limit for:

Name	CAS No.	Country	Limit value	ppm	mg/m <sup>3</sup>	
toluene	108-88-3	European Union [1]	<b>Eight hours</b>	50 (skin)	192 (skin)	
			<b>Short term</b>	100 (skin)	384 (skin)	
		United Kingdom [2]	<b>Eight hours</b>	50	191	
			<b>Short term</b>	100	384	
		Éire [3]	<b>Eight hours</b>	50	192	
			<b>Short term</b>	100	384	
		United States [4] (Cal/OSHA)	<b>Eight hours</b>	10		
			<b>Short term</b>	150 (Ceiling) 500		
United States	<b>Eight hours</b>	100				

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		[5] (NIOSH)	<b>Short term</b>	150	
			<b>Eight hours</b>	200	
		United States [6] (OSHA)	<b>Short term</b>	300 Acceptable maximum peak above the acceptable ceiling concentration for an 8-hr shift: 500 [10 min]	
acetone, propan-2-one, propanone	67-64-1	European Union [1]	<b>Eight hours</b>	500	1210
			<b>Short term</b>		
		United Kingdom [2]	<b>Eight hours</b>	500	1210
			<b>Short term</b>	1500	3620
		Éire [3]	<b>Eight hours</b>	500	1210
			<b>Short term</b>		
		United States [4] (Cal/OSHA)	<b>Eight hours</b>	500	
			<b>Short term</b>	750 (Ceiling) 3000	
		United States [5] (NIOSH)	<b>Eight hours</b>	250	
			<b>Short term</b>		
		United States [6] (OSHA)	<b>Eight hours</b>	1000	2400
			<b>Short term</b>		

[1] According both Binding Occupational Exposure Limits (BOELVs) and Indicative Occupational Exposure Limits (IOELVs) adopted by Scientific Committee for Occupational Exposure Limits to Chemical Agents (SCOEL).

[2] According Limit Value (IOELV) list in 2nd Indicative Occupational Exposure adopted by Health and Safety Executive.

[3] According Code of Practice for the Safety, Health and Welfare at Work (Chemicals Agents) Regulations adopted by Health and Safety Authority (HSA).

[4] California Division of Occupational Safety and Health (Cal/OSHA) Permissible Exposure Limits (PELs).

[5] National Institute for Occupational Safety and Health. NIOSH Recommendations for occupational safety and health, Compendium of Policy Documents and Statements, January, 1992, DHHS (NIOSH) Publication No. 92-100.

[6] Occupational Safety and Health Administration, United States Department of Labor. Permissible Exposure limits (PELs), California Division of Occupational Safety and Health (Cal/OSHA) Permissible Exposure Limits (PELs).

The product does NOT contain substances with Biological Limit Values.

Concentration levels DNEL/DMEL:

Name	DNEL/DMEL	Type	Value
toluene CAS No: 108-88-3 EC No: 203-625-9	DNEL (Workers)	Inhalation, Chronic, Local effects	192 (mg/m <sup>3</sup> )
	DNEL (Consumers)	Inhalation, Chronic, Local effects	56,5 (mg/m <sup>3</sup> )
	DNEL (Workers)	Inhalation, Chronic, Systemic effects	192 (mg/m <sup>3</sup> )
	DNEL (Consumers)	Inhalation, Chronic, Systemic effects	56,5 (mg/m <sup>3</sup> )
	DNEL (Workers)	Inhalation, Short term, Systemic effects	384 (mg/m <sup>3</sup> )
	DNEL (Consumers)	Inhalation, Short term, Systemic effects	226 (mg/m <sup>3</sup> )
	DNEL (Workers)	Inhalation, Short term, Local effects	384 (mg/m <sup>3</sup> )
	DNEL (Consumers)	Inhalation, Short term, Local effects	226 (mg/m <sup>3</sup> )
	DNEL (Workers)	Dermal, Chronic, Systemic effects	384 (mg/kg bw/day)

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	DNEL (Consumers)	Dermal, Chronic, Systemic effects	226 (mg/kg bw/day)
	DNEL (Consumers)	Oral, Chronic, Systemic effects	8,13 (mg/kg bw/day)
acetone, propan-2-one, propanone CAS No: 67-64-1 EC No: 200-662-2	DNEL (Workers)	Inhalation, Chronic, Systemic effects	1210 (mg/m <sup>3</sup> )
	DNEL (Consumers)	Inhalation, Chronic, Systemic effects	200 (mg/m <sup>3</sup> )
	DNEL (Workers)	Inhalation, Short term, Local effects	2420 (mg/m <sup>3</sup> )
	DNEL (Workers)	Dermal, Chronic, Systemic effects	186 (mg/kg bw/day)
	DNEL (Consumers)	Dermal, Chronic, Systemic effects	62 (mg/kg bw/day)
	DNEL (Consumers)	Oral, Chronic, Systemic effects	62 (mg/kg bw/day)

DNEL: Derived No Effect Level, level of exposure to the substance below which adverse effects are not anticipated.

DMEL: Derived Minimal Effect Level, exposure level corresponding to a low risk, that risk should be considered a tolerable minimum.

Concentration levels PNEC:

Name	Details	Value
toluene CAS No: 108-88-3 EC No: 203-625-9	aqua (freshwater)	0,68 (mg/L)
	aqua (marine water)	0,68 (mg/L)
	aqua (intermittent releases)	0,68 (mg/L)
	STP	13,61 (mg/L)
	sediment (freshwater)	16,39 (mg/kg sediment dw)
	sediment (marine water)	16,39 (mg/kg sediment dw)
acetone, propan-2-one, propanone CAS No: 67-64-1 EC No: 200-662-2	aqua (freshwater)	10,6 (mg/L)
	aqua (marine water)	1,06 (mg/L)
	aqua (intermittent releases)	21 (mg/L)
	STP	100 (mg/L)
	sediment (freshwater)	30,04 (mg/kg sediment dw)
	sediment (marine water)	3,04 (mg/kg sediment dw)
	soil	29,5 (mg/kg soil dw)

PNEC: Predicted No Effect Concentration, concentration of the substance below which adverse effects are not expected in the environmental compartment.

### 8.2 Exposure controls.

#### Measures of a technical nature:

Provide adequate ventilation, which can be achieved by using good local exhaust-ventilation and a good general exhaust system.

<b>Concentration:</b>	<b>100 %</b>
<b>Uses:</b>	<b>INDUSTRIAL AND PROFESSIONAL ADHESIVE</b>
<b>Breathing protection:</b>	
If the recommended technical measures are observed, no individual protection equipment is necessary.	

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Hand protection:			
PPE:	Protective gloves.		
Characteristics:	«CE» marking, category II.		
CEN standards:	EN 374-1, En 374-2, EN 374-3, EN 420		
Maintenance:	Keep in a dry place, away from any sources of heat, and avoid exposure to sunlight as much as possible. Do not make any changes to the gloves that may alter their resistance, or apply paints, solvents or adhesives.		
Observations:	Gloves should be of the appropriate size and fit the user's hand well, not being too loose or too tight. Always use with clean, dry hands.		
Material:	PVC (polyvinyl chloride)	Breakthrough time (min.):	> 480
		Material thickness (mm):	0,35
Eye protection:			
PPE:	Face shield.		
Characteristics:	«CE» marking, category II. Face and eye protector against splashing liquid.		
CEN standards:	EN 165, EN 166, EN 167, EN 168		
Maintenance:	Visibility through lenses should be ideal. Therefore, these parts should be cleaned daily. Protectors should be disinfected periodically following the manufacturer's instructions. Make sure that mobile parts move smoothly.		
Observations:	Face shields should offer a field of vision with a dimension in the central line of, at least, 150 mm vertically once attached to the frame.		
Skin protection:			
PPE:	Protective clothing.		
Characteristics:	«CE» marking, category II. Protective clothing should not be too tight or loose in order not to obstruct the user's movements.		
CEN standards:	EN 340		
Maintenance:	In order to guarantee uniform protection, follow the washing and maintenance instructions provided by the manufacturer.		
Observations:	The protective clothing should offer a level of comfort in line with the level of protection provided in terms of the hazard against which it protects, bearing in mind environmental conditions, the user's level of activity and the expected time of use.		
PPE:	Work footwear.		
Characteristics:	«CE» marking, category II.		
CEN standards:	EN ISO 13287, EN 20347		
Maintenance:	This product adapts to the first user's foot shape. That is why, as well as for hygienic reasons, it should not be used by other people.		
Observations:	Work footwear for professional use includes protection elements aimed at protecting users against any injury resulting from an accident		

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES.

### 9.1 Information on basic physical and chemical properties.

Physical state: Liquid

Colour: Ambar

Odour: ORGANIC SOLVENTS

Odour threshold: Not applicable/Not available due to the nature/properties of the product

Melting point: Not applicable/Not available due to the nature/properties of the product

Freezing point: Not applicable/Not available due to the nature/properties of the product

Boiling point or initial boiling point and boiling range: 89 °C

Flammability: Not applicable/Not available due to the nature/properties of the product

Lower explosion limit: Not applicable/Not available due to the nature/properties of the product

Upper explosion limit: Not applicable/Not available due to the nature/properties of the product

Flash point: 4 °C

Auto-ignition temperature: Not applicable/Not available due to the nature/properties of the product

Decomposition temperature: Not applicable/Not available due to the nature/properties of the product

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pH: Not applicable/Not available due to the nature/properties of the product  
Kinematic viscosity: Not applicable/Not available due to the nature/properties of the product  
Solubility: Not applicable/Not available due to the nature/properties of the product  
Hydrosolubility: Not applicable/Not available due to the nature/properties of the product  
Liposolubility: Not applicable/Not available due to the nature/properties of the product  
Partition coefficient n-octanol/water (log value): Not applicable/Not available due to the nature/properties of the product  
Vapour pressure: 71  
Absolute density: Not applicable/Not available due to the nature/properties of the product  
Relative density: 0.80 ± 0.02  
Relative vapour density: Not applicable/Not available due to the nature/properties of the product  
Particle characteristics: Not applicable/Not available due to the nature/properties of the product

### 9.2 Other information

Viscosity: Not applicable/Not available due to the nature/properties of the product  
Explosive properties: Not applicable/Not available due to the nature/properties of the product  
Oxidizing properties: Not applicable/Not available due to the nature/properties of the product  
Dropping point: Not applicable/Not available due to the nature/properties of the product  
Blink: Not applicable/Not available due to the nature/properties of the product

## SECTION 10: STABILITY AND REACTIVITY.

### 10.1 Reactivity.

The product does not present hazards by their reactivity.

### 10.2 Chemical stability.

Stable under the recommended handling and storage conditions (see section 7).

### 10.3 Possibility of hazardous reactions.

At high temperatures can occur pyrolysis and dehydrogenation.

### 10.4 Conditions to avoid.

Avoid the following conditions:

- Heating.
- High temperature.

### 10.5 Incompatible materials.

Avoid the following materials:

- Acids.
- Bases.
- Oxidizing agents.

### 10.6 Hazardous decomposition products.

Depending on conditions of use, can be generated the following products:

- COx (carbon oxides).
- Organic compounds.
- Aromatics compounds.

In case of fire, dangerous decomposition products can be generated, such as carbon monoxide and dioxide and nitrogen fumes and oxides.

## SECTION 11: TOXICOLOGICAL INFORMATION.

IRRITANT MIXTURE. The inhalation of spray mist or suspended particulates can irritate the respiratory tract. It can also cause serious respiratory difficulties, central nervous system disorders, and in extreme cases, unconsciousness.

IRRITANT MIXTURE. Its repeated or prolonged contact with the skin or mucous membranes can cause irritant symptoms such as reddening of the skin, blisters, or dermatitis. Some of the symptoms may not be immediate. They can cause allergic reactions on the skin.

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### 11.1 Information on hazard classes as defined in Regulation (EC) N° 1272/2008.

Repeated or prolonged contact with the product can cause the elimination of oil from the skin, giving rise to non-allergic contact dermatitis and absorption of the product through the skin.

#### Toxicological information about the substances present in the composition.

Name	Acute toxicity			
	Type	Test	Kind	Value
toluene  CAS No: 108-88-3      EC No: 203-625-9	Oral			
	Dermal	LD50	Rabbit	12200 mg/kg bw [1]
				[1] American Industrial Hygiene Association Journal. Vol. 30, Pg. 470, 1969
Inhalation	LC50	Rat	49 mg/l/4 h [1]	
			[1] Gigena Truda i Professional'nye Zabolevaniya. Labor Hygiene and Occupational Diseases. Vol. 32(10), Pg. 23, 1988	
acetone, propan-2-one, propanone  CAS No: 67-64-1      EC No: 200-662-2	Oral	LD50	Rat	5800 mg/kg bw [1]
				[1] Journal of Toxicology and Environmental Health. Vol. 15, Pg. 609, 1985
	Dermal			
Inhalation				

a) acute toxicity;

Not conclusive data for classification.

b) skin corrosion/irritation;

Product classified:

Skin irritant, Category 2: Causes skin irritation.

c) serious eye damage/irritation;

Based on available data, the classification criteria are not met.

d) respiratory or skin sensitisation;

Not conclusive data for classification.

e) germ cell mutagenicity;

Not conclusive data for classification.

f) carcinogenicity;

Not conclusive data for classification.

g) reproductive toxicity;

Product classified:

Reproductive toxicant, Category 2: Suspected of damaging fertility or the unborn child.

h) STOT-single exposure;

Product classified:

Specific target organ toxicity following a single exposure, Category 3: May cause drowsiness or dizziness.

i) STOT-repeated exposure;

Product classified:

Specific target organ toxicity following a repeated exposure, Category 2: May cause damage to organs through prolonged or repeated exposure.

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j) aspiration hazard;

Based on available data, the classification criteria are not met.

### 11.2 Information on other hazards.

#### Endocrine disrupting properties

This product does not contain components with endocrine-disrupting properties with effects on human health.

#### Other information

There is no information available on other adverse health effects.

## SECTION 12: ECOLOGICAL INFORMATION.

### 12.1 Toxicity.

Name	Ecotoxicity			
	Type	Test	Kind	Value
toluene  CAS No: 108-88-3      EC No: 203-625-9	Fish	LC50	Fish	31,7 mg/l (96 h) [1] [1] Geiger, D.L., L.T. Brooke, and D.J. Call 1990. Acute Toxicities of Organic Chemicals to Fathead Minnows (Pimephales promelas), Volume 5. Ctr.for Lake Superior Environ.Stud., Univ.of Wisconsin-Superior, Superior, WI :332 p
	Aquatic invertebrates	LC50	Crustacean	92 mg/l (48 h) [1] [1] MacLean, M.M., and K.G. Doe 1989. The Comparative Toxicity of Crude and Refined Oils to Daphnia magna and Artemia. Environment Canada, EE-111, Dartmouth, Nova Scotia :64 p
	Aquatic plants	EC50	Algae	12,5 mg/l (72 h) [1] [1] Galassi, S., M. Mingazzini, L. Vigano, D. Cesareo, and M.L.Tosato 1988. Approaches to Modeling Toxic Responses of Aquatic Organisms to Aromatic Hydrocarbons. Ecotoxicol.Environ.Saf. 16(2):158-169
acetone, propan-2-one, propanone	Fish	LC50	Fish	8300 mg/l (96 h) [1] [1] Cairns, J.Jr., and A. Scheier 1968. A Comparison of the Toxicity of Some Common Industrial Waste Components Tested Individually and Combined. Prog.Fish-Cult. 30(1):3-8
	Aquatic invertebrates	LC50	Crustacean	8450 mg/l (48 h) [1] [1] Cowgill, U.M., and D.P. Milazzo 1991. The Sensitivity of Ceriodaphnia dubia and Daphnia magna to Seven Chemicals Utilizing the Three-Brood Test. Arch.Environ.Contam.Toxicol. 20(2):211-217. Canton, J.H., and D.M.M. Adema 1978. Reproducibility of Short-Term and Reproduction Toxicity Experiments with Daphnia magna and Comparison of the Sensitivity of Daphnia magna with Daphnia pulex and Daphnia cucullata in Short-Term Experiments. Hydrobiologia 59(2):135-140 (Used Reference 2018)
	Aquatic plants	EC50	Algae	7200 mg/l (96 h) [1]

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CAS No: 67-64-1	EC No: 200-662-2	[1] Slooff, W. 1982. A Comparative Study on the Short-Term Effects of 15 Chemicals on Fresh Water Organisms of Different Tropic Levels. Natl.Tech.Inf.Serv., Springfield, VA :25 p. (DUT) (ENG ABS) (NTIS/PB83-200386)
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### 12.2 Persistence and degradability.

No information is available regarding the biodegradability of the substances present.

No information is available on the degradability of the substances present.

No information is available about persistence and degradability of the product.

### 12.3 Bioaccumulative potential.

Information about the bioaccumulation of the substances present.

Name	Bioaccumulation			
	Log Pow	BCF	NOECs	Level
toluene CAS No: 108-88-3 EC No: 203-625-9	2,73	-	-	Low

### 12.4 Mobility in soil.

No information is available about the mobility in soil.

The product must not be allowed to go into sewers or waterways.

Prevent penetration into the ground.

### 12.5 Results of PBT and vPvB assessment.

No information is available about the results of PBT and vPvB assessment of the product.

### 12.6 Endocrine disrupting properties.

This product doesn't contain components with environmental endocrine disrupting properties.

### 12.7 Other adverse effects.

No information is available about other adverse effects for the environment.

## SECTION 13: DISPOSAL CONSIDERATIONS.

### 13.1 Waste treatment methods.

Do not dump into sewers or waterways. Waste and empty containers must be handled and eliminated according to current, local/national legislation.

Follow the provisions of Directive 2008/98/EC regarding waste management.

## SECTION 14: TRANSPORT INFORMATION.

Transport following ADR rules for road transport, RID rules for railway, ADN for inner waterways, IMDG for sea, and ICAO/IATA for air transport.

**Land:** Transport by road: ADR, Transport by rail: RID.

Transport documentation: Consignment note and written instructions

**Sea:** Transport by ship: IMDG.

Transport documentation: Bill of lading

**Air:** Transport by plane: ICAO/IATA.

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Transport document: Airway bill.

### 14.1 UN number or ID number.

UN No: UN1133

### 14.2 UN proper shipping name.

Description:

ADR/RID: UN 1133, ADHESIVES, 3, PG II, (D/E)

IMDG: UN 1133, ADHESIVES (HYDROCARBONS, C6, ISOALKANES, <5% N-HEXANE), 3, PG II (4°C), MARINE POLLUTANT

ICAO/IATA: UN 1133, ADHESIVES, 3, PG II

### 14.3 Transport hazard class(es).

Class(es): 3

### 14.4 Packing group.

Packing group: II

### 14.5 Environmental hazards.

Marine pollutant: Yes



Dangerous for the environment

Transport by ship, FEm – Emergency sheets (F – Fire, S - Spills): F-E,S-D

### 14.6 Special precautions for user.

Labels: 3



Hazard number: 33

ADR LQ: 5 L

IMDG LQ: 5 L

ICAO LQ: 1 L

Provisions concerning carriage in bulk ADR: Not authorized carriage in bulk in accordance with ADR.

Proceed in accordance with point 6.

### 14.7 Maritime transport in bulk according to IMO instruments.

The product is not transported in bulk.

## SECTION 15: REGULATORY INFORMATION.

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture.

The product is not affected by the Regulation (EC) No 1005/2009 of the European Parliament and of the Council of 16 September 2009 on substances that deplete the ozone layer.

Volatile organic compound (VOC)

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VOC content (p/p): 54,713 %  
VOC content: 437,7 g/l

Product classification according to Annex I of Directive 2012/18/EU (SEVESO III): P5b,E1

The product is not affected by Regulation (EU) No 528/2012 concerning the making available on the market and use of biocidal products.

The product is not affected by the procedure established Regulation (EU) No 649/2012, concerning the export and import of dangerous chemicals.

Restrictions on the manufacturing, placing on the market and use of certain dangerous substances, mixtures and articles:

Designation of the substance, of the group of substances or of the mixture	Conditions of restriction
48. Toluene CAS No 108-88-3 EC No 203-625-9	Shall not be placed on the market, or used, as a substance or in mixtures in a concentration equal to or greater than 0,1 % by weight where the substance or mixture is used in adhesives or spray paints intended for supply to the general public.

Kind of pollutant to water (Germany): WGK 2: Hazardous to water. (Autoclassified according to the AwSV Regulations)

### 15.2 Chemical safety assessment.

No Chemical Safety Assessment has been carried out for this substance/mixture by the supplier.

Available Product Exposure Scenario.

## SECTION 16: OTHER INFORMATION.

Complete text of the H phrases that appear in section 3:

H225	Highly flammable liquid and vapour.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.
H361d	Suspected of damaging the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H411	Toxic to aquatic life with long lasting effects.

Classification codes:

Aquatic Acute 1 : Acute toxicity to the aquatic environment, Category 1  
Aquatic Chronic 2 : Chronic effect to the aquatic environment, Category 2  
Aquatic Chronic 3 : Chronic effect to the aquatic environment, Category 3  
Asp. Tox. 1 : Aspiration toxicity, Category 1  
Eye Irrit. 2 : Eye irritation, Category 2  
Flam. Liq. 2 : Flammable liquid, Category 2  
Repr. 2 : Reproductive toxicant, Category 2  
STOT RE 2 : Specific target organ toxicity following a repeated exposure, Category 2  
STOT SE 3 : Specific target organ toxicity following a single exposure, Category 3  
Skin Irrit. 2 : Skin irritant, Category 2

Changes regarding to the previous version:

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- Modification of specific hazards (SECTION 2.3).
- Changes in the composition of the product (SECTION 3.2).
- Modification in the firefighting measures (SECTION 5.2).
- Modifications in the accidental release measures (SECTION 6.1).
- Modifications in the accidental release measures (SECTION 6.2).
- Modification in the values of the physical and chemical properties (SECTION 9).
- Change in the hazard classification (SECTION 11.1).
- Modification of the classification ADR/IMDG/ICAO/IATA/RID (SECTION 14).
- Elimination of abbreviations and acronyms (SECTION 16).
- Addition of abbreviations and acronyms (SECTION 16).

### **Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:**

Physical hazards	On basis of test data
Health hazards	Calculation method
Environmental hazards	Calculation method

It is advisable to carry out basic training with regard to health and safety at work in order to handle this product correctly.

Available Product Exposure Scenario.

Abbreviations and acronyms used:

ADR/RID: European Agreement concerning the International Carriage of Dangerous Goods by Road.

AWSV: Facility Regulations for handling substances that are hazardous for the water.

BCF: Bioconcentration factor.

CEN: European Committee for Standardization.

DMEL: Derived Minimal Effect Level, exposure level corresponding to a low risk, that risk should be considered a tolerable minimum.

DNEL: Derived No Effect Level, level of exposure to the substance below which adverse effects are not anticipated.

EC50: Half maximal effective concentration.

PPE: Personal protection equipment.

IATA: International Air Transport Association.

ICAO: International Civil Aviation Organization.

IMDG: International Maritime Code for Dangerous Goods.

LC50: Lethal concentration, 50%.

LD50: Lethal dose, 50%.

NOEC: No observed effect concentration.

PNEC: Predicted No Effect Concentration, concentration of the substance below which adverse effects are not expected in the environmental compartment.

RID: Regulations Concerning the International Transport of Dangerous Goods by Rail.

WGK: Water hazard classes.

Key literature references and sources for data:

<http://eur-lex.europa.eu/homepage.html>

<http://echa.europa.eu/>

Regulation (EU) 2020/878.

Regulation (EC) No 1907/2006.

Regulation (EU) No 1272/2008.

The information given in this Safety Data Sheet has been drafted in accordance with COMMISSION REGULATION (EU) 2020/878 of 18 June 2020 amending Annex II to Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemical substances and mixtures (REACH).

The information in this Safety Data Sheet on the Preparation is based on current knowledge and on current EC and national laws, as far as the working conditions of the users is beyond our knowledge and control. The product must not be used for purposes other than those that are specified without first having written instructions on how to handle. It is always the responsibility of the user to take the appropriate measures in order to comply with the requirements established by current legislation. The information contained in this Safety Sheet only states a description of the safety requirements for the preparation, and it must not be considered as a guarantee of its properties.

## Annex to the extended Safety Data Sheet (eSDS)

Industrial

### Identification of the substance or mixture

**Product definition** : Mono-constituent substance  
**Code** : 30309  
**Product name** : TOLUENE

### Section 1 - Title

**Short title of the exposure scenario** : [203-625-9] Use in Cleaning Agents - Industrial  
**List of use descriptors** : **Identified use name:** Use in cleaning agents - Industrial  
**Process Category:** PROC02, PROC03, PROC04, PROC07, PROC08a, PROC08b, PROC10, PROC13  
**Sector of end use:** SU03, SU10  
**Subsequent service life relevant for that use:** No.  
**Environmental Release Category:** ERC04  
**Market sector by type of chemical product:** Not applicable.  
**Article category related to subsequent service life:** Not applicable.  
**Environmental contributing scenarios** : **Use in cleaning agents**  
**Health Contributing scenarios** : **Use in cleaning agents**

**Industry Association** : LOA (Low Olefins & Aromatics)  
**Processes and activities covered by the exposure scenario** : Covers the use as a component of cleaning products including transfer from storage, pouring/unloading from drums or containers. Exposures during mixing/diluting in the preparatory phase and cleaning activities (including spraying, brushing, dipping, wiping, automated and by hand), related equipment cleaning and maintenance.

### Section 2 - Exposure controls

#### Contributing scenario controlling environmental exposure for 0: Use in cleaning agents

**Product characteristics** : liquid - Water Solubility 573 mg.l<sup>-1</sup> - Vapour pressure 4030 Pa - Readily biodegradable  
**Amounts used** : Fraction of EU tonnage used in region 10 Tm/year  
Regional use tonnage 400 Tm/Year  
Fraction of Regional tonnage used locally 2.2E-4  
**Frequency and duration of use** : Emission days 365  
**Environment factors not influenced by risk management** : Local freshwater dilution factor 10  
Local marine water dilution factor 100  
**Other conditions affecting environmental exposure** : Release fraction to air from process (initial release prior to RMM) 0.3  
Release fraction to wastewater from process (initial release prior to RMM) 0.00003  
Release fraction to soil from process (initial release prior to RMM) 0  
**Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil** : Treat air emission to provide a typical removal efficiency of 0  
Treat on-site wastewater (prior to receiving water discharge) to provide the required removal efficiency of >= (%): 93..25  
**Organisational measures to prevent/limit release from site** : Do not apply industrial sludge to natural soils.



<b>Conditions and measures related to sewage treatment plant</b>	: Estimated substance removal from wastewater via on-site sewage treatment 93.25 Total efficiency of removal from wastewater after on-site and off-site (municipal treatment plant) RMMs 93.25 Maximum allowable site tonnage (M <sub>safe</sub> ) based on release following total wastewater treatment removal 3895 Assumed on-site sewage treatment plant flow 2000
<b>Conditions and measures related to external treatment of waste for disposal</b>	: External treatment and disposal of waste should comply with applicable local and/or national regulations.
<b>Conditions and measures related to external recovery of waste</b>	: External recovery and recycling of waste should comply with applicable local and/or national regulations.

#### Contributing scenario controlling worker exposure for 0: Use in cleaning agents

<b>Concentration of substance in mixture or article</b>	: Covers percentage substance in the product up to 100% (unless stated differently).
<b>Physical state</b>	: Liquid, vapour pressure 0.5 - 10 kPa at Standard Temperature and Pressure
<b>Amounts used</b>	: Not applicable.
<b>Frequency and duration of use</b>	: Covers daily exposures up to 8 hours
<b>Human factors not influenced by risk management</b>	: Not applicable.
<b>Other conditions affecting workers exposure</b>	: Assumes a good basic standard of occupational hygiene is implemented - Assumes use at not more than 20°C above ambient temperature, unless stated differently. - Users are advised to consider national Occupational Exposure Limits or other equivalent values.  Contributing scenarios - Operational conditions and risk management measures  Bulk transfers Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).  Automatic processing with: (semi) Closed system - Use in contained systems No specific measures identified.  Automatic processing with: (semi) Drum/batch transfers No specific measures identified.  Application of cleaning products in closed systems No specific measures identified.  Filling/preparation of equipment from drums or containers Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour). - If technical measures are not practical Wear suitable respiratory protection (conforming to EN140 with type A filter or better) and gloves (type EN374) if regular skin contact likely.  Use in contained batch processes - Treatment by heating Provide extract ventilation to points where emissions occur.  Degreasing small objects in cleaning station Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).  Cleaning with low-pressure washers Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).  Cleaning with high-pressure washers Provide a good standard of controlled ventilation (10 to 15 air changes per hour). - Limit the substance content in the product to 5%.

Manual Surfaces Cleaning - No spraying  
Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).

Equipment cleaning and maintenance  
Drain down and flush system prior to equipment break-in or maintenance.

Storage - Use in closed, continuous process with occasional controlled exposure  
No specific measures identified.

#### Conditions and measures related to personal protection and hygiene

### Section 3 - Exposure estimation and reference to its source

**Website:** : Not applicable.

#### Exposure estimation and reference to its source - Environment: 1: Use in cleaning agents

**Exposure assessment (environment):** : Not available.

**EXPOSURE ESTIMATION AND REFERENCE TO ITS SOURCE** : Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented.

#### Exposure estimation and reference to its source - Workers: 0: Use in cleaning agents

**Exposure assessment (human):** : Not available.

**EXPOSURE ESTIMATION AND REFERENCE TO ITS SOURCE** : Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented.

### Section 4 - GUIDANCE TO DU TO EVALUATE WHETHER HE WORKS INSIDE THE BOUNDARIES SET BY THE ES

**Environment** : Not available.

**Health** : Not available.

### Additional good practice advice beyond the REACH CSA

**Environment** : Not available.

**Health** : Not available.

## Annex to the extended Safety Data Sheet (eSDS)

Industrial

### Identification of the substance or mixture

**Product definition** : Mono-constituent substance  
**Code** : 30309  
**Product name** : TOLUENE

### Section 1 - Title

**Short title of the exposure scenario** : [203-625-9] Use in Cleaning Agents - Professional

**List of use descriptors** : **Identified use name:** Use in cleaning agents - Professional  
**Process Category:** PROC02, PROC03, PROC04, PROC08a, PROC08b, PROC10, PROC11, PROC13, PROC01  
**Sector of end use:** SU22  
**Subsequent service life relevant for that use:** No.  
**Environmental Release Category:** ERC08a, ERC08d  
**Market sector by type of chemical product:** Not applicable.  
**Article category related to subsequent service life:** Not applicable.

**Environmental contributing scenarios** : **Use in cleaning agents**

**Health Contributing scenarios** : **Use in cleaning agents**

**Industry Association** : LOA (Low Olefins & Aromatics)

**Processes and activities covered by the exposure scenario** : Covers the use as a component of cleaning products including pouring/unloading from drums or containers; and exposures during mixing/diluting in the preparatory phase and cleaning activities (including spraying, brushing, dipping, wiping automated and by hand).

### Section 2 - Exposure controls

#### Contributing scenario controlling environmental exposure for 0: Use in cleaning agents

Assumes a good basic standard of occupational hygiene has been implemented

**Product characteristics** : liquid - Water Solubility 573 mg.l<sup>-1</sup> - Vapour pressure 4030 Pa - Readily biodegradable

**Concentration of substance in mixture or article** : Covers percentage substance in the product up to 100% (unless stated differently).

**Amounts used** : Fraction of EU tonnage used in region 10 Tm/year  
Regional use tonnage 400 Tm/Year  
Fraction of Regional tonnage used locally 2.2E-4

**Frequency and duration of use** : Continuous release - Emission days 365

**Environment factors not influenced by risk management** : Local freshwater dilution factor 10  
Local marine water dilution factor 100

**Other conditions affecting environmental exposure** : Release fraction to air from process (initial release prior to RMM) 0.02  
Release fraction to wastewater from process (initial release prior to RMM) 0.000001  
Release fraction to soil from process (initial release prior to RMM) 0

**Technical conditions and measures at process level (source) to prevent release** : Common practices vary across sites thus conservative process release estimates used.

**Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil** : Treat air emission to provide a typical removal efficiency of 0  
Treat on-site wastewater (prior to receiving water discharge) to provide the required removal efficiency of >= (%): 93.25

<b>Organisational measures to prevent/limit release from site</b>	: Do not apply industrial sludge to natural soils.
<b>Conditions and measures related to sewage treatment plant</b>	: Estimated substance removal from wastewater via on-site sewage treatment 93.25 Total efficiency of removal from wastewater after on-site and off-site (municipal treatment plant) RMMs 93.25 Maximum allowable site tonnage ( $M_{\text{safe}}$ ) based on release following total wastewater treatment removal 3895 Assumed on-site sewage treatment plant flow 2000
<b>Conditions and measures related to external treatment of waste for disposal</b>	: External treatment and disposal of waste should comply with applicable local and/or national regulations.
<b>Conditions and measures related to external recovery of waste</b>	: External recovery and recycling of waste should comply with applicable local and/or national regulations.

### Contributing scenario controlling worker exposure for 0: Use in cleaning agents

<b>Concentration of substance in mixture or article</b>	: Covers percentage substance in the product up to 100% (unless stated differently).
<b>Physical state</b>	: Liquid, vapour pressure 0.5 - 10 kPa at Standard Temperature and Pressure
<b>Amounts used</b>	: Not applicable.
<b>Frequency and duration of use</b>	: Covers daily exposures up to 8 hours
<b>Human factors not influenced by risk management</b>	: Not applicable.
<b>Other conditions affecting workers exposure</b>	: Assumes use at not more than 20°C above ambient temperature, unless stated differently. - Assumes a good basic standard of occupational hygiene is implemented - Users are advised to consider national Occupational Exposure Limits or other equivalent values.

#### Contributing scenarios - Operational conditions and risk management measures

Filling/preparation of equipment from drums or containers - Dedicated facility  
Provide a good standard of controlled ventilation (10 to 15 air changes per hour).

Automatic processing with: (semi) Closed system - Use in contained systems  
No specific measures identified.

Automatic processing with: (semi) Closed system - Drum/batch transfers - Use in contained systems  
No specific measures identified.

Semi-automated process. (e.g. Semi-automatic application of floor care and maintenance products)  
Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).

Filling/preparation of equipment from drums or containers - Outdoor  
Ensure operation is undertaken outdoors. - Avoid carrying out operation for more than 4 hours.

Manual Surfaces Cleaning Dipping, immersion and pouring  
Provide a good standard of controlled ventilation (10 to 15 air changes per hour).

Cleaning with low-pressure washers - Rolling, Brushing No spraying  
Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour). - Wear a respirator conforming to EN140 with type A/P2 filter or better.

Cleaning with high-pressure washers - Spraying Indoor  
Provide a good standard of general ventilation (not less than 3 to 5 air changes per

hour). - Wear a respirator conforming to EN140 with type A/P2 filter or better.

Cleaning with high-pressure washers - Spraying Outdoor  
Ensure operation is undertaken outdoors. - Wear a respirator conforming to EN140 with type A/P2 filter or better.

Manual Cleaning Spraying  
Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan. - Wear a respirator conforming to EN140 with type A/P2 filter or better.

Ad hoc manual application via trigger sprays, dipping, etc. Rolling, Brushing  
Provide extract ventilation to points where emissions occur.

Ad hoc manual application via trigger sprays, dipping, etc. Rolling, Brushing  
Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour). - Wear a respirator conforming to EN140 with type A/P2 filter or better.

Application of cleaning products in closed systems Outdoor  
Ensure operation is undertaken outdoors.

Cleaning of medical devices  
Provide extract ventilation to points where emissions occur.

Equipment cleaning and maintenance  
Drain down system prior to equipment break-in or maintenance.

Storage - Use in closed, continuous process with occasional controlled exposure  
No specific measures identified.

#### Conditions and measures related to personal protection and hygiene

### Section 3 - Exposure estimation and reference to its source

**Website:** : Not applicable.

#### Exposure estimation and reference to its source - Environment: 1: Use in cleaning agents

**Exposure assessment (environment):** : Not available.

**EXPOSURE ESTIMATION AND REFERENCE TO ITS SOURCE** : Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented.

#### Exposure estimation and reference to its source - Workers: 0: Use in cleaning agents

**Exposure assessment (human):** : Not available.

**EXPOSURE ESTIMATION AND REFERENCE TO ITS SOURCE** : Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented.

### Section 4 - GUIDANCE TO DU TO EVALUATE WHETHER HE WORKS INSIDE THE BOUNDARIES SET BY THE ES

**Environment** : Not available.

**Health** : Not available.

### Additional good practice advice beyond the REACH CSA

**Environment** : Not available.

**Health** : Not available.

## Annex to the extended Safety Data Sheet (eSDS)

Industrial

### Identification of the substance or mixture

**Product definition** : Mono-constituent substance  
**Code** : 30309  
**Product name** : TOLUENE

### Section 1 - Title

**Short title of the exposure scenario** : [203-625-9] Use in Laboratories - Industrial  
**List of use descriptors** : **Identified use name:** Use in laboratories - Industrial  
**Process Category:** PROC10, PROC15  
**Sector of end use:** SU03, SU10  
**Subsequent service life relevant for that use:** No.  
**Environmental Release Category:** ERC02, ERC04  
**Market sector by type of chemical product:** Not applicable.  
**Article category related to subsequent service life:** Not applicable.  
**Environmental contributing scenarios** : **Use in laboratories**  
**Health Contributing scenarios** : **Use in laboratories**

**Industry Association** : LOA (Low Olefins & Aromatics)  
**Processes and activities covered by the exposure scenario** : Use of the substance within laboratory settings, including material transfers and equipment cleaning.

### Section 2 - Exposure controls

#### Contributing scenario controlling environmental exposure for 0: Use in laboratories

Assumes a good basic standard of occupational hygiene has been implemented

**Product characteristics** : liquid - Water Solubility 573 mg.l<sup>-1</sup> - Vapour pressure 4030 Pa - Readily biodegradable  
**Concentration of substance in mixture or article** : Covers percentage substance in the product up to 100% (unless stated differently).  
**Amounts used** : Fraction of EU tonnage used in region 10 Tm/year  
Regional use tonnage 400 Tm/Year  
Fraction of Regional tonnage used locally 2.2E-4  
**Frequency and duration of use** : Emission days 365  
**Environment factors not influenced by risk management** : Local freshwater dilution factor 10  
Local marine water dilution factor 100  
**Other conditions affecting environmental exposure** : Release fraction to air from process (initial release prior to RMM) 0.025  
Release fraction to wastewater from process (initial release prior to RMM) 0.02  
Release fraction to soil from process (initial release prior to RMM) 0.0001  
**Technical conditions and measures at process level (source) to prevent release** : Common practices vary across sites thus conservative process release estimates used.  
**Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil** : Treat air emission to provide a typical removal efficiency of 0  
Treat on-site wastewater (prior to receiving water discharge) to provide the required removal efficiency of >= (%): 93..25

<b>Organisational measures to prevent/limit release from site</b>	: Do not apply industrial sludge to natural soils.
<b>Conditions and measures related to sewage treatment plant</b>	: Estimated substance removal from wastewater via on-site sewage treatment 93.25 Total efficiency of removal from wastewater after on-site and off-site (municipal treatment plant) RMMs 93.25 Maximum allowable site tonnage ( $M_{\text{Safe}}$ ) based on release following total wastewater treatment removal 3895 Assumed on-site sewage treatment plant flow 2000
<b>Conditions and measures related to external treatment of waste for disposal</b>	: External treatment and disposal of waste should comply with applicable local and/or national regulations.
<b>Conditions and measures related to external recovery of waste</b>	: External recovery and recycling of waste should comply with applicable local and/or national regulations.

#### Contributing scenario controlling worker exposure for 0: Use in laboratories

<b>Concentration of substance in mixture or article</b>	: Covers percentage substance in the product up to 100% (unless stated differently).
<b>Physical state</b>	: Liquid, vapour pressure 0.5 - 10 kPa at Standard Temperature and Pressure
<b>Amounts used</b>	: Not applicable.
<b>Frequency and duration of use</b>	: Covers daily exposures up to 8 hours
<b>Human factors not influenced by risk management</b>	: Not applicable.
<b>Other conditions affecting workers exposure</b>	: Assumes use at not more than 20°C above ambient temperature, unless stated differently. - Assumes a good basic standard of occupational hygiene is implemented - Users are advised to consider national Occupational Exposure Limits or other equivalent values.
<b>Contributing scenarios - Operational conditions and risk management measures</b>	
	Laboratory activities No other specific measures identified.
	Cleaning Provide a good standard of controlled ventilation (10 to 15 air changes per hour).
<b>Conditions and measures related to personal protection and hygiene</b>	

### Section 3 - Exposure estimation and reference to its source

<b>Website:</b>	: Not applicable.
<b>Exposure estimation and reference to its source - Environment: 1: Use in laboratories</b>	
<b>Exposure assessment (environment):</b>	: Not available.
<b>EXPOSURE ESTIMATION AND REFERENCE TO ITS SOURCE</b>	: Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented.
<b>Exposure estimation and reference to its source - Workers: 0: Use in laboratories</b>	
<b>Exposure assessment (human):</b>	: Not available.
<b>EXPOSURE ESTIMATION AND REFERENCE TO ITS SOURCE</b>	: Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented.

**Section 4 - GUIDANCE TO DU TO EVALUATE WHETHER HE WORKS INSIDE THE BOUNDARIES SET BY THE ES****Environment** : Not available.**Health** : Not available.**Additional good practice advice beyond the REACH CSA****Environment** : Not available.**Health** : Not available.



## Annex to the extended Safety Data Sheet (eSDS)

Industrial

### Identification of the substance or mixture

**Product definition** : Mono-constituent substance  
**Code** : 30309  
**Product name** : TOLUENE

### Section 1 - Title

**Short title of the exposure scenario** : [203-625-9] Uses in Coatings - Industrial

**List of use descriptors** : **Identified use name:** Use in coatings - Industrial  
**Process Category:** PROC01, PROC02, PROC03, PROC04, PROC05, PROC07, PROC08a, PROC08b, PROC09, PROC10, PROC13, PROC15  
**Sector of end use:** SU03, SU10  
**Subsequent service life relevant for that use:** No.  
**Environmental Release Category:** ERC04  
**Market sector by type of chemical product:** Not applicable.  
**Article category related to subsequent service life:** Not applicable.

**Environmental contributing scenarios** : **Use in coatings**

**Health Contributing scenarios** : **Use in coatings**

**Industry Association** : LOA (Low Olefins & Aromatics)

**Processes and activities covered by the exposure scenario** : Covers the use in coatings (paints, inks, adhesives, etc) within closed or contained systems including incidental exposures during use (including materials receipt, storage, preparation and transfer from bulk and semi-bulk, application activities and film formation) and equipment cleaning, maintenance and associated laboratory activities.

### Section 2 - Exposure controls

#### Contributing scenario controlling environmental exposure for 0: Use in coatings

Assumes a good basic standard of occupational hygiene has been implemented

**Product characteristics** : liquid - Water Solubility 573 mg.l<sup>-1</sup> - Vapour pressure 4030 Pa - Readily biodegradable

**Concentration of substance in mixture or article** : Covers percentage substance in the product up to 100% (unless stated differently).

**Amounts used** : Fraction of EU tonnage used in region 10 Tm/year  
Regional use tonnage 400 Tm/Year  
Fraction of Regional tonnage used locally 2.2E-4

**Frequency and duration of use** : Emission days 365

**Environment factors not influenced by risk management** : Local freshwater dilution factor 10  
Local marine water dilution factor 100

**Other conditions affecting environmental exposure** : Release fraction to air from process (initial release prior to RMM) 0.98  
Release fraction to wastewater from process (initial release prior to RMM) 0.007  
Release fraction to soil from process (initial release prior to RMM) 0

**Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil** : Treat air emission to provide a typical removal efficiency of 0  
Treat on-site wastewater (prior to receiving water discharge) to provide the required removal efficiency of >= (%): 93..25

**Organisational measures to prevent/limit release from site** : Do not apply industrial sludge to natural soils.  
Sewage sludge should be incinerated, contained or reclaimed.

**Date of issue/Date of revision** : 19/09/2019

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<b>Conditions and measures related to sewage treatment plant</b>	: Estimated substance removal from wastewater via on-site sewage treatment 93.25 Total efficiency of removal from wastewater after on-site and off-site (municipal treatment plant) RMMs 93.25 Maximum allowable site tonnage (M <sub>safe</sub> ) based on release following total wastewater treatment removal 3895 Assumed on-site sewage treatment plant flow 2000
<b>Conditions and measures related to external treatment of waste for disposal</b>	: External treatment and disposal of waste should comply with applicable local and/or national regulations.
<b>Conditions and measures related to external recovery of waste</b>	: External recovery and recycling of waste should comply with applicable local and/or national regulations.

**Contributing scenario controlling worker exposure for 0: Use in coatings**

<b>Concentration of substance in mixture or article</b>	: Covers percentage substance in the product up to 100% (unless stated differently).
<b>Physical state</b>	: Liquid, vapour pressure 0.5 - 10 kPa at Standard Temperature and Pressure
<b>Amounts used</b>	: Not applicable.
<b>Frequency and duration of use</b>	: Covers daily exposures up to 8 hours
<b>Human factors not influenced by risk management</b>	: Not applicable.
<b>Other conditions affecting workers exposure</b>	: Assumes use at not more than 20°C above ambient temperature, unless stated differently. - Assumes a good basic standard of occupational hygiene is implemented - Users are advised to consider national Occupational Exposure Limits or other equivalent values.

**Contributing scenarios - Operational conditions and risk management measures**

General exposures (closed systems)  
No other specific measures identified.

General exposures (closed systems) With sample collection  
No other specific measures identified.

Film formation - force drying (50 - 100°C). Stoving (>100°C). UV/EB radiation curing  
No other specific measures identified.

Mixing operations  
No other specific measures identified.

Film formation - air drying  
No other specific measures identified.

Preparation of material for application - Mixing operations (open systems)  
Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).

Spraying (automatic/robotic)  
Carry out in a vented booth or extracted enclosure.

Manual Spraying  
Carry out in a vented booth or extracted enclosure. or Provide a good standard of controlled ventilation (10 to 15 air changes per hour). - Wear a respirator conforming to EN140 with type A/P2 filter or better.

Material transfers - Non-dedicated facility  
Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).

Material transfers - Dedicated facility

Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).

Roller, spreader, flow application

Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).

Dipping, immersion and pouring

Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).

Laboratory activities

No other specific measures identified.

Material transfers Drum/batch transfers Transfer from/pouring from containers

Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).

Production of preparation or articles by tableting, compression, extrusion or pelletisation

Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).

Equipment cleaning and maintenance

Drain down system prior to equipment break-in or maintenance.

Storage - Use in closed, continuous process with occasional controlled exposure

No other specific measures identified.

#### Conditions and measures related to personal protection and hygiene

### Section 3 - Exposure estimation and reference to its source

**Website:** : Not applicable.

#### Exposure estimation and reference to its source - Environment: 1: Use in coatings

**Exposure assessment (environment):** : Not available.

**EXPOSURE ESTIMATION AND REFERENCE TO ITS SOURCE** : Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented.

#### Exposure estimation and reference to its source - Workers: 0: Use in coatings

**Exposure assessment (human):** : Not available.

**EXPOSURE ESTIMATION AND REFERENCE TO ITS SOURCE** : Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented.

### Section 4 - GUIDANCE TO DU TO EVALUATE WHETHER HE WORKS INSIDE THE BOUNDARIES SET BY THE ES

**Environment** : Not available.

**Health** : Not available.

#### Additional good practice advice beyond the REACH CSA

**Environment** : Not available.

**Health** : Not available.

## Annex to the extended Safety Data Sheet (eSDS)

Industrial

### Identification of the substance or mixture

**Product definition** : Mono-constituent substance  
**Code** : 30309  
**Product name** : TOLUENE

### Section 1 - Title

**Short title of the exposure scenario** : [203-625-9] Uses in Coatings - Professional

**List of use descriptors** : **Identified use name:** Use in coatings - Professional  
**Process Category:** PROC01, PROC02, PROC03, PROC04, PROC05, PROC08a, PROC08b, PROC10, PROC13, PROC15, PROC11  
**Sector of end use:** SU22  
**Subsequent service life relevant for that use:** No.  
**Environmental Release Category:** ERC08a, ERC08d  
**Market sector by type of chemical product:** Not applicable.  
**Article category related to subsequent service life:** Not applicable.

**Environmental contributing scenarios** : **Use in coatings**

**Health Contributing scenarios** : **Use in coatings**

**Industry Association** : LOA (Low Olefins & Aromatics)

**Processes and activities covered by the exposure scenario** : Covers the use in coatings (paints, inks, adhesives, etc) within closed or contained systems including incidental exposures during use (including materials receipt, storage, preparation and transfer from bulk and semi-bulk, application activities and film formation) and equipment cleaning, maintenance and associated laboratory activities.

### Section 2 - Exposure controls

#### Contributing scenario controlling environmental exposure for 0: Use in coatings

Assumes a good basic standard of occupational hygiene has been implemented

**Product characteristics** : liquid - Water Solubility 573 mg.l<sup>-1</sup> - Vapour pressure 4030 Pa - Readily biodegradable

**Concentration of substance in mixture or article** : Covers percentage substance in the product up to 100% (unless stated differently).

**Amounts used** : Fraction of EU tonnage used in region 10 Tm/year  
Regional use tonnage 400 Tm/Year  
Fraction of Regional tonnage used locally 2.2E-4

**Frequency and duration of use** : Emission days 365

**Environment factors not influenced by risk management** : Local freshwater dilution factor 10  
Local marine water dilution factor 100

**Other conditions affecting environmental exposure** : Release fraction to air from process (initial release prior to RMM) 0.98  
Release fraction to wastewater from process (initial release prior to RMM) 0.01  
Release fraction to soil from process (initial release prior to RMM) 0.01

**Technical conditions and measures at process level (source) to prevent release** : Common practices vary across sites thus conservative process release estimates used.

**Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil** : Treat air emission to provide a typical removal efficiency of 0  
Treat on-site wastewater (prior to receiving water discharge) to provide the required removal efficiency of >= (%): 93..25

<b>Organisational measures to prevent/limit release from site</b>	: Do not apply industrial sludge to natural soils.
<b>Conditions and measures related to sewage treatment plant</b>	: Estimated substance removal from wastewater via on-site sewage treatment 93.3 Total efficiency of removal from wastewater after on-site and off-site (municipal treatment plant) RMMs 93.3 Maximum allowable site tonnage ( $M_{\text{Safe}}$ ) based on release following total wastewater treatment removal 12700 Assumed on-site sewage treatment plant flow 2000
<b>Conditions and measures related to external treatment of waste for disposal</b>	: External treatment and disposal of waste should comply with applicable local and/or national regulations.
<b>Conditions and measures related to external recovery of waste</b>	: External recovery and recycling of waste should comply with applicable local and/or national regulations.

### Contributing scenario controlling worker exposure for 0: Use in coatings

<b>Concentration of substance in mixture or article</b>	: Covers percentage substance in the product up to 100% (unless stated differently).
<b>Physical state</b>	: Liquid, vapour pressure 0.5 - 10 kPa at Standard Temperature and Pressure
<b>Amounts used</b>	: Not applicable.
<b>Frequency and duration of use</b>	: Covers daily exposures up to 8 hours
<b>Human factors not influenced by risk management</b>	: Not applicable.
<b>Other conditions affecting workers exposure</b>	: Assumes use at not more than 20°C above ambient temperature, unless stated differently. - Assumes a good basic standard of occupational hygiene is implemented - Users are advised to consider national Occupational Exposure Limits or other equivalent values.

#### Contributing scenarios - Operational conditions and risk management measures

General exposures (closed systems)  
No other specific measures identified.

General exposures (closed systems) Use in contained systems  
No other specific measures identified.

Filling/preparation of equipment from drums or containers  
No other specific measures identified.

Preparation of material for application  
No other specific measures identified.

Film formation - air drying Outdoor  
Ensure operation is undertaken outdoors.

Film formation - air drying Indoor  
Provide a good standard of controlled ventilation (10 to 15 air changes per hour).

Preparation of material for application - Indoor  
Provide a good standard of controlled ventilation (10 to 15 air changes per hour).

Preparation of material for application  
Ensure operation is undertaken outdoors. - Avoid carrying out activities involving exposure for more than 4 hours.

Manual Spraying Indoor  
Carry out in a vented booth or extracted enclosure.

Manual Spraying Outdoor  
Ensure operation is undertaken outdoors. - Wear a respirator conforming to EN140 with type A/P2 filter or better.

Material transfers - Drum/batch transfers  
Use drum pumps or carefully pour from container.

Roller, spreader, flow application Indoor  
Provide a good standard of controlled ventilation (10 to 15 air changes per hour).

Roller, spreader, flow application Outdoor  
Ensure operation is undertaken outdoors. - Wear a respirator conforming to EN140 with type A/P2 filter or better.

Dipping, immersion and pouring Indoor  
Provide extract ventilation to points where emissions occur.

Dipping, immersion and pouring Outdoor  
Ensure operation is undertaken outdoors. - Wear suitable respiratory protection (conforming to EN140 with type A filter or better) and gloves (type EN374) if regular skin contact likely.

Laboratory activities  
No other specific measures identified.

Hand application - fingerpaints, pastels, adhesives Indoor  
Provide a good standard of controlled ventilation (10 to 15 air changes per hour). - Ensure doors and windows are opened.

Hand application - fingerpaints, pastels, adhesives Outdoor  
Ensure operation is undertaken outdoors. - Wear suitable respiratory protection (conforming to EN140 with type A filter or better) and gloves (type EN374) if regular skin contact likely.

Equipment cleaning and maintenance  
Drain down system prior to equipment break-in or maintenance.

Storage - Use in closed, continuous process with occasional controlled exposure  
No other specific measures identified.

#### Conditions and measures related to personal protection and hygiene

### Section 3 - Exposure estimation and reference to its source

Website: : Not applicable.

#### Exposure estimation and reference to its source - Environment: 1: Use in coatings

Exposure assessment (environment): : Not available.

**EXPOSURE ESTIMATION AND REFERENCE TO ITS SOURCE** : Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented.

#### Exposure estimation and reference to its source - Workers: 0: Use in coatings

Exposure assessment (human): : Not available.

**EXPOSURE ESTIMATION AND REFERENCE TO ITS SOURCE** : Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented.

### Section 4 - GUIDANCE TO DU TO EVALUATE WHETHER HE WORKS INSIDE THE BOUNDARIES SET BY THE ES

**Environment** : Not available.**Health** : Not available.**Additional good practice advice beyond the REACH CSA****Environment** : Not available.**Health** : Not available.

## Annex to the extended Safety Data Sheet (eSDS)

Industrial

### Identification of the substance or mixture

Product definition : UVCB  
Code : 32205  
Product name : ISOHEXANE

### Section 1 - Title

Short title of the exposure scenario : [931-254-9] Use in Cleaning Agent - Industrial

List of use descriptors : **Identified use name:** Use in cleaning agents - Industrial  
**Process Category:** PROC01, PROC02, PROC03, PROC04, PROC07, PROC08a, PROC08b, PROC10, PROC13  
**Sector of end use:** SU03  
**Subsequent service life relevant for that use:** No.  
**Environmental Release Category:** ERC04, ESVOC SpERC 4.4a.v1  
**Market sector by type of chemical product:** Not applicable.  
**Article category related to subsequent service life:** Not applicable.

Environmental contributing scenarios : **Use in cleaning agents**

Health Contributing scenarios : **Use in cleaning agents**

**Processes and activities covered by the exposure scenario** : Covers the use as a component of cleaning products including transfer from storage, pouring/unloading from drums or containers. Exposures during mixing/diluting in the preparatory phase and cleaning activities (including spraying, brushing, dipping, wiping, automated and by hand), related equipment cleaning and maintenance.

### Section 2 - Exposure controls

#### Contributing scenario controlling environmental exposure for 0: Use in cleaning agents

**Amounts used** : Fraction of EU tonnage used in region 0.1  
Regional use tonnage 108  
Fraction of Regional tonnage used locally 0.9302  
Annual site tonnage 100  
Maximum daily site tonnage 5000

**Frequency and duration of use** : Continuous release - Emission days 20

**Environment factors not influenced by risk management** : Local freshwater dilution factor 10  
Local marine water dilution factor 100

**Other conditions affecting environmental exposure** : Release fraction to air from process (initial release prior to RMM) 1.0  
Release fraction to wastewater from process (initial release prior to RMM) 0.000003  
Release fraction to soil from process (initial release prior to RMM) 0

**Technical conditions and measures at process level (source) to prevent release** : Common practices vary across sites thus conservative process release estimates used.

**Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil** : Risk from environmental exposure is driven by freshwater sediment.  
Prevent discharge of undissolved substance to or recover from onsite wastewater.  
No wastewater treatment required.  
Treat air emission to provide a typical removal efficiency of 70  
Treat on-site wastewater (prior to receiving water discharge) to provide the required removal efficiency of  $\geq$  (%): 0  
If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of  $\geq$  (%): 0

**Organisational measures to prevent/limit release from site** : Do not apply industrial sludge to natural soils. Sewage sludge should be incinerated, contained or reclaimed.



<b>Conditions and measures related to sewage treatment plant</b>	: Estimated substance removal from wastewater via on-site sewage treatment 96.9 Total efficiency of removal from wastewater after on-site and off-site (municipal treatment plant) RMMs 96.9 Maximum allowable site tonnage (M <sub>safe</sub> ) based on release following total wastewater treatment removal 15800000 Assumed on-site sewage treatment plant flow 2000
<b>Conditions and measures related to external treatment of waste for disposal</b>	: External treatment and disposal of waste should comply with applicable local and/or national regulations.
<b>Conditions and measures related to external recovery of waste</b>	: External recovery and recycling of waste should comply with applicable local and/or national regulations.

#### Contributing scenario controlling worker exposure for 0: Use in cleaning agents

<b>Concentration of substance in mixture or article</b>	: Covers percentage substance in the product up to 100% (unless stated differently).
<b>Physical state</b>	: Liquid, vapour pressure > 10 kPa
<b>Amounts used</b>	: No Limit
<b>Frequency and duration of use</b>	: Covers daily exposures up to 8 hours
<b>Other conditions affecting workers exposure</b>	: Assumes a good basic standard of occupational hygiene is implemented Assumes use at not more than 20°C above ambient temperature, unless stated differently.

#### Contributing scenarios - Operational conditions and risk management measures

##### General measures (skin irritants)

Avoid all skin contact with product, clean up contamination/spills as soon as they occur.

Wear gloves (tested to EN374) if hand contamination likely, wash off any skin contamination immediately.

Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop.

##### General measures (carcinogens)

No specific measures identified.

##### General exposures (Dermal Irritant)

No specific measures identified.

##### Automatic processing with: (semi) Closed system - Use in contained systems

No specific measures identified.

##### Automatic processing with: (semi) Closed system - Drum/batch transfers - Use in contained systems

No specific measures identified.

##### Application of cleaning products in closed systems

No specific measures identified.

##### Filling/preparation of equipment from drums or containers

No specific measures identified.

##### Cleaning with low-pressure washers Rolling, Brushing No spraying

No specific measures identified.

##### Cleaning with high-pressure washers Spraying Indoor

No specific measures identified.

##### Cleaning with high-pressure washers Spraying Outdoor

No specific measures identified.

##### Manual Surfaces Cleaning Spraying

No specific measures identified.

Semi-automated process. (e.g. Semi-automatic application of floor care and maintenance products)  
No specific measures identified.

Manual Surfaces Cleaning Dipping, immersion and pouring  
No specific measures identified.

Ad hoc manual application via trigger sprays, dipping, etc. Rolling, Brushing  
No specific measures identified.

#### Conditions and measures related to personal protection and hygiene

### Section 3 - Exposure estimation and reference to its source

**Website:** : Not applicable.

#### Exposure estimation and reference to its source - Environment: 1: Use in cleaning agents

**Exposure assessment (environment):** : Not available.

**EXPOSURE ESTIMATION AND REFERENCE TO ITS SOURCE** : Hydrocarbon Block Method (Petrorisk)

#### Exposure estimation and reference to its source - Workers: 0: Use in cleaning agents

**Exposure assessment (human):** : Not available.

**EXPOSURE ESTIMATION AND REFERENCE TO ITS SOURCE** : The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

### Section 4 - GUIDANCE TO DU TO EVALUATE WHETHER HE WORKS INSIDE THE BOUNDARIES SET BY THE ES

<b>Environment</b>	: Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination. Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination. Further details on scaling and control technologies are provided in SPERC factsheet.
<b>Health</b>	: Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented. - Available hazard data do not enable the derivation of a DNEL for dermal irritant effects. - Risk management measures are based on qualitative risk characterisation. - Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

### Additional good practice advice beyond the REACH CSA

**Environment** : Not available.

**Health** : Not available.

## Annex to the extended Safety Data Sheet (eSDS)

Industrial

### Identification of the substance or mixture

Product definition : UVCB  
Code : 32205  
Product name : ISOHEXANE

### Section 1 - Title

Short title of the exposure scenario : [931-254-9] Use in Cleaning Agents - Professional

List of use descriptors : **Identified use name:** Use in cleaning agents - Professional  
**Process Category:** PROC01, PROC02, PROC03, PROC04, PROC08a, PROC08b, PROC10, PROC11, PROC13  
**Sector of end use:** SU22  
**Subsequent service life relevant for that use:** No.  
**Environmental Release Category:** ERC08a, ERC08d, ESVOC SpERC 8.4b.v1  
**Market sector by type of chemical product:** Not applicable.  
**Article category related to subsequent service life:** Not applicable.

Environmental contributing scenarios : **Use in cleaning agents**

Health Contributing scenarios : **Use in cleaning agents**

Processes and activities covered by the exposure scenario : Covers the use as a component of cleaning products including pouring/unloading from drums or containers; and exposures during mixing/diluting in the preparatory phase and cleaning activities (including spraying, brushing, dipping, wiping automated and by hand).

### Section 2 - Exposure controls

#### Contributing scenario controlling environmental exposure for 0: Use in cleaning agents

Amounts used : Fraction of EU tonnage used in region 0.1  
Regional use tonnage 1.2  
Fraction of Regional tonnage used locally 0.0005  
Annual site tonnage 0.0006  
Maximum daily site tonnage 0.00164

Frequency and duration of use : Continuous release - Emission days 365

Environment factors not influenced by risk management : Local freshwater dilution factor 10  
Local marine water dilution factor 100

Other conditions affecting environmental exposure : Release fraction to air from process (initial release prior to RMM) 0.02  
Release fraction to wastewater from process (initial release prior to RMM) 0.000001  
Release fraction to soil from process (initial release prior to RMM) 0

Technical conditions and measures at process level (source) to prevent release : Common practices vary across sites thus conservative process release estimates used.

Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil : Risk from environmental exposure is driven by freshwater.  
No wastewater treatment required.  
Treat air emission to provide a typical removal efficiency of 0  
Treat on-site wastewater (prior to receiving water discharge) to provide the required removal efficiency of  $\geq$  (%): 0  
If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of  $\geq$  (%): 0

Organisational measures to prevent/limit release from site : Do not apply industrial sludge to natural soils. - Sewage sludge should be incinerated, contained or reclaimed.

<b>Conditions and measures related to sewage treatment plant</b>	: Estimated substance removal from wastewater via on-site sewage treatment 96.9 Total efficiency of removal from wastewater after on-site and off-site (municipal treatment plant) RMMs 96.9 Maximum allowable site tonnage (M <sub>safe</sub> ) based on release following total wastewater treatment removal 8.46 Assumed on-site sewage treatment plant flow 2000
<b>Conditions and measures related to external treatment of waste for disposal</b>	: External treatment and disposal of waste should comply with applicable local and/or national regulations.
<b>Conditions and measures related to external recovery of waste</b>	: External recovery and recycling of waste should comply with applicable local and/or national regulations.

#### Contributing scenario controlling worker exposure for 0: Use in cleaning agents

<b>Concentration of substance in mixture or article</b>	: Covers percentage substance in the product up to 100% (unless stated differently).
<b>Physical state</b>	: Liquid, vapour pressure > 10 kPa
<b>Amounts used</b>	: No Limit
<b>Frequency and duration of use</b>	: Covers daily exposures up to 8 hours
<b>Other conditions affecting workers exposure</b>	: Assumes use at not more than 20°C above ambient temperature, unless stated differently. - Assumes a good basic standard of occupational hygiene is implemented

#### Contributing scenarios - Operational conditions and risk management measures

General measures (skin irritants)  
Avoid all skin contact with product, clean up contamination/spills as soon as they occur.  
Wear gloves (tested to EN374) if hand contamination likely, wash off any skin contamination immediately.  
Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop.

Filling/preparation of equipment from drums or containers  
No specific measures identified.

Automatic processing with: (semi) Closed system - Use in contained systems  
No specific measures identified.

Automatic processing with: (semi) Closed system - Drum/batch transfers - Use in contained systems  
No specific measures identified.

Semi-automated process. (e.g. Semi-automatic application of floor care and maintenance products)  
No specific measures identified.

Filling/preparation of equipment from drums or containers  
No specific measures identified.

Manual Surfaces Cleaning Dipping, immersion and pouring  
No specific measures identified.

Manual Surfaces Cleaning  
No specific measures identified.

Cleaning with low-pressure washers - Rolling, Brushing - No spraying  
No specific measures identified.

Cleaning with high-pressure washers - Spraying - Indoor  
No specific measures identified.

Cleaning with high-pressure washers - Spraying Outdoor

No specific measures identified.

Manual Surfaces Cleaning Spraying  
No specific measures identified.

Manual Surfaces Cleaning  
No specific measures identified.

Ad hoc manual application via trigger sprays, dipping, etc. Rolling, Brushing  
No specific measures identified.

Application of cleaning products in closed systems - Outdoor  
No specific measures identified.

Cleaning of medical devices  
No specific measures identified.

#### Conditions and measures related to personal protection and hygiene

### Section 3 - Exposure estimation and reference to its source

**Website:** : Not applicable.

#### Exposure estimation and reference to its source - Environment: 1: Use in cleaning agents

**Exposure assessment (environment):** : Not available.

**EXPOSURE ESTIMATION AND REFERENCE TO ITS SOURCE** : Hydrocarbon Block Method (Petrorisk)

#### Exposure estimation and reference to its source - Workers: 0: Use in cleaning agents

**Exposure assessment (human):** : Not available.

**EXPOSURE ESTIMATION AND REFERENCE TO ITS SOURCE** : The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

### Section 4 - GUIDANCE TO DU TO EVALUATE WHETHER HE WORKS INSIDE THE BOUNDARIES SET BY THE ES

<b>Environment</b>	: Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination. Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination. Further details on scaling and control technologies are provided in SPERC factsheet.
<b>Health</b>	: Available hazard data do not enable the derivation of a DNEL for dermal irritant effects. Risk management measures are based on qualitative risk characterisation. Available hazard data do not support the need for a DNEL to be established for other health effects. Users are advised to consider national Occupational Exposure Limits or other equivalent values. Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

### Additional good practice advice beyond the REACH CSA

**Environment** : Not available.

**Health** : Not available.

## Annex to the extended Safety Data Sheet (eSDS)

Industrial

### Identification of the substance or mixture

Product definition : UVCB  
Code : 32205  
Product name : ISOHEXANE

### Section 1 - Title

Short title of the exposure scenario : [931-254-9] Uses in Coatings - Industrial

List of use descriptors : **Identified use name:** Use in coatings - Industrial  
**Process Category:** PROC01, PROC02, PROC03, PROC04, PROC05, PROC07, PROC08a, PROC08b, PROC09, PROC10, PROC13, PROC15  
**Sector of end use:** SU03  
**Subsequent service life relevant for that use:** No.  
**Environmental Release Category:** ERC04, ESVOC SpERC 4.3a.v1  
**Market sector by type of chemical product:** Not applicable.  
**Article category related to subsequent service life:** Not applicable.

Environmental contributing scenarios : **Use in coatings**

Health Contributing scenarios : **Use in coatings**

Processes and activities covered by the exposure scenario : Covers the use in coatings (paints, inks, adhesives, etc) within closed or contained systems including incidental exposures during use (including materials receipt, storage, preparation and transfer from bulk and semi-bulk, application activities and film formation) and equipment cleaning, maintenance and associated laboratory activities.

### Section 2 - Exposure controls

**Contributing scenario controlling environmental exposure for 0: Use in coatings**

Amounts used : Fraction of EU tonnage used in region 0.1  
Regional use tonnage 1490  
Fraction of Regional tonnage used locally 1  
Annual site tonnage 1490  
Maximum daily site tonnage 14900

Frequency and duration of use : Continuous release - Emission days 100

Environment factors not influenced by risk management : Local freshwater dilution factor 10  
Local marine water dilution factor 100

Other conditions affecting environmental exposure : Release fraction to air from process (initial release prior to RMM) 0.98  
Release fraction to wastewater from process (initial release prior to RMM) 0.0007  
Release fraction to soil from process (initial release prior to RMM) 0

Technical conditions and measures at process level (source) to prevent release : Common practices vary across sites thus conservative process release estimates used.

Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil : Risk from environmental exposure is driven by freshwater sediment. - Prevent discharge of undissolved substance to or recover from onsite wastewater. - No wastewater treatment required.  
Treat air emission to provide a typical removal efficiency of 90  
Treat on-site wastewater (prior to receiving water discharge) to provide the required removal efficiency of  $\geq$  (%): 86  
If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of  $\geq$  (%): 0

Organisational measures to prevent/limit release from site : Do not apply industrial sludge to natural soils. Sewage sludge should be incinerated, contained or reclaimed.

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<b>Conditions and measures related to sewage treatment plant</b>	: Estimated substance removal from wastewater via on-site sewage treatment 96.9 Total efficiency of removal from wastewater after on-site and off-site (municipal treatment plant) RMMs 96.9 Maximum allowable site tonnage (M <sub>safe</sub> ) based on release following total wastewater treatment removal 67800 Assumed on-site sewage treatment plant flow 2000
<b>Conditions and measures related to external treatment of waste for disposal</b>	: External treatment and disposal of waste should comply with applicable local and/or national regulations.
<b>Conditions and measures related to external recovery of waste</b>	: External recovery and recycling of waste should comply with applicable local and/or national regulations.

### Contributing scenario controlling worker exposure for 0: Use in coatings

<b>Concentration of substance in mixture or article</b>	: Covers percentage substance in the product up to 100% (unless stated differently).
<b>Physical state</b>	: Liquid, vapour pressure > 10 kPa
<b>Amounts used</b>	: No Limit
<b>Frequency and duration of use</b>	: Covers daily exposures up to 8 hours
<b>Other conditions affecting workers exposure</b>	: Assumes use at not more than 20°C above ambient temperature, unless stated differently. - Assumes a good basic standard of occupational hygiene is implemented

#### Contributing scenarios - Operational conditions and risk management measures

##### General measures (skin irritants)

Avoid all skin contact with product, clean up contamination/spills as soon as they occur.

Wear gloves (tested to EN374) if hand contamination likely, wash off any skin contamination immediately.

Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop.

##### General exposures (closed systems)

No specific measures identified.

##### General exposures (closed systems) With sample collection Use in contained systems

No specific measures identified.

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)

No specific measures identified.

##### Mixing operations

No specific measures identified.

##### Film formation - air drying

No specific measures identified.

##### Preparation of material for application - Mixing operations (open systems)

No specific measures identified.

##### Spraying (automatic/robotic)

No specific measures identified.

##### Manual Spraying

No specific measures identified.

##### Material transfers

No specific measures identified.

Roller, spreader, flow application  
No specific measures identified.

Dipping, immersion and pouring  
No specific measures identified.

Laboratory activities  
No specific measures identified.

Material transfers Drum/batch transfers Transfer from/pouring from containers  
No specific measures identified.

Production of preparation or articles by tableting, compression, extrusion or pelletisation  
No specific measures identified.

**Conditions and measures related to personal protection and hygiene**

### Section 3 - Exposure estimation and reference to its source

**Website:** : Not applicable.

#### Exposure estimation and reference to its source - Environment: 1: Use in coatings

**Exposure assessment (environment):** : Not available.

**EXPOSURE ESTIMATION AND REFERENCE TO ITS SOURCE** : Hydrocarbon Block Method (Petrorisk)

#### Exposure estimation and reference to its source - Workers: 0: Use in coatings

**Exposure assessment (human):** : Not available.

**EXPOSURE ESTIMATION AND REFERENCE TO ITS SOURCE** : The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

### Section 4 - GUIDANCE TO DU TO EVALUATE WHETHER HE WORKS INSIDE THE BOUNDARIES SET BY THE ES

<b>Environment</b>	: Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination. Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination. Further details on scaling and control technologies are provided in SPERC factsheet.
<b>Health</b>	: Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented. Available hazard data do not enable the derivation of a DNEL for dermal irritant effects. Risk management measures are based on qualitative risk characterisation. Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

### Additional good practice advice beyond the REACH CSA

**Environment** : Not available.

**Health** : Not available.



## Annex to the extended Safety Data Sheet (eSDS)

Industrial

### Identification of the substance or mixture

Product definition : UVCB  
Code : 32205  
Product name : ISOHEXANE

### Section 1 - Title

Short title of the exposure scenario : [931-254-9] Uses in Coatings - Professional

List of use descriptors : **Identified use name:** Use in coatings - Professional  
**Process Category:** PROC01, PROC02, PROC03, PROC04, PROC05, PROC08a, PROC08b, PROC10, PROC11, PROC13, PROC15, PROC19  
**Sector of end use:** SU22  
**Subsequent service life relevant for that use:** No.  
**Environmental Release Category:** ERC08a, ERC08d, ESVOC SpERC 8.3b.v1  
**Market sector by type of chemical product:** Not applicable.  
**Article category related to subsequent service life:** Not applicable.

Environmental contributing scenarios : **Use in coatings**

Health Contributing scenarios : **Use in coatings**

**Processes and activities covered by the exposure scenario** : 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, brush, spreader by hand or similar methods, and film formation), and equipment cleaning, maintenance and associated laboratory activities.

### Section 2 - Exposure controls

**Contributing scenario controlling environmental exposure for 0: Use in coatings**

**Amounts used** : Fraction of EU tonnage used in region 0.1  
Regional use tonnage 126  
Fraction of Regional tonnage used locally 0.0005  
Annual site tonnage 0.063  
Maximum daily site tonnage 0.173

**Frequency and duration of use** : Continuous release - Emission days 365

**Environment factors not influenced by risk management** : Local freshwater dilution factor 10  
Local marine water dilution factor 100

**Other conditions affecting environmental exposure** : Release fraction to air from process (initial release prior to RMM) 0.98  
Release fraction to wastewater from process (initial release prior to RMM) 0.01  
Release fraction to soil from process (initial release prior to RMM) 0.01

**Technical conditions and measures at process level (source) to prevent release** : Common practices vary across sites thus conservative process release estimates used.

**Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil** : Risk from environmental exposure is driven by soil. - No wastewater treatment required.  
Treat air emission to provide a typical removal efficiency of 0  
Treat on-site wastewater (prior to receiving water discharge) to provide the required removal efficiency of  $\geq$  (%): 0  
If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of  $\geq$  (%): 0

**Organisational measures to prevent/limit release from site** : Do not apply industrial sludge to natural soils. - Sewage sludge should be incinerated, contained or reclaimed.

<b>Conditions and measures related to sewage treatment plant</b>	: Estimated substance removal from wastewater via on-site sewage treatment 96.9 Total efficiency of removal from wastewater after on-site and off-site (municipal treatment plant) RMMs 96.9 Maximum allowable site tonnage (M <sub>safe</sub> ) based on release following total wastewater treatment removal 763 Assumed on-site sewage treatment plant flow 2000
<b>Conditions and measures related to external treatment of waste for disposal</b>	: External treatment and disposal of waste should comply with applicable local and/or national regulations.
<b>Conditions and measures related to external recovery of waste</b>	: External recovery and recycling of waste should comply with applicable local and/or national regulations.

### Contributing scenario controlling worker exposure for 0: Use in coatings

<b>Concentration of substance in mixture or article</b>	: Covers percentage substance in the product up to 100% (unless stated differently).
<b>Physical state</b>	: Liquid, vapour pressure > 10 kPa
<b>Amounts used</b>	: No Limit
<b>Frequency and duration of use</b>	: Covers daily exposures up to 8 hours
<b>Other conditions affecting workers exposure</b>	: Assumes use at not more than 20°C above ambient temperature, unless stated differently. - Assumes a good basic standard of occupational hygiene is implemented

### Contributing scenarios - Operational conditions and risk management measures

General measures (skin irritants)  
Avoid all skin contact with product, clean up contamination/spills as soon as they occur.  
Wear gloves (tested to EN374) if hand contamination likely, wash off any skin contamination immediately.  
Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop.

General exposures (closed systems)  
No specific measures identified.

Filling/preparation of equipment from drums or containers  
No specific measures identified.

General exposures (closed systems) Use in contained systems  
No specific measures identified.

Preparation of material for application  
No specific measures identified.

Film formation - air drying - Outdoor  
No specific measures identified.

Film formation - air drying - Indoor  
No specific measures identified.

Preparation of material for application - Indoor  
No specific measures identified.

Preparation of material for application - Outdoor  
No specific measures identified.

Material transfers Drum/batch transfers  
No specific measures identified.

Roller, spreader, flow application - Indoor  
No specific measures identified.

Roller, spreader, flow application - Outdoor  
No specific measures identified.

Manual Spraying - Indoor  
No specific measures identified.

Manual Spraying - Outdoor  
No specific measures identified.

Dipping, immersion and pouring - Indoor  
No specific measures identified.

Dipping, immersion and pouring - Outdoor  
No specific measures identified.

Laboratory activities  
No specific measures identified.

Hand application - fingerpaints, pastels, adhesives - Indoor  
No specific measures identified.

Hand application - fingerpaints, pastels, adhesives - Outdoor  
No specific measures identified.

#### Conditions and measures related to personal protection and hygiene

### Section 3 - Exposure estimation and reference to its source

**Website:** : Not applicable.

#### Exposure estimation and reference to its source - Environment: 1: Use in coatings

**Exposure assessment (environment):** : Not available.

**EXPOSURE ESTIMATION AND REFERENCE TO ITS SOURCE** : Hydrocarbon Block Method (Petrorisk)

#### Exposure estimation and reference to its source - Workers: 0: Use in coatings

**Exposure assessment (human):** : Not available.

**EXPOSURE ESTIMATION AND REFERENCE TO ITS SOURCE** : The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

### Section 4 - GUIDANCE TO DU TO EVALUATE WHETHER HE WORKS INSIDE THE BOUNDARIES SET BY THE ES

**Environment** : Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination. Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination. Further details on scaling and control technologies are provided in SPERC factsheet.

**Health** : Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented.  
- Available hazard data do not enable the derivation of a DNEL for dermal irritant effects.  
- Risk management measures are based on qualitative risk characterisation.  
- Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

**Additional good practice advice beyond the REACH CSA****Environment** : Not available.**Health** : Not available.

## Annex to the extended Safety Data Sheet (eSDS)

Industrial

### Identification of the substance or mixture

Product definition : UVCB  
Code : 32212  
Product name : HEPTANE

### Section 1 - Title

Short title of the exposure scenario : [927-510-4] Use in Cleaning Agent - Industrial

List of use descriptors : **Identified use name:** Use in cleaning agents - Industrial  
**Process Category:** PROC03, PROC04, PROC07, PROC08a, PROC08b, PROC10, PROC13, PROC02  
**Sector of end use:** SU03  
**Subsequent service life relevant for that use:** No.  
**Environmental Release Category:** ERC04, ESVOC SpERC 4.4a.v1  
**Market sector by type of chemical product:** Not applicable.  
**Article category related to subsequent service life:** Not applicable.

Environmental contributing scenarios : **Use in cleaning agents**

Health Contributing scenarios : **Use in cleaning agents**

Processes and activities covered by the exposure scenario : Covers the use as a component of cleaning products including transfer from storage, pouring/unloading from drums or containers. Exposures during mixing/diluting in the preparatory phase and cleaning activities (including spraying, brushing, dipping, wiping, automated and by hand), related equipment cleaning and maintenance.

### Section 2 - Exposure controls

#### Contributing scenario controlling environmental exposure for 0: Use in cleaning agents

Product characteristics : Substance is complex UVCB. - Predominantly hydrophobic

Amounts used : Fraction of EU tonnage used in region 0.1  
Regional use tonnage 74  
Fraction of Regional tonnage used locally 1  
Annual site tonnage 74  
Maximum daily site tonnage 3700

Frequency and duration of use : Continuous release - Emission days 20

Environment factors not influenced by risk management : Local freshwater dilution factor 10  
Local marine water dilution factor 100

Other conditions affecting environmental exposure : Release fraction to air from process (initial release prior to RMM) 1.0  
Release fraction to wastewater from process (initial release prior to RMM) 0.000003  
Release fraction to soil from process (initial release prior to RMM) 0

Technical conditions and measures at process level (source) to prevent release : Common practices vary across sites thus conservative process release estimates used.

Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil : Risk from environmental exposure is driven by freshwater sediment. - No wastewater treatment required. - Prevent discharge of undissolved substance to or recover from onsite wastewater.  
Treat air emission to provide a typical removal efficiency of 70  
Treat on-site wastewater (prior to receiving water discharge) to provide the required removal efficiency of >= (%): 0  
If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of >= (%): 0

<b>Organisational measures to prevent/limit release from site</b>	: Do not apply industrial sludge to natural soils. -Sewage sludge should be incinerated, contained or reclaimed.Sewage sludge should be incinerated, contained or reclaimed.
<b>Conditions and measures related to sewage treatment plant</b>	: Estimated substance removal from wastewater via on-site sewage treatment 96.2 Total efficiency of removal from wastewater after on-site and off-site (municipal treatment plant) RMMs 96.2 Maximum allowable site tonnage ( $M_{\text{Safe}}$ ) based on release following total wastewater treatment removal 14000000 Assumed on-site sewage treatment plant flow 2000
<b>Conditions and measures related to external treatment of waste for disposal</b>	: External treatment and disposal of waste should comply with applicable local and/or national regulations.
<b>Conditions and measures related to external recovery of waste</b>	: External recovery and recycling of waste should comply with applicable local and/or national regulations.

### Contributing scenario controlling worker exposure for 0: Use in cleaning agents

<b>Concentration of substance in mixture or article</b>	: Covers percentage substance in the product up to 100% (unless stated differently).
<b>Physical state</b>	: Liquid, vapour pressure 0.5 - 10 kPa at Standard Temperature and Pressure
<b>Amounts used</b>	: No Limit
<b>Frequency and duration of use</b>	: Covers daily exposures up to 8 hours
<b>Other conditions affecting workers exposure</b>	: Assumes a good basic standard of occupational hygiene is implemented - Assumes use at not more than 20°C above ambient temperature, unless stated differently.

### Contributing scenarios - Operational conditions and risk management measures

Bulk transfers

No specific measures identified.

Automatic processing with: (semi) Closed system - Use in contained systems  
No specific measures identified.

Automatic processing with: (semi) Drum/batch transfers  
No specific measures identified.

Application of cleaning products in closed systems  
No specific measures identified.

Filling/preparation of equipment from drums or containers  
No specific measures identified.

Use in contained batch processes  
No specific measures identified.

Degreasing small objects in cleaning station  
No specific measures identified.

Cleaning with low-pressure washers  
No specific measures identified.

Cleaning with high-pressure washers  
No specific measures identified.

Manual Surfaces Cleaning  
No specific measures identified.

### Conditions and measures related to personal protection and hygiene

**Section 3 - Exposure estimation and reference to its source**

**Website:** : Not applicable.

**Exposure estimation and reference to its source - Environment: 1: Use in cleaning agents**

**Exposure assessment (environment):** : Not available.

**EXPOSURE ESTIMATION AND REFERENCE TO ITS SOURCE** : Hydrocarbon Block Method (Petrorisk)

**Exposure estimation and reference to its source - Workers: 0: Use in cleaning agents**

**Exposure assessment (human):** : Not available.

**EXPOSURE ESTIMATION AND REFERENCE TO ITS SOURCE** : Estimated workplace exposures are not expected to exceed DNELs when the identified risk management measures are adopted.

**Section 4 - GUIDANCE TO DU TO EVALUATE WHETHER HE WORKS INSIDE THE BOUNDARIES SET BY THE ES**

**Environment** : Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination. Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination. Further details on scaling and control technologies are provided in SPERC factsheet.

**Health** : Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

**Additional good practice advice beyond the REACH CSA**

**Environment** : Not available.

**Health** : Not available.

## Annex to the extended Safety Data Sheet (eSDS)

Industrial

### Identification of the substance or mixture

Product definition : UVCB  
Code : 32212  
Product name : HEPTANE

### Section 1 - Title

Short title of the exposure scenario : [927-510-4] Use in Cleaning Agents - Professional

List of use descriptors : **Identified use name:** Use in cleaning agents - Professional  
**Process Category:** PROC02, PROC03, PROC04, PROC08a, PROC08b, PROC10, PROC11, PROC13  
**Sector of end use:** SU22  
**Subsequent service life relevant for that use:** No.  
**Environmental Release Category:** ERC08a, ERC08d, ESVOC SpERC 8.4b.v1  
**Market sector by type of chemical product:** Not applicable.  
**Article category related to subsequent service life:** Not applicable.

Environmental contributing scenarios : **Use in cleaning agents**

Health Contributing scenarios : **Use in cleaning agents**

Processes and activities covered by the exposure scenario : Covers the use as a component of cleaning products including pouring/unloading from drums or containers; and exposures during mixing/diluting in the preparatory phase and cleaning activities (including spraying, brushing, dipping, wiping automated and by hand).

### Section 2 - Exposure controls

#### Contributing scenario controlling environmental exposure for 0: Use in cleaning agents

Product characteristics : Substance is complex UVCB. - Predominantly hydrophobic

Amounts used : Fraction of EU tonnage used in region 0.1  
Regional use tonnage 23  
Fraction of Regional tonnage used locally 0.0005  
Annual site tonnage 0.012  
Maximum daily site tonnage 0.032

Frequency and duration of use : Continuous release - Emission days 365

Environment factors not influenced by risk management : Local freshwater dilution factor 10  
Local marine water dilution factor 100

Other conditions affecting environmental exposure : Release fraction to air from process (initial release prior to RMM) 0.02  
Release fraction to wastewater from process (initial release prior to RMM) 0.000001  
Release fraction to soil from process (initial release prior to RMM) 0

Technical conditions and measures at process level (source) to prevent release : Common practices vary across sites thus conservative process release estimates used.

Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil : Risk from environmental exposure is driven by freshwater.  
No wastewater treatment required.  
Treat air emission to provide a typical removal efficiency of N/A  
Treat on-site wastewater (prior to receiving water discharge) to provide the required removal efficiency of >= (%): 0  
If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of >= (%): 0

Organisational measures to prevent/limit release from site : Do not apply industrial sludge to natural soils. Sewage sludge should be incinerated, contained or reclaimed.

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<b>Conditions and measures related to sewage treatment plant</b>	: Estimated substance removal from wastewater via on-site sewage treatment 96.2 Total efficiency of removal from wastewater after on-site and off-site (municipal treatment plant) RMMs 96.2 Maximum allowable site tonnage (M <sub>safe</sub> ) based on release following total wastewater treatment removal 170 Assumed on-site sewage treatment plant flow 2000
<b>Conditions and measures related to external treatment of waste for disposal</b>	: External treatment and disposal of waste should comply with applicable local and/or national regulations.
<b>Conditions and measures related to external recovery of waste</b>	: External recovery and recycling of waste should comply with applicable local and/or national regulations.

#### Contributing scenario controlling worker exposure for 0: Use in cleaning agents

<b>Concentration of substance in mixture or article</b>	: Covers percentage substance in the product up to 100% (unless stated differently).
<b>Physical state</b>	: Liquid, vapour pressure 0.5 - 10 kPa at Standard Temperature and Pressure
<b>Amounts used</b>	: No Limit
<b>Frequency and duration of use</b>	: Covers daily exposures up to 8 hours
<b>Other conditions affecting workers exposure</b>	: Assumes use at not more than 20°C above ambient temperature, unless stated differently. - Assumes a good basic standard of occupational hygiene is implemented

#### Contributing scenarios - Operational conditions and risk management measures

Filling/preparation of equipment from drums or containers  
No other specific measures identified.

Automatic processing with: (semi) Closed system - Use in contained systems  
No other specific measures identified.

Automatic processing with: (semi) Closed system - Drum/batch transfers - Use in contained systems  
No other specific measures identified.

Semi-automated process. (e.g. Semi-automatic application of floor care and maintenance products)  
No other specific measures identified.

Filling/preparation of equipment from drums or containers  
No other specific measures identified.

Manual Surfaces Cleaning Dipping, immersion and pouring  
No other specific measures identified.

Cleaning with low-pressure washers - Rolling, Brushing No spraying  
No other specific measures identified.

Cleaning with high-pressure washers - Spraying Indoor  
Provide enhanced general ventilation by mechanical means.

Cleaning with high-pressure washers - Spraying Outdoor  
Ensure operation is undertaken outdoors.

Manual Surfaces Cleaning Spraying  
No other specific measures identified.

Ad hoc manual application via trigger sprays, dipping, etc. Rolling, Brushing  
No other specific measures identified.

Application of cleaning products in closed systems Outdoor  
No other specific measures identified.

Cleaning of medical devices  
No other specific measures identified.

**Conditions and measures related to personal protection and hygiene**

### Section 3 - Exposure estimation and reference to its source

**Website:** : Not applicable.

#### Exposure estimation and reference to its source - Environment: 1: Use in cleaning agents

**Exposure assessment (environment):** : Not available.

**EXPOSURE ESTIMATION AND REFERENCE TO ITS SOURCE** : Hydrocarbon Block Method (Petrorisk)

#### Exposure estimation and reference to its source - Workers: 0: Use in cleaning agents

**Exposure assessment (human):** : Not available.

**EXPOSURE ESTIMATION AND REFERENCE TO ITS SOURCE** : Estimated workplace exposures are not expected to exceed DNELs when the identified risk management measures are adopted.

### Section 4 - GUIDANCE TO DU TO EVALUATE WHETHER HE WORKS INSIDE THE BOUNDARIES SET BY THE ES

<b>Environment</b>	: Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination. Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination. Further details on scaling and control technologies are provided in SPERC factsheet.
<b>Health</b>	: Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

### Additional good practice advice beyond the REACH CSA

<b>Environment</b>	: Not available.
<b>Health</b>	: Not available.

## Annex to the extended Safety Data Sheet (eSDS)

Industrial

### Identification of the substance or mixture

Product definition : UVCB  
Code : 32212  
Product name : HEPTANE

### Section 1 - Title

Short title of the exposure scenario : [927-510-4] Uses in Coatings - Profesional

List of use descriptors : **Identified use name:** Heptano - Use in coatings-Professional  
**Process Category:** PROC01, PROC02, PROC03, PROC04, PROC05, PROC08a, PROC08b, PROC10, PROC11, PROC13, PROC15, PROC19  
**Sector of end use:** SU22  
**Subsequent service life relevant for that use:** No.  
**Environmental Release Category:** ERC08a, ERC08d, ESVOC SpERC 8.3b.v1  
**Market sector by type of chemical product:** Not applicable.  
**Article category related to subsequent service life:** Not applicable.

Environmental contributing scenarios : **Use in coatings**

Health Contributing scenarios : **Use in coatings**

Processes and activities covered by the exposure scenario : 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, brush, spreader by hand or similar methods, and film formation), and equipment cleaning, maintenance and associated laboratory activities.

### Section 2 - Exposure controls

#### Contributing scenario controlling environmental exposure for 0: Use in coatings

Product characteristics : Substance is complex UVCB. Predominantly hydrophobic

Amounts used : Fraction of EU tonnage used in region 0.1  
Regional use tonnage 300  
Fraction of Regional tonnage used locally 0.0005  
Annual site tonnage 0.15  
Maximum daily site tonnage 0.41

Frequency and duration of use : Continuous release Emission days 365

Environment factors not influenced by risk management : Local freshwater dilution factor 10  
Local marine water dilution factor 100

Other conditions affecting environmental exposure : Release fraction to air from wide dispersive use (regional only) 0.98  
Release fraction to wastewater from wide dispersive use 0.01  
Release fraction to soil from wide dispersive use (regional only) 0.01

Technical conditions and measures at process level (source) to prevent release : Common practices vary across sites thus conservative process release estimates used.

Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil : Risk from environmental exposure is driven by humans via indirect exposure (primarily inhalation).  
No wastewater treatment required.  
Treat air emission to provide a typical removal efficiency of N/A  
Treat on-site wastewater (prior to receiving water discharge) to provide the required removal efficiency of  $\geq$  (%): 0  
If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of  $\geq$  (%): 0

<b>Organisational measures to prevent/limit release from site</b>	: Do not apply industrial sludge to natural soils. Sewage sludge should be incinerated, contained or reclaimed.
<b>Conditions and measures related to sewage treatment plant</b>	: Risk from environmental exposure is driven by freshwater. 96.2 Total efficiency of removal from wastewater after on-site and off-site (municipal treatment plant) RMMs 96.2 Maximum allowable site tonnage ( $M_{\text{Safe}}$ ) based on release following total wastewater treatment removal 1500 Assumed on-site sewage treatment plant flow 2000
<b>Conditions and measures related to external treatment of waste for disposal</b>	: External treatment and disposal of waste should comply with applicable local and/or national regulations.
<b>Conditions and measures related to external recovery of waste</b>	: External recovery and recycling of waste should comply with applicable local and/or national regulations.

### Contributing scenario controlling worker exposure for 0: Use in coatings

<b>Concentration of substance in mixture or article</b>	: Covers percentage substance in the product up to 100% (unless stated differently).
<b>Physical state</b>	: Liquid, vapour pressure 0.5 - 10 kPa at Standard Temperature and Pressure
<b>Amounts used</b>	: Not applicable.
<b>Frequency and duration of use</b>	: Covers daily exposures up to 8 hours
<b>Human factors not influenced by risk management</b>	: Not applicable.
<b>Other conditions affecting workers exposure</b>	: Assumes use at not more than 20°C above ambient temperature, unless stated differently. - Assumes a good basic standard of occupational hygiene is implemented

### Contributing scenarios - Operational conditions and risk management measures

General exposures (closed systems)  
No other specific measures identified.

General exposures (closed systems) - Use in contained systems  
No other specific measures identified.

Filling/preparation of equipment from drums or containers  
No other specific measures identified.

Preparation of material for application  
No other specific measures identified.

Film formation - air drying - Indoor  
No other specific measures identified.

Film formation - air drying - Outdoor  
No other specific measures identified.

Preparation of material for application - Indoor  
No other specific measures identified.

Preparation of material for application - Outdoor  
No other specific measures identified.

Material transfers - Drum/batch transfers  
No other specific measures identified.

Roller, spreader, flow application - Indoor  
No other specific measures identified.

Roller, spreader, flow application - Outdoor

No other specific measures identified.

Manual Spraying or fogging Indoor  
Carry out in a vented booth or extracted enclosure.

Manual Spraying Outdoor  
Ensure operation is undertaken outdoors.

Dipping, immersion and pouring Indoor  
No other specific measures identified.

Dipping, immersion and pouring Outdoor  
No other specific measures identified.

Laboratory activities

No other specific measures identified.  
Hand application - fingerpaints, pastels, adhesives - Indoor  
No other specific measures identified.

#### Conditions and measures related to personal protection and hygiene

### Section 3 - Exposure estimation and reference to its source

**Website:** : Not applicable.

#### Exposure estimation and reference to its source - Environment: 1: Use in coatings

**Exposure assessment (environment):** : Not available.

**EXPOSURE ESTIMATION AND REFERENCE TO ITS SOURCE** : Hydrocarbon Block Method (Petrorisk)

#### Exposure estimation and reference to its source - Workers: 0: Use in coatings

**Exposure assessment (human):** : Not available.

**EXPOSURE ESTIMATION AND REFERENCE TO ITS SOURCE** : Estimated workplace exposures are not expected to exceed DNELs when the identified risk management measures are adopted.

### Section 4 - GUIDANCE TO DU TO EVALUATE WHETHER HE WORKS INSIDE THE BOUNDARIES SET BY THE ES

**Environment** : Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination. Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination. Further details on scaling and control technologies are provided in SPERC factsheet.

**Health** : Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

### Additional good practice advice beyond the REACH CSA

**Environment** : Not available.

**Health** : Not available.

## Annex to the extended Safety Data Sheet (eSDS)

Industrial

### Identification of the substance or mixture

**Product definition** : Mono-constituent substance  
**Code** : 35025  
**Product name** : ACETONE

### Section 1 - Title

**Short title of the exposure scenario** : [200-662-2] Uses in Cleaning Agents - Industrial

**List of use descriptors** : **Identified use name:** Use in cleaning agents - Industrial  
**Process Category:** PROC01, PROC02, PROC03, PROC04, PROC05, PROC07, PROC08a, PROC08b, PROC09, PROC10, PROC13, PROC19  
**Sector of end use:** SU03  
**Subsequent service life relevant for that use:** No.  
**Environmental Release Category:** ERC04  
**Market sector by type of chemical product:** Not applicable.  
**Article category related to subsequent service life:** Not applicable.

**Environmental contributing scenarios** : **Use in cleaning agents**

**Health Contributing scenarios** : **Use in cleaning agents**

**Processes and activities covered by the exposure scenario** : 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.

### Section 2 - Exposure controls

#### **Contributing scenario controlling environmental exposure for 0: Use in cleaning agents**

**Product characteristics** : Substance is a unique structure., Ketone., Readily biodegradable  
**Amounts used** : Annual site tonnage 641  
**Frequency and duration of use** : Emission days 360  
**Other conditions affecting environmental exposure** : Indoor or outdoor use  
**Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil** : Common practices vary across sites thus conservative process release estimates used.  
**Organizational measures to prevent/limit release from site** : Common practices vary across sites thus conservative process release estimates used.  
**Conditions and measures related to external treatment of waste for disposal** : External treatment and disposal of waste should comply with applicable local and/or national regulations.  
**Conditions and measures related to external recovery of waste** : External treatment and disposal of waste should comply with applicable local and/or national regulations.

**Date of issue/Date of revision** : 09/03/2016

**Contributing scenario controlling worker exposure for 0: Use in cleaning agents**

- Concentration of substance in mixture or article** : Covers percentage substance in the product up to 100% (unless stated differently).
- Physical state** : Liquid, vapour pressure > 10 kPa
- Frequency and duration of use** : Covers daily exposures up to 8 hours
- Other conditions affecting workers exposure** : Assumes a good basic standard of occupational hygiene is implemented

**Contributing scenarios - Operational conditions and risk management measures**

General exposures (Eye irritation)  
Use suitable eye protection.

General exposures (skin Irritant)  
Wear chemical-resistant gloves (tested to EN374) in combination with 'basic' employee training.

General exposures (closed systems)  
Sample via a closed loop or other system to avoid exposure. Handle substance within a closed system.

Process sampling Open systems  
No specific measures identified.

Mixing operations (open systems)  
No specific measures identified.

Spraying/fogging by machine application  
Ensure material transfers are under containment or extract ventilation.

Spraying/fogging by machine application  
Ensure operation is undertaken outdoors.

Spraying/fogging by machine application  
Wear a respirator conforming to EN140 with type A/P2 filter or better.

Bulk transfers Non-dedicated facility  
No specific measures identified.

Bulk transfers Dedicated facility  
No specific measures identified.

Small package filling  
No specific measures identified.

Rolling, Brushing  
No specific measures identified.

Equipment cleaning and maintenance  
No specific measures identified.

Dipping, immersion and pouring  
No specific measures identified.

Hand application - fingerpaints, pastels, adhesives  
Wear suitable gloves tested to EN374.

**Conditions and measures related to personal protection and hygiene**

**Section 3 - Exposure estimation and reference to its source**

**Website:** : Not applicable.

**Exposure estimation and reference to its source - Environment: 1: Use in cleaning agents**

**Exposure assessment (environment):** : Not available.

**EXPOSURE ESTIMATION AND REFERENCE TO ITS SOURCE** : Not available.

**Exposure estimation and reference to its source - Workers: 0: Use in cleaning agents**

**Exposure assessment (human):** : Not available.

**EXPOSURE ESTIMATION AND REFERENCE TO ITS SOURCE** : Not available.

**Section 4 - GUIDANCE TO DU TO EVALUATE WHETHER HE WORKS INSIDE THE BOUNDARIES SET BY THE ES**

**Environment** : Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

**Health** : Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

**Additional good practice advice beyond the REACH CSA**

**Environment** : Not available.

**Health** : Not available.



## Annex to the extended Safety Data Sheet (eSDS)

Industrial

### Identification of the substance or mixture

**Product definition** : Mono-constituent substance  
**Code** : 35025  
**Product name** : ACETONE

### Section 1 - Title

**Short title of the exposure scenario** : [200-662-2] Uses in Cleaning Agents - Professional

**List of use descriptors** : **Identified use name:** Use in cleaning agents - Professional  
**Process Category:** PROC01, PROC02, PROC03, PROC04, PROC05, PROC08a, PROC08b, PROC09, PROC10, PROC11, PROC15, PROC19  
**Sector of end use:** SU22  
**Subsequent service life relevant for that use:** No.  
**Environmental Release Category:** ERC08a, ERC08d  
**Market sector by type of chemical product:** Not applicable.  
**Article category related to subsequent service life:** Not applicable.

**Environmental contributing scenarios** : **Use in cleaning agents**

**Health Contributing scenarios** : **Use in cleaning agents**

**Processes and activities covered by the exposure scenario** : 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.

### Section 2 - Exposure controls

#### Contributing scenario controlling environmental exposure for 0: Use in cleaning agents

**Product characteristics** : Substance is a unique structure., Ketone., Readily biodegradable  
**Amounts used** : Annual site tonnage 641  
**Frequency and duration of use** : Emission days 360  
**Other conditions affecting environmental exposure** : Indoor or outdoor use  
**Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil** : Common practices vary across sites thus conservative process release estimates used.  
**Organizational measures to prevent/limit release from site** : Common practices vary across sites thus conservative process release estimates used.  
**Conditions and measures related to external treatment of waste for disposal** : External treatment and disposal of waste should comply with applicable local and/or national regulations.  
**Conditions and measures related to external recovery of waste** : External treatment and disposal of waste should comply with applicable local and/or national regulations.

**Date of issue/Date of revision** : 09/03/2016

**Contributing scenario controlling worker exposure for 0: Use in cleaning agents**

<b>Concentration of substance in mixture or article</b>	: Covers percentage substance in the product up to 100% (unless stated differently).
<b>Physical state</b>	: Liquid, vapour pressure > 10 kPa
<b>Frequency and duration of use</b>	: Covers daily exposures up to 8 hours
<b>Other conditions affecting workers exposure</b>	: Assumes a good basic standard of occupational hygiene is implemented

**Contributing scenarios - Operational conditions and risk management measures**

General exposures (Eye irritation)  
Use suitable eye protection.

General exposures (skin Irritant)  
Wear chemical-resistant gloves (tested to EN374) in combination with 'basic' employee training.

General exposures (closed systems)  
Sample via a closed loop or other system to avoid exposure. Handle substance within a closed system.

Process sampling  
No specific measures identified.

Mixing operations (open systems) With local exhaust ventilation  
Ensure material transfers are under containment or extract ventilation.

Mixing operations (open systems)  
Ensure operation is undertaken outdoors.

Mixing operations (open systems)  
Avoid carrying out activities involving exposure for more than 4 hours.

Bulk transfers Non-dedicated facility With local exhaust ventilation  
Ensure material transfers are under containment or extract ventilation.

Bulk transfers Non-dedicated facility  
Ensure operation is undertaken outdoors.

Bulk transfers Non-dedicated facility  
Avoid carrying out activities involving exposure for more than 4 hours.

Bulk transfers Dedicated facility  
No specific measures identified.

Small package filling Dedicated facility  
No specific measures identified.

Equipment cleaning and maintenance  
Ensure material transfers are under containment or extract ventilation.

Equipment cleaning and maintenance  
Limit the substance content in the product to 25%.

Equipment cleaning and maintenance  
Avoid carrying out operation for more than 4 hours.

Spraying or fogging With local exhaust ventilation  
Ensure material transfers are under containment or extract ventilation.

Spraying or fogging  
Limit the substance content in the product to 25%. Ensure operation is undertaken outdoors. Avoid carrying out activities involving exposure for more than 4 hours.

Spraying or fogging

Avoid carrying out activities involving exposure for more than 1 hour.

Spraying or fogging

Wear a respirator conforming to EN140 with type A/P2 filter or better.

Dipping, immersion and pouring

No specific measures identified.

Hand application - fingerpaints, pastels, adhesives

Limit the substance content in the product to 25%. Wear suitable gloves tested to EN374.

Hand application - fingerpaints, pastels, adhesives

Avoid carrying out operation for more than 1 hour.

#### Conditions and measures related to personal protection and hygiene

### Section 3 - Exposure estimation and reference to its source

**Website:** : Not applicable.

#### Exposure estimation and reference to its source - Environment: 1: Use in cleaning agents

**Exposure assessment (environment):** : Not available.

**EXPOSURE ESTIMATION AND REFERENCE TO ITS SOURCE** : Not available.

#### Exposure estimation and reference to its source - Workers: 0: Use in cleaning agents

**Exposure assessment (human):** : Not available.

**EXPOSURE ESTIMATION AND REFERENCE TO ITS SOURCE** : Not available.

### Section 4 - GUIDANCE TO DU TO EVALUATE WHETHER HE WORKS INSIDE THE BOUNDARIES SET BY THE ES

**Environment** : Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

**Health** : Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

### Additional good practice advice beyond the REACH CSA

**Environment** : Not available.

**Health** : Not available.

## Annex to the extended Safety Data Sheet (eSDS)

Industrial

### Identification of the substance or mixture

**Product definition** : Mono-constituent substance  
**Code** : 35025  
**Product name** : ACETONE

### Section 1 - Title

**Short title of the exposure scenario** : [200-662-2] Uses in Coatings - Industrial

**List of use descriptors** : **Identified use name:** Use in coatings - Industrial  
**Process Category:** PROC01, PROC02, PROC03, PROC04, PROC05, PROC07, PROC08a, PROC08b, PROC09, PROC10, PROC13, PROC15, PROC19  
**Sector of end use:** SU03  
**Subsequent service life relevant for that use:** No.  
**Environmental Release Category:** ERC04  
**Market sector by type of chemical product:** Not applicable.  
**Article category related to subsequent service life:** Not applicable.

**Environmental contributing scenarios** : **Coatings**

**Health Contributing scenarios** : **Coatings**

**Processes and activities covered by the exposure scenario** : 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.

### Section 2 - Exposure controls

#### Contributing scenario controlling environmental exposure for 0: Coatings

**Product characteristics** : Substance is a unique structure., Ketone., Readily biodegradable  
**Amounts used** : Annual site tonnage 641  
**Frequency and duration of use** : Emission days 360  
**Other conditions affecting environmental exposure** : Indoor or outdoor use  
**Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil** : Common practices vary across sites thus conservative process release estimates used.  
**Organizational measures to prevent/limit release from site** : Common practices vary across sites thus conservative process release estimates used.  
**Conditions and measures related to external treatment of waste for disposal** : External treatment and disposal of waste should comply with applicable local and/or national regulations.  
**Conditions and measures related to external recovery of waste** : External treatment and disposal of waste should comply with applicable local and/or national regulations.

**Date of issue/Date of revision** : 09/03/2016

**Contributing scenario controlling worker exposure for 0: Coatings**

<b>Concentration of substance in mixture or article</b>	: Covers percentage substance in the product up to 100% (unless stated differently).
<b>Physical state</b>	: Liquid, vapour pressure > 10 kPa
<b>Frequency and duration of use</b>	: Covers daily exposures up to 8 hours
<b>Other conditions affecting workers exposure</b>	: Assumes a good basic standard of occupational hygiene is implemented

**Contributing scenarios - Operational conditions and risk management measures**

General exposures (Eye irritation)  
Use suitable eye protection.

General exposures (skin Irritant)  
Wear chemical-resistant gloves (tested to EN374) in combination with 'basic' employee training.

General exposures (closed systems)  
Sample via a closed loop or other system to avoid exposure. Handle substance within a closed system.

Process sampling Open systems  
No specific measures identified.

Mixing operations (open systems)  
No specific measures identified.

Spraying/fogging by machine application  
Ensure material transfers are under containment or extract ventilation.

Spraying/fogging by machine application  
Ensure operation is undertaken outdoors.

Spraying/fogging by machine application  
Wear a respirator conforming to EN140 with type A/P2 filter or better.

Bulk transfers Non-dedicated facility  
No specific measures identified.

Bulk transfers Dedicated facility  
No specific measures identified.

Small package filling  
No specific measures identified.

Rolling, Brushing  
No specific measures identified.

Equipment cleaning and maintenance  
No specific measures identified.

Dipping, immersion and pouring  
No specific measures identified.

Hand application - fingerpaints, pastels, adhesives  
Wear suitable gloves tested to EN374.

Laboratory activities  
No specific measures identified.

**Conditions and measures related to personal protection and hygiene**

**Section 3 - Exposure estimation and reference to its source**

**Website:** : Not applicable.

**Exposure estimation and reference to its source - Environment: 1: Coatings**

**Exposure assessment (environment):** : Not available.

**EXPOSURE ESTIMATION AND REFERENCE TO ITS SOURCE** : Not available.

**Exposure estimation and reference to its source - Workers: 0: Coatings**

**Exposure assessment (human):** : Not available.

**EXPOSURE ESTIMATION AND REFERENCE TO ITS SOURCE** : Not available.

**Section 4 - GUIDANCE TO DU TO EVALUATE WHETHER HE WORKS INSIDE THE BOUNDARIES SET BY THE ES**

**Environment** : Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

**Health** : Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

**Additional good practice advice beyond the REACH CSA**

**Environment** : Not available.

**Health** : Not available.

## Annex to the extended Safety Data Sheet (eSDS)

Industrial

### Identification of the substance or mixture

**Product definition** : Mono-constituent substance  
**Code** : 35025  
**Product name** : ACETONE

### Section 1 - Title

**Short title of the exposure scenario** : [200-662-2] Uses in Coatings - Professional

**List of use descriptors** : **Identified use name:** Use in coatings - Professional  
**Process Category:** PROC01, PROC02, PROC03, PROC04, PROC05, PROC08a, PROC08b, PROC09, PROC10, PROC11, PROC13, PROC15, PROC19  
**Sector of end use:** SU22  
**Subsequent service life relevant for that use:** No.  
**Environmental Release Category:** ERC08a, ERC08b, ERC08d, ERC08f  
**Market sector by type of chemical product:** Not applicable.  
**Article category related to subsequent service life:** Not applicable.

**Environmental contributing scenarios** : **Use in coatings**

**Health Contributing scenarios** : **Use in coatings**

**Processes and activities covered by the exposure scenario** : 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.

### Section 2 - Exposure controls

#### Contributing scenario controlling environmental exposure for 0: Use in coatings

**Product characteristics** : Substance is a unique structure., Ketone., Readily biodegradable  
**Amounts used** : Annual site tonnage 641  
**Frequency and duration of use** : Emission days 360  
**Other conditions affecting environmental exposure** : Indoor or outdoor use  
**Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil** : Common practices vary across sites thus conservative process release estimates used.  
**Organizational measures to prevent/limit release from site** : Common practices vary across sites thus conservative process release estimates used.  
**Conditions and measures related to external treatment of waste for disposal** : External treatment and disposal of waste should comply with applicable local and/or national regulations.  
**Conditions and measures related to external recovery of waste** : External treatment and disposal of waste should comply with applicable local and/or national regulations.

**Date of issue/Date of revision** : 09/03/2016

**Contributing scenario controlling worker exposure for 0: Use in coatings**

<b>Concentration of substance in mixture or article</b>	: Covers percentage substance in the product up to 100% (unless stated differently).
<b>Physical state</b>	: Liquid, vapour pressure > 10 kPa
<b>Frequency and duration of use</b>	: Covers daily exposures up to 8 hours
<b>Other conditions affecting workers exposure</b>	: Assumes a good basic standard of occupational hygiene is implemented

**Contributing scenarios - Operational conditions and risk management measures**

General exposures (Eye irritation)  
Use suitable eye protection.

General exposures (skin Irritant)  
Wear chemical-resistant gloves (tested to EN374) in combination with 'basic' employee training.

General exposures (closed systems)  
Sample via a closed loop or other system to avoid exposure. Handle substance within a closed system.

Process sampling  
No specific measures identified.

Mixing operations (open systems) With local exhaust ventilation  
Ensure material transfers are under containment or extract ventilation.

Mixing operations (open systems)  
Ensure operation is undertaken outdoors.

Mixing operations (open systems)  
Avoid carrying out activities involving exposure for more than 4 hours.

Bulk transfers Non-dedicated facility With local exhaust ventilation  
Ensure material transfers are under containment or extract ventilation.

Bulk transfers Non-dedicated facility  
Ensure operation is undertaken outdoors.

Bulk transfers Non-dedicated facility  
Avoid carrying out activities involving exposure for more than 4 hours.

Bulk transfers Dedicated facility  
No specific measures identified.

Small package filling Dedicated facility  
No specific measures identified.

Equipment cleaning and maintenance  
Ensure material transfers are under containment or extract ventilation.

Equipment cleaning and maintenance  
Limit the substance content in the product to 25%.

Equipment cleaning and maintenance  
Avoid carrying out operation for more than 4 hours.

Spraying or fogging With local exhaust ventilation  
Ensure material transfers are under containment or extract ventilation.

Spraying or fogging  
Limit the substance content in the product to 25%. Ensure operation is undertaken outdoors. Avoid carrying out activities involving exposure for more than 4 hours.

Spraying or fogging



Avoid carrying out activities involving exposure for more than 1 hour.

Spraying or fogging  
Wear a respirator conforming to EN140 with type A/P2 filter or better.

Dipping, immersion and pouring  
No specific measures identified.

Laboratory activities  
No specific measures identified.

Hand application - fingerpaints, pastels, adhesives  
Limit the substance content in the product to 25%. Wear suitable gloves tested to EN374.

Hand application - fingerpaints, pastels, adhesives  
Avoid carrying out operation for more than 1 hour.

#### Conditions and measures related to personal protection and hygiene

### Section 3 - Exposure estimation and reference to its source

**Website:** : Not applicable.

#### Exposure estimation and reference to its source - Environment: 1: Use in coatings

**Exposure assessment (environment):** : Not available.

**EXPOSURE ESTIMATION AND REFERENCE TO ITS SOURCE** : Not available.

#### Exposure estimation and reference to its source - Workers: 0: Use in coatings

**Exposure assessment (human):** : Not available.

**EXPOSURE ESTIMATION AND REFERENCE TO ITS SOURCE** : Not available.

### Section 4 - GUIDANCE TO DU TO EVALUATE WHETHER HE WORKS INSIDE THE BOUNDARIES SET BY THE ES

**Environment** : Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

**Health** : Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

### Additional good practice advice beyond the REACH CSA

**Environment** : Not available.

**Health** : Not available.