

Creation Date 11-Jun-2009

Revision Date 11-Oct-2023

Revision Number 11

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

### 1.1. Product identifier

<b>Product Description:</b>	<u><b>Xylenes</b></u>
<b>Cat No. :</b>	<b>422680000; 422680025; 422680250; 422685000</b>
<b>Synonyms</b>	Dimethylbenzene
<b>Index No</b>	601-022-00-9
<b>CAS No</b>	1330-20-7
<b>EC No</b>	215-535-7
<b>Molecular Formula</b>	C8 H10
<b>REACH registration number</b>	01-2119555267-33

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

<b>Recommended Use</b>	Laboratory chemicals.
<b>Sector of use</b>	SU3 - Industrial uses: Uses of substances as such or in preparations at industrial sites
<b>Product category</b>	PC21 - Laboratory chemicals
<b>Process categories</b>	PROC15 - Use as a laboratory reagent
<b>Environmental release category</b>	ERC6a - Industrial use resulting in manufacture of another substance (use of intermediates)
<b>Uses advised against</b>	No Information available

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

#### Company

**EU entity/business name**  
Thermo Fisher Scientific  
Janssen Pharmaceuticaaan 3a, 2440 Geel, Belgium

**UK entity/business name**  
Fisher Scientific UK  
Bishop Meadow Road,  
Loughborough, Leicestershire LE11 5RG, United Kingdom

**Swiss distributor** - Fisher Scientific AG  
Neuhofstrasse 11, CH 4153 Reinach  
Tel: +41 (0) 56 618 41 11  
e-mail - infoch@thermofisher.com

**E-mail address** begel.sdsdesk@thermofisher.com

### 1.4. Emergency telephone number

For information **US** call: 001-800-227-6701 / **Europe** call: +32 14 57 52 11  
Emergency Number **US**:001-201-796-7100 / **Europe**: +32 14 57 52 99  
**CHEMTREC** Tel. No.**US**:001-800-424-9300 / **Europe**:001-703-527-3887

customers in Switzerland:  
Tox Info Suisse Emergency Number: **145 (24hr)**  
Tox Info Suisse: +41-44 251 51 51 (Emergency number from abroad)  
Chemtrec (24h) Toll-Free: 0800 564 402  
Chemtrec Local: +41-43 508 20 11 (Zurich)

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## SECTION 2: HAZARDS IDENTIFICATION

### 2.1. Classification of the substance or mixture

#### CLP Classification - Regulation (EC) No 1272/2008

##### Physical hazards

Flammable liquids Category 3 (H226)

##### Health hazards

Aspiration Toxicity	Category 1 (H304)
Acute dermal toxicity	Category 4 (H312)
Acute Inhalation Toxicity - Vapors	Category 4 (H332)
Skin Corrosion/Irritation	Category 2 (H315)
Serious Eye Damage/Eye Irritation	Category 2 (H319)
Specific target organ toxicity - (single exposure)	Category 3 (H335)
Specific target organ toxicity - (repeated exposure)	Category 2 (H373)

##### Environmental hazards

Chronic aquatic toxicity Category 3 (H412)

Full text of Hazard Statements: see section 16

### 2.2. Label elements



Signal Word

Danger

#### **Hazard Statements**

H226 - Flammable liquid and vapor  
H304 - May be fatal if swallowed and enters airways  
H312 + H332 - Harmful in contact with skin or if inhaled  
H315 - Causes skin irritation  
H319 - Causes serious eye irritation  
H335 - May cause respiratory irritation  
H373 - May cause damage to organs through prolonged or repeated exposure  
H412 - Harmful to aquatic life with long lasting effects

#### **Precautionary Statements**

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking  
P280 - Wear protective gloves/protective clothing/eye protection/face protection  
P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician  
P331 - Do NOT induce vomiting

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P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
P312 - Call a POISON CENTER or doctor if you feel unwell

## 2.3. Other hazards

Toxic to terrestrial vertebrates

This product does not contain any known or suspected endocrine disruptors

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1. Substances

Component	CAS No	EC No	Weight %	CLP Classification - Regulation (EC) No 1272/2008
Xylenes (o-, m-, p- isomers)	1330-20-7	EEC No. 215-535-7	>75	Flam. Liq. 3 (H226) Asp. Tox. 1 (H304) Acute Tox. 4 (H312) Acute Tox. 4 (H332) Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) STOT SE 3 (H335) STOT RE 2 (H373) Aquatic Chronic 3 (H412)
Ethylbenzene	100-41-4	EEC No. 202-849-4	<25	Flam. Liq. 2 (H225) Asp. Tox. 1 (H304) Acute Tox. 4 (H332) STOT RE 2 (H373) Aquatic Chronic 3 (H412)

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Full text of Hazard Statements: see section 16

## SECTION 4: FIRST AID MEASURES

### 4.1. Description of first aid measures

Eye Contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.
Skin Contact	Wash off immediately with plenty of water for at least 15 minutes. Get medical attention.
Ingestion	Aspiration hazard. Do NOT induce vomiting. Call a physician or poison control center immediately. If vomiting occurs naturally, have victim lean forward.
Inhalation	Remove to fresh air. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Get medical attention. Risk of serious damage to the lungs (by aspiration). If not breathing, give artificial respiration.
Self-Protection of the First Aider	Use personal protective equipment as required.

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

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Difficulty in breathing. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting

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

### Notes to Physician

Treat symptomatically. Symptoms may be delayed.

## SECTION 5: FIREFIGHTING MEASURES

### 5.1. Extinguishing media

#### Suitable Extinguishing Media

Water spray, carbon dioxide (CO<sub>2</sub>), dry chemical, alcohol-resistant foam. Water mist may be used to cool closed containers.

#### Extinguishing media which must not be used for safety reasons

Do not use a solid water stream as it may scatter and spread fire.

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

Flammable. Risk of ignition. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Containers may explode when heated. Thermal decomposition can lead to release of irritating gases and vapors. Keep product and empty container away from heat and sources of ignition.

#### Hazardous Combustion Products

Carbon monoxide (CO), Carbon dioxide (CO<sub>2</sub>), Hydrocarbons, Aldehydes.

### 5.3. Advice for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

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

Use personal protective equipment as required. Remove all sources of ignition. Take precautionary measures against static discharges. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Keep people away from and upwind of spill/leak.

### 6.2. Environmental precautions

Do not flush into surface water or sanitary sewer system. See Section 12 for additional Ecological Information. Avoid release to the environment. Collect spillage.

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

Remove all sources of ignition. Take precautionary measures against static discharges. Use spark-proof tools and explosion-proof equipment. Soak up with inert absorbent material. Keep in suitable, closed containers for disposal.

### 6.4. Reference to other sections

Refer to protective measures listed in Sections 8 and 13.

## SECTION 7: HANDLING AND STORAGE

### 7.1. Precautions for safe handling

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Wear personal protective equipment/face protection. Ensure adequate ventilation. Use spark-proof tools and explosion-proof equipment. Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharges. Do not get in eyes, on skin, or on clothing. Do not breathe mist/vapors/spray. Do not ingest. If swallowed then seek immediate medical assistance. Use only non-sparking tools.

## Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

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

Keep container tightly closed in a dry and well-ventilated place. Keep away from heat, sparks and flame. Flammables area.

**Technical Rules for Hazardous Substances (TRGS) 510**  
**Storage Class (LGK) (Germany)**

Class 3

**Switzerland - Storage of hazardous substances**

Storage class - SC 3

<https://www.kvu.ch/de/themen/stoffe-und-produkte>

<https://www.kvu.ch/fr/themes/substances-et-produits>

<https://www.kvu.ch/it/temi/sostanze-e-prodotti>

## 7.3. Specific end use(s)

Use in laboratories

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1. Control parameters

#### Exposure limits

List source(s): **EU** - Commission Directive (EU) 2019/1831 of 24 October 2019 establishing a fifth list of indicative occupational exposure limit values pursuant to Council Directive 98/24/EC and amending Commission Directive 2000/39/EC **UK** - EH40/2005 Work Exposure Limits, Forth edition. Published 2020. **IRE** - 2010 Code of Practice for the Safety, Health and Welfare at Work (Chemical Agents) Regulations 2001. Published by the Health and Safety Authority. **CH** - The Government of Switzerland has set a directive on limit values for working materials (Grenzwerte am Arbeitsplatz) which is based on the Swiss Federal Regulation "Verordnung über die Verhütung von Unfällen und Berufskrankheiten". This directive is administered, periodically revised and enforced by SUVA (Swiss National Accident Insurance Fund).

Component	European Union	The United Kingdom	France	Belgium	Spain
Xylenes (o-, m-, p-isomers)	TWA: 50 ppm (8h) TWA: 221 mg/m <sup>3</sup> (8h) STEL: 100 ppm (15min) STEL: 442 mg/m <sup>3</sup> (15min) Skin	STEL: 100 ppm 15 min STEL: 441 mg/m <sup>3</sup> 15 min TWA: 50 ppm 8 hr TWA: 220 mg/m <sup>3</sup> 8 hr Skin	TWA / VME: 50 ppm (8 heures). restrictive limit TWA / VME: 221 mg/m <sup>3</sup> (8 heures). restrictive limit TWA / VME: 1000 mg/m <sup>3</sup> (8 heures). STEL / VLCT: 100 ppm. restrictive limit STEL / VLCT: 442 mg/m <sup>3</sup> . restrictive limit STEL / VLCT: 1500 mg/m <sup>3</sup> . Peau	TWA: 50 ppm 8 uren TWA: 221 mg/m <sup>3</sup> 8 uren STEL: 100 ppm 15 minuten STEL: 442 mg/m <sup>3</sup> 15 minuten Huid	STEL / VLA-EC: 100 ppm (15 minutos). STEL / VLA-EC: 442 mg/m <sup>3</sup> (15 minutos). TWA / VLA-ED: 50 ppm (8 horas) TWA / VLA-ED: 221 mg/m <sup>3</sup> (8 horas) Piel
Ethylbenzene	TWA: 100 ppm (8h) TWA: 442 mg/m <sup>3</sup> (8h) STEL: 200 ppm (15min) STEL: 884 mg/m <sup>3</sup> (15min) Skin	STEL: 125 ppm 15 min STEL: 552 mg/m <sup>3</sup> 15 min TWA: 100 ppm 8 hr TWA: 441 mg/m <sup>3</sup> 8 hr Skin	TWA / VME: 20 ppm (8 heures). restrictive limit TWA / VME: 88.4 mg/m <sup>3</sup> (8 heures). restrictive limit TWA / VME: 1000 mg/m <sup>3</sup> (8 heures). STEL / VLCT: 100 ppm. restrictive limit STEL / VLCT: 442 mg/m <sup>3</sup> . restrictive limit STEL / VLCT: 1500 mg/m <sup>3</sup> .	TWA: 20 ppm 8 uren TWA: 87 mg/m <sup>3</sup> 8 uren STEL: 125 ppm 15 minuten STEL: 551 mg/m <sup>3</sup> 15 minuten Huid	STEL / VLA-EC: 200 ppm (15 minutos). STEL / VLA-EC: 884 mg/m <sup>3</sup> (15 minutos). TWA / VLA-ED: 100 ppm (8 horas) TWA / VLA-ED: 441 mg/m <sup>3</sup> (8 horas) Piel

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			Peau		
Component	Italy	Germany	Portugal	The Netherlands	Finland
Xylenes (o-, m-, p-isomers)	TWA: 50 ppm 8 ore. Time Weighted Average pure TWA: 221 mg/m <sup>3</sup> 8 ore. Time Weighted Average pure STEL: 100 ppm 15 minuti. Short-term pure STEL: 442 mg/m <sup>3</sup> 15 minuti. Short-term pure Pelle	TWA: 50 ppm (8 Stunden). AGW - exposure factor 2 TWA: 220 mg/m <sup>3</sup> (8 Stunden). AGW - exposure factor 2 TWA: 50 ppm (8 Stunden). MAK all isomers TWA: 220 mg/m <sup>3</sup> (8 Stunden). MAK all isomers Höhepunkt: 100 ppm Höhepunkt: 440 mg/m <sup>3</sup> Haut Haut all isomers	STEL: 100 ppm 15 minutos STEL: 442 mg/m <sup>3</sup> 15 minutos TWA: 50 ppm 8 horas TWA: 221 mg/m <sup>3</sup> 8 horas Pele	huid STEL: 442 mg/m <sup>3</sup> 15 minuten TWA: 210 mg/m <sup>3</sup> 8 uren	TWA: 50 ppm 8 tunteina TWA: 220 mg/m <sup>3</sup> 8 tunteina STEL: 100 ppm 15 minuutteina STEL: 440 mg/m <sup>3</sup> 15 minuutteina Iho
Ethylbenzene	TWA: 100 ppm 8 ore. Time Weighted Average TWA: 442 mg/m <sup>3</sup> 8 ore. Time Weighted Average STEL: 200 ppm 15 minuti. Short-term STEL: 884 mg/m <sup>3</sup> 15 minuti. Short-term Pelle	TWA: 20 ppm (8 Stunden). AGW - exposure factor 2 TWA: 88 mg/m <sup>3</sup> (8 Stunden). AGW - exposure factor 2 TWA: 20 ppm (8 Stunden). MAK TWA: 88 mg/m <sup>3</sup> (8 Stunden). MAK Höhepunkt: 40 ppm Höhepunkt: 176 mg/m <sup>3</sup> Haut	STEL: 200 ppm 15 minutos STEL: 884 mg/m <sup>3</sup> 15 minutos TWA: 100 ppm 8 horas TWA: 442 mg/m <sup>3</sup> 8 horas Pele	huid STEL: 430 mg/m <sup>3</sup> 15 minuten TWA: 215 mg/m <sup>3</sup> 8 uren	TWA: 50 ppm 8 tunteina TWA: 220 mg/m <sup>3</sup> 8 tunteina STEL: 200 ppm 15 minuutteina STEL: 880 mg/m <sup>3</sup> 15 minuutteina Iho
Component	Austria	Denmark	Switzerland	Poland	Norway
Xylenes (o-, m-, p-isomers)	MAK-KZGW: 100 ppm 15 Minuten MAK-KZGW: 442 mg/m <sup>3</sup> 15 Minuten MAK-TMW: 50 ppm 8 Stunden MAK-TMW: 221 mg/m <sup>3</sup> 8 Stunden	TWA: 25 ppm 8 timer TWA: 109 mg/m <sup>3</sup> 8 timer STEL: 442 mg/m <sup>3</sup> 15 minutter STEL: 100 ppm 15 minutter Hud	Haut/Peau STEL: 100 ppm 15 Minuten STEL: 440 mg/m <sup>3</sup> 15 Minuten TWA: 50 ppm 8 Stunden TWA: 220 mg/m <sup>3</sup> 8 Stunden	STEL: 200 mg/m <sup>3</sup> 15 minutach TWA: 100 mg/m <sup>3</sup> 8 godzinach	TWA: 25 ppm 8 timer TWA: 108 mg/m <sup>3</sup> 8 timer STEL: 37.5 ppm 15 minutter. value calculated STEL: 135 mg/m <sup>3</sup> 15 minutter. value calculated Hud
Ethylbenzene	Haut MAK-KZGW: 200 ppm 15 Minuten MAK-KZGW: 880 mg/m <sup>3</sup> 15 Minuten MAK-TMW: 100 ppm 8 Stunden MAK-TMW: 440 mg/m <sup>3</sup> 8 Stunden	TWA: 50 ppm 8 timer TWA: 217 mg/m <sup>3</sup> 8 timer STEL: 434 mg/m <sup>3</sup> 15 minutter STEL: 100 ppm 15 minutter Hud	Haut/Peau STEL: 50 ppm 15 Minuten STEL: 220 mg/m <sup>3</sup> 15 Minuten TWA: 50 ppm 8 Stunden TWA: 220 mg/m <sup>3</sup> 8 Stunden	STEL: 400 mg/m <sup>3</sup> 15 minutach TWA: 200 mg/m <sup>3</sup> 8 godzinach	TWA: 5 ppm 8 timer TWA: 20 mg/m <sup>3</sup> 8 timer STEL: 10 ppm 15 minutter. value calculated STEL: 30 mg/m <sup>3</sup> 15 minutter. value calculated Hud
Component	Bulgaria	Croatia	Ireland	Cyprus	Czech Republic
Xylenes (o-, m-, p-isomers)	TWA: 50 ppm TWA: 221.0 mg/m <sup>3</sup> STEL : 100 ppm STEL : 442 mg/m <sup>3</sup> Skin notation	kože TWA-GVI: 50 ppm 8 satima. TWA-GVI: 221 mg/m <sup>3</sup> 8 satima. STEL-KGVI: 100 ppm 15 minutama. STEL-KGVI: 442 mg/m <sup>3</sup> 15 minutama.	TWA: 50 ppm 8 hr. TWA: 221 mg/m <sup>3</sup> 8 hr. STEL: 100 ppm 15 min STEL: 442 mg/m <sup>3</sup> 15 min Skin	Skin-potential for cutaneous absorption STEL: 100 ppm STEL: 442 mg/m <sup>3</sup> TWA: 50 ppm TWA: 221 mg/m <sup>3</sup>	TWA: 200 mg/m <sup>3</sup> 8 hodinách. Potential for cutaneous absorption Ceiling: 400 mg/m <sup>3</sup>
Ethylbenzene	TWA: 435 mg/m <sup>3</sup> STEL : 545 mg/m <sup>3</sup> Skin notation	kože TWA-GVI: 100 ppm 8 satima. TWA-GVI: 442 mg/m <sup>3</sup> 8 satima. STEL-KGVI: 200 ppm	TWA: 100 ppm 8 hr. TWA: 442 mg/m <sup>3</sup> 8 hr. STEL: 200 ppm 15 min STEL: 884 mg/m <sup>3</sup> 15 min Skin	Skin-potential for cutaneous absorption STEL: 200 ppm STEL: 884 mg/m <sup>3</sup> TWA: 100 ppm TWA: 442 mg/m <sup>3</sup>	TWA: 200 mg/m <sup>3</sup> 8 hodinách. Potential for cutaneous absorption Ceiling: 500 mg/m <sup>3</sup>

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		15 minutama. STEL-KGVI: 884 mg/m <sup>3</sup> 15 minutama.			
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Component	Estonia	Gibraltar	Greece	Hungary	Iceland
Xylenes (o-, m-, p-isomers)	Nahk TWA: 50 ppm 8 tundides. TWA: 200 mg/m <sup>3</sup> 8 tundides. STEL: 100 ppm 15 minutites. STEL: 450 mg/m <sup>3</sup> 15 minutites.	Skin notation TWA: 50 ppm 8 hr pure TWA: 221 mg/m <sup>3</sup> 8 hr pure STEL: 100 ppm 15 min pure STEL: 442 mg/m <sup>3</sup> 15 min pure	skin - potential for cutaneous absorption STEL: 150 ppm STEL: 650 mg/m <sup>3</sup> TWA: 100 ppm TWA: 435 mg/m <sup>3</sup>	STEL: 442 mg/m <sup>3</sup> 15 percekben. CK TWA: 221 mg/m <sup>3</sup> 8 órában. AK lehetséges bőrön keresztüli felszívódás	STEL: 100 ppm STEL: 442 mg/m <sup>3</sup> TWA: 25 ppm 8 klukkustundum. TWA: 109 mg/m <sup>3</sup> 8 klukkustundum. Skin notation
Ethylbenzene	Nahk TWA: 100 ppm 8 tundides. TWA: 442 mg/m <sup>3</sup> 8 tundides. STEL: 200 ppm 15 minutites. STEL: 884 mg/m <sup>3</sup> 15 minutites.	Skin notation TWA: 100 ppm 8 hr TWA: 442 mg/m <sup>3</sup> 8 hr STEL: 200 ppm 15 min STEL: 884 mg/m <sup>3</sup> 15 min	STEL: 125 ppm STEL: 545 mg/m <sup>3</sup> TWA: 100 ppm TWA: 435 mg/m <sup>3</sup>	STEL: 884 mg/m <sup>3</sup> 15 percekben. CK TWA: 442 mg/m <sup>3</sup> 8 órában. AK lehetséges bőrön keresztüli felszívódás	STEL: 200 ppm STEL: 884 mg/m <sup>3</sup> TWA: 50 ppm 8 klukkustundum. TWA: 200 mg/m <sup>3</sup> 8 klukkustundum. Skin notation

Component	Latvia	Lithuania	Luxembourg	Malta	Romania
Xylenes (o-, m-, p-isomers)	skin - potential for cutaneous exposure STEL: 100 ppm STEL: 442 mg/m <sup>3</sup> TWA: 50 ppm TWA: 221 mg/m <sup>3</sup>	TWA: 221 mg/m <sup>3</sup> IPRD mixed isomers, pure TWA: 50 ppm IPRD mixed isomers, pure Oda STEL: 442 mg/m <sup>3</sup> STEL: 100 ppm	Possibility of significant uptake through the skin TWA: 50 ppm 8 Stunden TWA: 221 mg/m <sup>3</sup> 8 Stunden STEL: 100 ppm 15 Minuten STEL: 442 mg/m <sup>3</sup> 15 Minuten	possibility of significant uptake through the skin TWA: 50 ppm TWA: 221 mg/m <sup>3</sup> STEL: 100 ppm 15 minuti STEL: 442 mg/m <sup>3</sup> 15 minuti	Skin notation TWA: 50 ppm 8 ore TWA: 221 mg/m <sup>3</sup> 8 ore STEL: 100 ppm 15 minute STEL: 442 mg/m <sup>3</sup> 15 minute
Ethylbenzene	skin - potential for cutaneous exposure STEL: 200 ppm STEL: 884 mg/m <sup>3</sup> TWA: 100 ppm TWA: 442 mg/m <sup>3</sup>	TWA: 100 ppm IPRD TWA: 442 mg/m <sup>3</sup> IPRD Oda STEL: 200 ppm STEL: 884 mg/m <sup>3</sup>	Possibility of significant uptake through the skin TWA: 100 ppm 8 Stunden TWA: 442 mg/m <sup>3</sup> 8 Stunden STEL: 200 ppm 15 Minuten STEL: 884 mg/m <sup>3</sup> 15 Minuten	possibility of significant uptake through the skin TWA: 100 ppm TWA: 442 mg/m <sup>3</sup> STEL: 200 ppm 15 minuti STEL: 884 mg/m <sup>3</sup> 15 minuti	Skin notation TWA: 100 ppm 8 ore TWA: 442 mg/m <sup>3</sup> 8 ore STEL: 200 ppm 15 minute STEL: 884 mg/m <sup>3</sup> 15 minute

Component	Russia	Slovak Republic	Slovenia	Sweden	Turkey
Xylenes (o-, m-, p-isomers)	TWA: 50 mg/m <sup>3</sup> 0741 mixture of 2-, 3-, 4-isomers MAC: 150 mg/m <sup>3</sup>	Ceiling: 442 mg/m <sup>3</sup> Potential for cutaneous absorption TWA: 50 ppm TWA: 221 mg/m <sup>3</sup>	TWA: 50 ppm 8 urah TWA: 221 mg/m <sup>3</sup> 8 urah Koža STEL: 100 ppm 15 minutah STEL: 442 mg/m <sup>3</sup> 15 minutah	Binding STEL: 100 ppm 15 minuter Binding STEL: 442 mg/m <sup>3</sup> 15 minuter TLV: 50 ppm 8 timmar. NGV TLV: 221 mg/m <sup>3</sup> 8 timmar. NGV Hud	Deri TWA: 50 ppm 8 saat TWA: 221 mg/m <sup>3</sup> 8 saat STEL: 100 ppm 15 dakika STEL: 442 mg/m <sup>3</sup> 15 dakika
Ethylbenzene	TWA: 50 mg/m <sup>3</sup> 2418 MAC: 150 mg/m <sup>3</sup>	Ceiling: 884 mg/m <sup>3</sup> Potential for cutaneous absorption TWA: 100 ppm TWA: 442 mg/m <sup>3</sup>	TWA: 100 ppm 8 urah TWA: 442 mg/m <sup>3</sup> 8 urah Koža STEL: 200 ppm 15 minutah STEL: 884 mg/m <sup>3</sup> 15 minutah	Binding STEL: 200 ppm 15 minuter Binding STEL: 884 mg/m <sup>3</sup> 15 minuter TLV: 50 ppm 8 timmar. NGV TLV: 220 mg/m <sup>3</sup> 8 timmar. NGV Hud	Deri TWA: 100 ppm 8 saat TWA: 442 mg/m <sup>3</sup> 8 saat STEL: 200 ppm 15 dakika STEL: 884 mg/m <sup>3</sup> 15 dakika

## Biological limit values

List source(s): **UK** - Biological Monitoring Guidance Values provided by the UK's Health and Safety Executive (HSE) Control of

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Substances Hazardous to Health Regulations (COSHH) 2002 (as amended) and EH40/2005.

Component	European Union	United Kingdom	France	Spain	Germany
Xylenes (o-, m-, p- isomers)		Methyl hippuric acid: 650 mmol/mol creatinine urine post shift	Methylhippuric acid: 1500 mg/g creatinine urine end of shift	Methylhippuric acids: 1 g/g Creatinine urine end of shift	Methylhippuric(tolur-)acid (all isomers): 2000 mg/L urine (end of shift all isomers)
Ethylbenzene			Mandelic acid: 1500 mg/g creatinine urine end of shift at end of workweek	Mandelic acid plus Phenylglyoxylic acid: 700 mg/g Creatinine urine end of workweek	Mandelic acid plus Phenylglyoxylic acid: 250 mg/g Creatinine urine (end of shift)

Component	Italy	Finland	Denmark	Bulgaria	Romania
Xylenes (o-, m-, p- isomers)		Methylhippuric acid: 5.0 mmol/L urine after the shift.			Methylhippuric acid: 3 g/L urine end of shift
Ethylbenzene		Mandelic acid: 5.2 mmol/L urine after the shift after a working week or exposure period.		Mandelic acid and Phenylglyoxylic acid - total: 2000 mg/g Creatinine urine at the end of exposure or end of work shift possible significant absorption through the skin	Mandelic acid: 1.5 g/g Creatinine urine end of work week

Component	Gibraltar	Latvia	Slovak Republic	Luxembourg	Turkey
Xylenes (o-, m-, p- isomers)			Xylene: 1.5 mg/L blood end of exposure or work shift all isomers Methylhippuric acid: 2000 mg/L urine end of exposure or work shift		
Ethylbenzene			2 and 4-Ethylphenol: 12 mg/L urine end of exposure or work shift also after all work shifts for long-term exposure Mandelic acid and Phenylglycolic acid: 1600 mg/L urine end of exposure or work shift also after all work shifts for long-term exposure		

## Monitoring methods

BS EN 14042:2003 Title Identifier: Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents.

MDHS70 General methods for sampling airborne gases and vapours

MDHS 88 Volatile organic compounds in air. Laboratory method using diffusive samplers, solvent desorption and gas chromatography

MDHS 96 Volatile organic compounds in air - Laboratory method using pumped solid sorbent tubes, solvent desorption and gas chromatography

## Derived No Effect Level (DNEL) / Derived Minimum Effect Level (DMEL)

Workers; See table for values

Component	Acute effects local (Dermal)	Acute effects systemic (Dermal)	Chronic effects local (Dermal)	Chronic effects systemic (Dermal)
Xylenes (o-, m-, p- isomers) 1330-20-7 ( >75 )				DNEL = 212mg/kg bw/day
Ethylbenzene 100-41-4 ( <25 )				DNEL = 180mg/kg bw/day DNEL = 212mg/kg



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				bw/day
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Component	Acute effects local (Inhalation)	Acute effects systemic (Inhalation)	Chronic effects local (Inhalation)	Chronic effects systemic (Inhalation)
Xylenes (o-, m-, p- isomers) 1330-20-7 ( >75 )	DNEL = 442mg/m <sup>3</sup>	DNEL = 442mg/m <sup>3</sup>	DNEL = 221mg/m <sup>3</sup>	DNEL = 221mg/m <sup>3</sup>
Ethylbenzene 100-41-4 ( <25 )	DMEL = 884mg/m <sup>3</sup> DNEL = 293mg/m <sup>3</sup> DNEL = 442mg/m <sup>3</sup>	DMEL = 884mg/m <sup>3</sup> DNEL = 442mg/m <sup>3</sup>	DMEL = 442mg/m <sup>3</sup> DNEL = 221mg/m <sup>3</sup>	DMEL = 442mg/m <sup>3</sup> DNEL = 77mg/m <sup>3</sup> DNEL = 221mg/m <sup>3</sup>

## Predicted No Effect Concentration (PNEC)

See values below.

Component	Fresh water	Fresh water sediment	Water Intermittent	Microorganisms in sewage treatment	Soil (Agriculture)
Xylenes (o-, m-, p- isomers) 1330-20-7 ( >75 )	PNEC = 0.327mg/L	PNEC = 12.46mg/kg sediment dw	PNEC = 0.327mg/L	PNEC = 6.58mg/L	PNEC = 2.31mg/kg soil dw
Ethylbenzene 100-41-4 ( <25 )	PNEC = 0.327mg/L	PNEC = 12.46mg/kg sediment dw	PNEC = 0.327mg/L	PNEC = 6.58mg/L	PNEC = 2.31mg/kg soil dw

Component	Marine water	Marine water sediment	Marine water Intermittent	Food chain	Air
Xylenes (o-, m-, p- isomers) 1330-20-7 ( >75 )	PNEC = 0.327mg/L	PNEC = 12.46mg/kg sediment dw			
Ethylbenzene 100-41-4 ( <25 )	PNEC = 0.327mg/L	PNEC = 12.46mg/kg sediment dw			

## 8.2. Exposure controls

### Engineering Measures

Ensure adequate ventilation, especially in confined areas. Use explosion-proof electrical/ventilating/lighting/equipment. Ensure that eyewash stations and safety showers are close to the workstation location.

Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source

### Personal protective equipment

#### Eye Protection

Goggles (European standard - EN 166)

#### Hand Protection

Protective gloves

Glove material	Breakthrough time	Glove thickness	EU standard	Glove comments
Viton (R)	See manufacturers recommendations	-	EN 374	(minimum requirement)

#### Skin and body protection

Long sleeved clothing.

Inspect gloves before use. observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information) gloves are suitable for the task: Chemical compatability, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion. gloves with care avoiding skin contamination.

#### Respiratory Protection

When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.  
To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained properly

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<b>Large scale/emergency use</b>	Use a NIOSH/MSHA or European Standard EN 136 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced <b>Recommended Filter type:</b> Organic gases and vapours filter Type A Brown conforming to EN14387
<b>Small scale/Laboratory use</b>	Use a NIOSH/MSHA or European Standard EN 149:2001 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced. <b>Recommended half mask:-</b> Valve filtering: EN405; or; Half mask: EN140; plus filter, EN 141 When RPE is used a face piece Fit Test should be conducted
<b>Environmental exposure controls</b>	Prevent product from entering drains. Do not allow material to contaminate ground water system.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

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

<b>Physical State</b>	Liquid	
<b>Appearance</b>	Colorless	
<b>Odor</b>	aromatic	
<b>Odor Threshold</b>	No data available	
<b>Melting Point/Range</b>	-34 °C / -29.2 °F	
<b>Softening Point</b>	No data available	
<b>Boiling Point/Range</b>	136 - 140 °C / 276.8 - 284 °F	@ 760 mmHg
<b>Flammability (liquid)</b>	Flammable	On basis of test data
<b>Flammability (solid,gas)</b>	Not applicable	Liquid
<b>Explosion Limits</b>	<b>Lower</b> 1.1 vol% <b>Upper</b> 7 vol%	
<b>Flash Point</b>	23 - 30 °C / 73.4 - 86 °F	<b>Method -</b> No information available
<b>Autoignition Temperature</b>	460 °C / 860 °F	
<b>Decomposition Temperature</b>	No data available	
<b>pH</b>	No information available	
<b>Viscosity</b>	0.6 mPa s @ 20 °C	
<b>Water Solubility</b>	0.2 mg/L (20°C)	practically insoluble
<b>Solubility in other solvents</b>	No information available	
<b>Partition Coefficient (n-octanol/water)</b>		
<b>Component</b>	<b>log Pow</b>	
Xylenes (o-, m-, p- isomers)	3.15	
Ethylbenzene	3.6	
<b>Vapor Pressure</b>	8 mbar @ 20 °C	
<b>Density / Specific Gravity</b>	0.865	
<b>Bulk Density</b>	Not applicable	Liquid
<b>Vapor Density</b>	No data available	(Air = 1.0)
<b>Particle characteristics</b>	Not applicable (liquid)	

### 9.2. Other information

<b>Molecular Formula</b>	C8 H10
<b>Molecular Weight</b>	106.17
<b>Explosive Properties</b>	explosive air/vapour mixtures possible

## SECTION 10: STABILITY AND REACTIVITY

### 10.1. Reactivity

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None known, based on information available

## 10.2. Chemical stability

Stable under normal conditions.

## 10.3. Possibility of hazardous reactions

### Hazardous Polymerization Hazardous Reactions

Hazardous polymerization does not occur.  
None under normal processing.

## 10.4. Conditions to avoid

Incompatible products. Excess heat. Keep away from open flames, hot surfaces and sources of ignition.

## 10.5. Incompatible materials

Strong oxidizing agents. Strong acids.

## 10.6. Hazardous decomposition products

Carbon monoxide (CO). Carbon dioxide (CO<sub>2</sub>). Hydrocarbons. Aldehydes.

## SECTION 11: TOXICOLOGICAL INFORMATION

### 11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

#### Product Information

#### (a) acute toxicity;

Oral

Based on available data, the classification criteria are not met

Dermal

Category 4

Inhalation

Category 4

#### Toxicology data for the components

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Xylenes (o-, m-, p- isomers)	LD50 = 3500 mg/kg ( Rat )	LD50 > 4350 mg/kg ( Rabbit )	29.08 mg/L [MOE Risk Assessment Vol.1, 2002]
Ethylbenzene	3500 mg/kg ( Rat )	15400 mg/kg ( Rabbit )	17.2 mg/L ( Rat ) 4 h

#### (b) skin corrosion/irritation;

Category 2

#### (c) serious eye damage/irritation;

Category 2

#### (d) respiratory or skin sensitization;

Respiratory

Based on available data, the classification criteria are not met

Skin

Based on available data, the classification criteria are not met

#### (e) germ cell mutagenicity;

Based on available data, the classification criteria are not met

#### (f) carcinogenicity;

Based on available data, the classification criteria are not met

The table below indicates whether each agency has listed any ingredient as a carcinogen

Component	EU	UK	Germany	IARC
Ethylbenzene				Group 2B

#### (g) reproductive toxicity;

Based on available data, the classification criteria are not met

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(h) STOT-single exposure; Category 3  
Results / Target organs Respiratory system.

(i) STOT-repeated exposure; Category 2  
Target Organs Heart, Liver, Kidney, Ears.

(j) aspiration hazard; Category 1

Symptoms / effects, both acute and delayed Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.

## 11.2. Information on other hazards

Endocrine Disrupting Properties Assess endocrine disrupting properties for human health. This product does not contain any known or suspected endocrine disruptors.

## SECTION 12: ECOLOGICAL INFORMATION

### 12.1. Toxicity

Ecotoxicity effects Contains a substance which is: Toxic to aquatic organisms. The product contains following substances which are hazardous for the environment.

Component	Freshwater Fish	Water Flea	Freshwater Algae
Xylenes (o-, m-, p- isomers)	LC50: 30.26 - 40.75 mg/L, 96h static (Poecilia reticulata) LC50: = 780 mg/L, 96h semi-static (Cyprinus carpio) LC50: 23.53 - 29.97 mg/L, 96h static (Pimephales promelas) LC50: > 780 mg/L, 96h (Cyprinus carpio) LC50: 7.711 - 9.591 mg/L, 96h static (Lepomis macrochirus) LC50: = 19 mg/L, 96h (Lepomis macrochirus) LC50: 13.1 - 16.5 mg/L, 96h flow-through (Lepomis macrochirus) LC50: 13.5 - 17.3 mg/L, 96h (Oncorhynchus mykiss) LC50: 2.661 - 4.093 mg/L, 96h static (Oncorhynchus mykiss) LC50: = 13.4 mg/L, 96h flow-through (Pimephales promelas)	LC50: = 0.6 mg/L, 48h (Gammarus lacustris) EC50: = 3.82 mg/L, 48h (water flea)	
Ethylbenzene	LC50: 9.1 - 15.6 mg/L, 96h static (Pimephales promelas) LC50: 11.0 - 18.0 mg/L, 96h static (Oncorhynchus mykiss) LC50: = 4.2 mg/L, 96h semi-static (Oncorhynchus mykiss) LC50: 7.55 - 11 mg/L, 96h flow-through (Pimephales promelas) LC50: = 32 mg/L, 96h static (Lepomis macrochirus)	EC50: 1.8 - 2.4 mg/L, 48h (Daphnia magna)	EC50: 2.6 - 11.3 mg/L, 72h static (Pseudokirchneriella subcapitata) EC50: 1.7 - 7.6 mg/L, 96h static (Pseudokirchneriella subcapitata) EC50: > 438 mg/L, 96h (Pseudokirchneriella subcapitata) EC50: = 4.6 mg/L, 72h (Pseudokirchneriella subcapitata)

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	LC50: = 9.6 mg/L, 96h static (Poecilia reticulata)		
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Component	Microtox	M-Factor
Xylenes (o-, m-, p- isomers)	EC50 = 0.0084 mg/L 24 h	
Ethylbenzene	EC50 = 9.68 mg/L 30 min EC50 = 96 mg/L 24 h	

**12.2. Persistence and degradability** Expected to be biodegradable  
**Persistence** Persistence is unlikely.  
**Degradation in sewage treatment plant** Contains substances known to be hazardous to the environment or not degradable in waste water treatment plants.

**12.3. Bioaccumulative potential** Bioaccumulation is unlikely

Component	log Pow	Bioconcentration factor (BCF)
Xylenes (o-, m-, p- isomers)	3.15	0.6 - 15 dimensionless
Ethylbenzene	3.6	15 dimensionless

**12.4. Mobility in soil** Spillage unlikely to penetrate soil The product is insoluble and floats on water The product contains volatile organic compounds (VOC) which will evaporate easily from all surfaces . Is not likely mobile in the environment due its low water solubility. Will likely be mobile in the environment due to its volatility.

**12.5. Results of PBT and vPvB assessment** No data available for assessment.

**12.6. Endocrine disrupting properties**  
**Endocrine Disruptor Information** This product does not contain any known or suspected endocrine disruptors

**12.7. Other adverse effects**  
**Persistent Organic Pollutant** This product does not contain any known or suspected substance  
**Ozone Depletion Potential** This product does not contain any known or suspected substance

## SECTION 13: DISPOSAL CONSIDERATIONS

### 13.1. Waste treatment methods

**Waste from Residues/Unused Products** Waste is classified as hazardous. Dispose of in accordance with the European Directives on waste and hazardous waste. Dispose of in accordance with local regulations.

**Contaminated Packaging** Dispose of this container to hazardous or special waste collection point. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Keep product and empty container away from heat and sources of ignition.

**European Waste Catalogue (EWC)** According to the European Waste Catalog, Waste Codes are not product specific, but application specific.

**Other Information** Do not flush to sewer. Waste codes should be assigned by the user based on the application for which the product was used. Can be landfilled or incinerated, when in compliance with local regulations.

**Switzerland - Waste Ordinance** Disposal should be in accordance with applicable regional, national and local laws and regulations. Ordinance on the Avoidance and the Disposal of Waste (Waste Ordinance,

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ADWO) SR 814.600  
<https://www.fedlex.admin.ch/eli/cc/2015/891/en>

## SECTION 14: TRANSPORT INFORMATION

### IMDG/IMO

**14.1. UN number** UN1307  
**14.2. UN proper shipping name** XYLENES  
**14.3. Transport hazard class(es)** 3  
**14.4. Packing group** III

### ADR

**14.1. UN number** UN1307  
**14.2. UN proper shipping name** XYLENES  
**14.3. Transport hazard class(es)** 3  
**14.4. Packing group** III

### IATA

**14.1. UN number** UN1307  
**14.2. UN proper shipping name** XYLENES  
**14.3. Transport hazard class(es)** 3  
**14.4. Packing group** III

**14.5. Environmental hazards** No hazards identified  
**14.6. Special precautions for user** No special precautions required.  
**14.7. Maritime transport in bulk according to IMO instruments** Not applicable, packaged goods

## SECTION 15: REGULATORY INFORMATION

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

#### International Inventories

Europe (EINECS/ELINCS/NLP), China (IECSC), Taiwan (TCSI), Korea (KECL), Japan (ENCS), Japan (ISHL), Canada (DSL/NDSL), Australia (AICS), New Zealand (NZIoC), Philippines (PICCS). US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)

Component	CAS No	EINECS	ELINCS	NLP	IECSC	TCSI	KECL	ENCS	ISHL
Xylenes (o-, m-, p- isomers)	1330-20-7	215-535-7	-	-	X	X	KE-35427	X	X
Ethylbenzene	100-41-4	202-849-4	-	-	X	X	KE-13532	X	X

Component	CAS No	TSCA	TSCA Inventory notification - Active-Inactive	DSL	NDSL	AICS	NZIoC	PICCS
Xylenes (o-, m-, p- isomers)	1330-20-7	X	ACTIVE	X	-	X	X	X
Ethylbenzene	100-41-4	X	ACTIVE	X	-	X	X	X

**Legend:** X - Listed '-' - Not Listed

**KECL** - NIER number or KE number (<http://ncis.nier.go.kr/en/main.do>)

### Authorisation/Restrictions according to EU REACH

Component	CAS No	REACH (1907/2006) - Annex XIV - Substances	REACH (1907/2006) - Annex XVII - Restrictions	REACH Regulation (EC 1907/2006) article 59 -
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		Subject to Authorization	on Certain Dangerous Substances	Candidate List of Substances of Very High Concern (SVHC)
Xylenes (o-, m-, p- isomers)	1330-20-7	-	Use restricted. See item 75. (see link for restriction details)	-
Ethylbenzene	100-41-4	-	-	-

## REACH links

<https://echa.europa.eu/substances-restricted-under-reach>

## Seveso III Directive (2012/18/EC)

Component	CAS No	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements
Xylenes (o-, m-, p- isomers)	1330-20-7	Not applicable	Not applicable
Ethylbenzene	100-41-4	Not applicable	Not applicable

## Regulation (EC) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of dangerous chemicals

Not applicable

## Contains component(s) that meet a 'definition' of per & poly fluoroalkyl substance (PFAS)?

Not applicable

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work .

Take note of Directive 2000/39/EC establishing a first list of indicative occupational exposure limit values

## National Regulations

**UK** - Take note of Control of Substances Hazardous to Health Regulations (COSHH) 2002 and 2005 Amendment

## WGK Classification

See table for values

Component	Germany - Water Classification (AwSV)	Germany - TA-Luft Class
Xylenes (o-, m-, p- isomers)	WGK2	
Ethylbenzene	WGK1	

Component	France - INRS (Tables of occupational diseases)
Xylenes (o-, m-, p- isomers)	Tableaux des maladies professionnelles (TMP) - RG 4bis, RG 84
Ethylbenzene	Tableaux des maladies professionnelles (TMP) - RG 84

## Swiss Regulations

Article 4 para. 4 of the Ordinance on the protection of young people in the workplace (SR 822.115) and Article 1 lit. f of the EAER regulation on hazardous work and young people (SR 822.115.2).

Take note on Article 13 Maternity Ordinance (SR 822.111.52) with regards expectant and nursing mothers.

Component	Switzerland - Ordinance on the Reduction of Risk from handling of hazardous substances preparation (SR 814.81)	Switzerland - Ordinance on Incentive Taxes on Volatile Organic Compounds (OVOC)	Switzerland - Ordinance of the Rotterdam Convention on the Prior Informed Consent Procedure
Xylenes (o-, m-, p- isomers) 1330-20-7 ( >75 )	Prohibited and Restricted Substances	Group II	
Ethylbenzene 100-41-4 ( <25 )	Prohibited and Restricted Substances	Group I	

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## 15.2. Chemical safety assessment

Chemical Safety Assessment/Reports (CSA/CSR) are not required for mixtures

## SECTION 16: OTHER INFORMATION

### Full text of H-Statements referred to under sections 2 and 3

H226 - Flammable liquid and vapor  
H225 - Highly flammable liquid and vapor  
H304 - May be fatal if swallowed and enters airways  
H312 - Harmful in contact with skin  
H332 - Harmful if inhaled  
H315 - Causes skin irritation  
H319 - Causes serious eye irritation  
H335 - May cause respiratory irritation  
H373 - May cause damage to organs through prolonged or repeated exposure  
H412 - Harmful to aquatic life with long lasting effects

### Legend

**CAS** - Chemical Abstracts Service

**EINECS/ELINCS** - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

**PICCS** - Philippines Inventory of Chemicals and Chemical Substances

**IECSC** - Chinese Inventory of Existing Chemical Substances

**KECL** - Korean Existing and Evaluated Chemical Substances

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory

**DSL/NDL** - Canadian Domestic Substances List/Non-Domestic Substances List

**ENCS** - Japanese Existing and New Chemical Substances

**AICS** - Australian Inventory of Chemical Substances

**NZIoC** - New Zealand Inventory of Chemicals

**WEL** - Workplace Exposure Limit

**ACGIH** - American Conference of Governmental Industrial Hygienists

**DNEL** - Derived No Effect Level

**RPE** - Respiratory Protective Equipment

**LC50** - Lethal Concentration 50%

**NOEC** - No Observed Effect Concentration

**PBT** - Persistent, Bioaccumulative, Toxic

**TWA** - Time Weighted Average

**IARC** - International Agency for Research on Cancer  
Predicted No Effect Concentration (PNEC)

**LD50** - Lethal Dose 50%

**EC50** - Effective Concentration 50%

**POW** - Partition coefficient Octanol:Water

**vPvB** - very Persistent, very Bioaccumulative

**ADR** - European Agreement Concerning the International Carriage of Dangerous Goods by Road

**IMO/IMDG** - International Maritime Organization/International Maritime Dangerous Goods Code

**OECD** - Organisation for Economic Co-operation and Development

**BCF** - Bioconcentration factor

### Key literature references and sources for data

<https://echa.europa.eu/information-on-chemicals>

Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

**ICAO/IATA** - International Civil Aviation Organization/International Air Transport Association

**MARPOL** - International Convention for the Prevention of Pollution from Ships

**ATE** - Acute Toxicity Estimate

**VOC** - (volatile organic compound)

### 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

### Training Advice

Chemical hazard awareness training, incorporating labelling, Safety Data Sheets (SDS), Personal Protective Equipment (PPE) and hygiene.

Use of personal protective equipment, covering appropriate selection, compatibility, breakthrough thresholds, care, maintenance, fit and standards.

First aid for chemical exposure, including the use of eye wash and safety showers.

Chemical incident response training.

Fire prevention and fighting, identifying hazards and risks, static electricity, explosive atmospheres posed by vapours and dusts.



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Creation Date	11-Jun-2009
Revision Date	11-Oct-2023
Revision Summary	Not applicable.

**This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.  
COMMISSION REGULATION (EU) 2020/878 amending Annex II to Regulation (EC) No  
1907/2006 .**

**For Switzerland - Compiled in accordance with the technical provisions referred to in Annex 2,  
Number 3, ChemO (SR 813.11 - Ordinance on Protection against Dangerous Substances and  
Preparations).**

## Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

**End of Safety Data Sheet**