

according to Regulation (EC) No. 1907/2006

Creation Date 11-Jun-2009 Revision Date 04-Oct-2023 Revision Number 11

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

#### 1.1. Product identifier

 Product Description:
 Xylenes, mixture of isomers

 Cat No. :
 390790000; 390790010; 390790025

 Synonyms
 Dimethylbenzene

 Index No
 601-022-00-9

 CAS No
 1330-20-7

 EC No
 215-535-7

 Molecular Formula
 C8 H10

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

Recommended Use Laboratory chemicals.

Sector of use SU3 - Industrial uses: Uses of substances as such or in preparations at industrial sites

Product category PC21 - Laboratory chemicals

**Process categories** PROC15 - Use as a laboratory reagent

**Environmental release category** ERC6a - Industrial use resulting in manufacture of another substance (use of intermediates)

Uses advised against No Information available

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

Company

EU entity/business name

Thermo Fisher Scientific

Janssen Pharmaceuticalaan 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)

## **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
- 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)

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

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 (CO2), 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 (CO2), 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

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

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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

Storage class - SC 3

Switzerland - Storage of hazardous substances

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-	TWA: 50 ppm (8h)	STEL: 100 ppm 15 min	TWA / VME: 50 ppm (8	TWA: 50 ppm 8 uren	STEL / VLA-EC: 100
isomers)	TWA: 221 mg/m <sup>3</sup> (8h)	STEL: 441 mg/m <sup>3</sup> 15	heures). restrictive limit	TWA: 221 mg/m <sup>3</sup> 8 uren	ppm (15 minutos).
	STEL: 100 ppm (15min)	min	TWA / VME: 221 mg/m <sup>3</sup>	STEL: 100 ppm 15	STEL / VLA-EC: 442
	STEL: 442 mg/m <sup>3</sup>	TWA: 50 ppm 8 hr	(8 heures). restrictive	minuten	mg/m³ (15 minutos).
	(15min)	TWA: 220 mg/m <sup>3</sup> 8 hr	limit TWA / VME: 1000	STEL: 442 mg/m <sup>3</sup> 15	TWA / VLA-ED: 50 ppm
	Skin	Skin	mg/m³ (8 heures).	minuten	(8 horas)
			STEL / VLCT: 100 ppm.	Huid	TWA / VLA-ED: 221
			restrictive limit		mg/m³ (8 horas)
			STEL / VLCT: 442		Piel
			mg/m <sup>3</sup> . restrictive limit		
			STEL / VLCT: 1500		
			mg/m³.		
			Peau		
Ethylbenzene	TWA: 100 ppm (8h)	STEL: 125 ppm 15 min	TWA / VME: 20 ppm (8	TWA: 20 ppm 8 uren	STEL / VLA-EC: 200
	TWA: 442 mg/m <sup>3</sup> (8h)	STEL: 552 mg/m <sup>3</sup> 15	heures). restrictive limit	TWA: 87 mg/m <sup>3</sup> 8 uren	ppm (15 minutos).
	STEL: 200 ppm (15min)		TWA / VME: 88.4 mg/m <sup>3</sup>	STEL: 125 ppm 15	STEL / VLA-EC: 884
	STEL: 884 mg/m <sup>3</sup>	TWA: 100 ppm 8 hr	(8 heures). restrictive	minuten	mg/m³ (15 minutos).
	(15min)	TWA: 441 mg/m <sup>3</sup> 8 hr	limit TWA / VME: 1000	STEL: 551 mg/m <sup>3</sup> 15	TWA / VLA-ED: 100
	Skin	Skin	mg/m³ (8 heures).	minuten	ppm (8 horas)
			STEL / VLCT: 100 ppm.	Huid	TWA / VLA-ED: 441
			restrictive limit		mg/m³ (8 horas)
			STEL / VLCT: 442		Piel
			mg/m <sup>3</sup> . restrictive limit		
			STEL / VLCT: 1500		
			mg/m³.		
			Peau		

in the same of the		Component	Italy	Germany	Portugal	The Netherlands	Finland
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Xylenes (o-, m-, p-	TWA: 50 ppm 8 ore.	TWA: 50 ppm (8	STEL: 100 ppm 15	huid	TWA: 50 ppm 8 tunteina
isomers)	Time Weighted Average		minutos	STEL: 442 mg/m <sup>3</sup> 15	TWA: 220 mg/m <sup>3</sup> 8
<u> </u>	pure	exposure factor 2	STEL: 442 mg/m <sup>3</sup> 15	minuten	tunteina
	TWA: 221 mg/m <sup>3</sup> 8 ore.	TWA: 220 mg/m <sup>3</sup> (8	minutos	TWA: 210 mg/m <sup>3</sup> 8 uren	STEL: 100 ppm 15
	Time Weighted Average	Stunden). AGW -	TWA: 50 ppm 8 horas	9	minuutteina
	pure	exposure factor 2	TWA: 221 mg/m <sup>3</sup> 8		STEL: 440 mg/m <sup>3</sup> 15
	STEL: 100 ppm 15	TWA: 50 ppm (8	horas		minuutteina
	minuti. Short-term pure	Stunden). MAK all	Pele		Iho
	STEL: 442 mg/m <sup>3</sup> 15	isomers			
	minuti. Short-term pure	TWA: 220 mg/m <sup>3</sup> (8			
	Pelle	Stunden). MAK all			
		isomers			
		Höhepunkt: 100 ppm			
		Höhepunkt: 440 mg/m <sup>3</sup>			
		Haut			
		Haut all isomers			
Ethylbenzene	TWA: 100 ppm 8 ore.	TWA: 20 ppm (8	STEL: 200 ppm 15	huid	TWA: 50 ppm 8 tunteina
	Time Weighted Average	Stunden). AGW -	minutos	STEL: 430 mg/m <sup>3</sup> 15	TWA: 220 mg/m <sup>3</sup> 8
	TWA: 442 mg/m <sup>3</sup> 8 ore.	exposure factor 2	STEL: 884 mg/m <sup>3</sup> 15	minuten	tunteina
	Time Weighted Average	TWA: 88 mg/m <sup>3</sup> (8	minutos	TWA: 215 mg/m <sup>3</sup> 8 uren	STEL: 200 ppm 15
	STEL: 200 ppm 15	Stunden). AGW -	TWA: 100 ppm 8 horas		minuutteina
	minuti. Short-term	exposure factor 2	TWA: 442 mg/m <sup>3</sup> 8		STEL: 880 mg/m <sup>3</sup> 15
	STEL: 884 mg/m <sup>3</sup> 15	TWA: 20 ppm (8	horas		minuutteina
	minuti. Short-term	Stunden). MAK	Pele		lho
	Pelle	TWA: 88 mg/m <sup>3</sup> (8			
		Stunden). MAK			
		Höhepunkt: 40 ppm			
		Höhepunkt: 176 mg/m <sup>3</sup>			
		Haut			

Component	Austria	Denmark	Switzerland	Poland	Norway
Xylenes (o-, m-, p-	MAK-KZGW: 100 ppm	TWA: 25 ppm 8 timer	Haut/Peau	STEL: 200 mg/m <sup>3</sup> 15	TWA: 25 ppm 8 timer
isomers)	15 Minuten	TWA: 109 mg/m <sup>3</sup> 8 timer	STEL: 100 ppm 15	minutach	TWA: 108 mg/m <sup>3</sup> 8 timer
	MAK-KZGW: 442 mg/m <sup>3</sup>	STEL: 442 mg/m <sup>3</sup> 15	Minuten	TWA: 100 mg/m <sup>3</sup> 8	STEL: 37.5 ppm 15
	15 Minuten	minutter	STEL: 440 mg/m <sup>3</sup> 15	godzinach	minutter. value
	MAK-TMW: 50 ppm 8	STEL: 100 ppm 15	Minuten		calculated
	Stunden	minutter	TWA: 50 ppm 8		STEL: 135 mg/m <sup>3</sup> 15
	MAK-TMW: 221 mg/m <sup>3</sup>	Hud	Stunden		minutter. value
	8 Stunden		TWA: 220 mg/m <sup>3</sup> 8		calculated
			Stunden		Hud
Ethylbenzene	Haut	TWA: 50 ppm 8 timer	Haut/Peau	STEL: 400 mg/m <sup>3</sup> 15	TWA: 5 ppm 8 timer
	MAK-KZGW: 200 ppm	TWA: 217 mg/m <sup>3</sup> 8 timer	STEL: 50 ppm 15	minutach	TWA: 20 mg/m <sup>3</sup> 8 timer
	15 Minuten	STEL: 434 mg/m <sup>3</sup> 15	Minuten	TWA: 200 mg/m <sup>3</sup> 8	STEL: 10 ppm 15
	MAK-KZGW: 880 mg/m <sup>3</sup>	minutter	STEL: 220 mg/m <sup>3</sup> 15	godzinach	minutter. value
	15 Minuten	STEL: 100 ppm 15	Minuten		calculated
	MAK-TMW: 100 ppm 8	minutter	TWA: 50 ppm 8		STEL: 30 mg/m <sup>3</sup> 15
	Stunden	Hud	Stunden		minutter. value
	MAK-TMW: 440 mg/m <sup>3</sup>		TWA: 220 mg/m <sup>3</sup> 8		calculated
	8 Stunden		Stunden		Hud

Component	Bulgaria	Croatia	Ireland	Cyprus	Czech Republic
Xylenes (o-, m-, p-	TWA: 50 ppm	kože	TWA: 50 ppm 8 hr.	Skin-potential for	TWA: 200 mg/m <sup>3</sup> 8
isomers)	TWA: 221.0 mg/m <sup>3</sup>	TWA-GVI: 50 ppm 8	TWA: 221 mg/m <sup>3</sup> 8 hr.	cutaneous absorption	hodinách.
	STEL: 100 ppm	satima.	STEL: 100 ppm 15 min	STEL: 100 ppm	Potential for cutaneous
	STEL: 442 mg/m <sup>3</sup>	TWA-GVI: 221 mg/m <sup>3</sup> 8	STEL: 442 mg/m <sup>3</sup> 15	STEL: 442 mg/m <sup>3</sup>	absorption
	Skin notation	satima.	min	TWA: 50 ppm	Ceiling: 400 mg/m <sup>3</sup>
		STEL-KGVI: 100 ppm	Skin	TWA: 221 mg/m <sup>3</sup>	
		15 minutama.			
		STEL-KGVI: 442 mg/m <sup>3</sup>			
		15 minutama.			
Ethylbenzene	TWA: 435 mg/m <sup>3</sup>	kože	TWA: 100 ppm 8 hr.	Skin-potential for	TWA: 200 mg/m <sup>3</sup> 8
	STEL: 545 mg/m <sup>3</sup>	TWA-GVI: 100 ppm 8	TWA: 442 mg/m <sup>3</sup> 8 hr.	cutaneous absorption	hodinách.
	Skin notation	satima.	STEL: 200 ppm 15 min	STEL: 200 ppm	Potential for cutaneous
		TWA-GVI: 442 mg/m <sup>3</sup> 8	STEL: 884 mg/m <sup>3</sup> 15	STEL: 884 mg/m <sup>3</sup>	absorption
		satima.	min	TWA: 100 ppm	Ceiling: 500 mg/m <sup>3</sup>
		STEL-KGVI: 200 ppm	Skin	TWA: 442 mg/m <sup>3</sup>	
		15 minutama.			
		STEL-KGVI: 884 mg/m <sup>3</sup>			
		15 minutama.			

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

Component	Latvia	Lithuania	Luxembourg	Malta	Romania
Xylenes (o-, m-, p-	skin - potential for	TWA: 221 mg/m <sup>3</sup> IPRD	Possibility of significant	possibility of significant	Skin notation
isomers)	cutaneous exposure	mixed isomers, pure	uptake through the skin	uptake through the skin	TWA: 50 ppm 8 ore
	STEL: 100 ppm	TWA: 50 ppm IPRD	TWA: 50 ppm 8	TWA: 50 ppm	TWA: 221 mg/m <sup>3</sup> 8 ore
	STEL: 442 mg/m <sup>3</sup>	mixed isomers, pure	Stunden	TWA: 221 mg/m <sup>3</sup>	STEL: 100 ppm 15
	TWA: 50 ppm	Oda	TWA: 221 mg/m <sup>3</sup> 8	STEL: 100 ppm 15	minute
	TWA: 221 mg/m <sup>3</sup>	STEL: 442 mg/m <sup>3</sup>	Stunden	minuti	STEL: 442 mg/m <sup>3</sup> 15
		STEL: 100 ppm	STEL: 100 ppm 15	STEL: 442 mg/m <sup>3</sup> 15	minute
			Minuten	minuti	
			STEL: 442 mg/m <sup>3</sup> 15		
			Minuten		
Ethylbenzene	skin - potential for	TWA: 100 ppm IPRD	Possibility of significant	possibility of significant	Skin notation
	cutaneous exposure	TWA: 442 mg/m³ IPRD	uptake through the skin	uptake through the skin	TWA: 100 ppm 8 ore
	STEL: 200 ppm	Oda	TWA: 100 ppm 8	TWA: 100 ppm	TWA: 442 mg/m <sup>3</sup> 8 ore
	STEL: 884 mg/m <sup>3</sup>	STEL: 200 ppm	Stunden	TWA: 442 mg/m <sup>3</sup>	STEL: 200 ppm 15
	TWA: 100 ppm	STEL: 884 mg/m <sup>3</sup>	TWA: 442 mg/m <sup>3</sup> 8	STEL: 200 ppm 15	minute
	TWA: 442 mg/m <sup>3</sup>		Stunden	minuti	STEL: 884 mg/m <sup>3</sup> 15
			STEL: 200 ppm 15	STEL: 884 mg/m <sup>3</sup> 15	minute
			Minuten	minuti	
			STEL: 884 mg/m <sup>3</sup> 15		
			Minuten		

Component	Russia	Slovak Republic	Slovenia	Sweden	Turkey
Xylenes (o-, m-, p-	TWA: 50 mg/m <sup>3</sup> 0741	Ceiling: 442 mg/m <sup>3</sup>	TWA: 50 ppm 8 urah	Binding STEL: 100 ppm	Deri
isomers)	mixture of 2-, 3-, 4-	Potential for cutaneous	TWA: 221 mg/m <sup>3</sup> 8 urah	15 minuter	TWA: 50 ppm 8 saat
	isomers	absorption	Koža	Binding STEL: 442	TWA: 221 mg/m <sup>3</sup> 8 saat
	MAC: 150 mg/m <sup>3</sup>	TWA: 50 ppm	STEL: 100 ppm 15	mg/m³ 15 minuter	STEL: 100 ppm 15
		TWA: 221 mg/m <sup>3</sup>	minutah	TLV: 50 ppm 8 timmar.	dakika
			STEL: 442 mg/m <sup>3</sup> 15	NGV	STEL: 442 mg/m <sup>3</sup> 15
			minutah	TLV: 221 mg/m <sup>3</sup> 8	dakika
				timmar. NGV	
				Hud	
Ethylbenzene	TWA: 50 mg/m <sup>3</sup> 2418	Ceiling: 884 mg/m <sup>3</sup>	TWA: 100 ppm 8 urah	Binding STEL: 200 ppm	
	MAC: 150 mg/m <sup>3</sup>	Potential for cutaneous	TWA: 442 mg/m <sup>3</sup> 8 urah		TWA: 100 ppm 8 saat
		absorption	Koža	Binding STEL: 884	TWA: 442 mg/m <sup>3</sup> 8 saat
		TWA: 100 ppm	STEL: 200 ppm 15	mg/m <sup>3</sup> 15 minuter	STEL: 200 ppm 15
		TWA: 442 mg/m <sup>3</sup>	minutah	TLV: 50 ppm 8 timmar.	dakika
			STEL: 884 mg/m <sup>3</sup> 15	NGV	STEL: 884 mg/m <sup>3</sup> 15
			minutah	TLV: 220 mg/m <sup>3</sup> 8	dakika
				timmar. NGV	
				Hud	

## **Biological limit values**

List source(s): **UK** - Biological Monitoring Guidance Values provided by the UK's Health and Safety Executive (HSE) Control of Substances Hazardous to Health Regulations (COSHH) 2002 (as amended) and EH40/2005.

Г	Component	European Union	United Kingdom	France	Spain	Germany

#### Xylenes, mixture of isomers

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Xylenes (o-, m-, p-		Methyl hippuric acid:	Methylhippuric acid:	, , ,	Methylhippuric(tolur-)aci
isomers)	<b> </b> 65	50 mmol/mol creatinine	1500 mg/g creatinine	g/g Creatinine urine end	d (all isomers): 2000
		urine post shift	urine end of shift	of shift	mg/L urine (end of shift
					all isomers)
Ethylbenzene			Mandelic acid: 1500	Mandelic acid plus	Mandelic acid plus
			mg/g creatinine urine	Phenylglyoxylic acid:	Phenylglyoxylic acid:
			end of shift at end of	700 mg/g Creatinine	250 mg/g Creatinine
			workweek	urine end of workweek	urine (end of shift)

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

Component	Gibraltar	Latvia	Slovak Republic	Luxembourg	Turkey
Xylenes (o-, m-, p-			Xylene: 1.5 mg/L blood		
isomers)			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)				DNEL = 212mg/kg
1330-20-7 ( >75 )				bw/day
Ethylbenzene				DNEL = 180mg/kg
100-41-4 ( <25 )				bw/day
				DNEL = 212mg/kg
				bw/day

#### Xylenes, mixture of isomers

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Component	Acute effects local (Inhalation)	Acute effects systemic (Inhalation)	Chronic effects local (Inhalation)	Chronic effects systemic (Inhalation)
	(IIIIIaiatiOII)	Systemic (initialation)	(IIIIIaiatiOII)	Systemic (initialation)
Xylenes (o-, m-, p- isomers)	DNEL = $442 \text{mg/m}^3$	$DNEL = 442mg/m^3$	DNEL = $221 \text{mg/m}^3$	$DNEL = 221mg/m^3$
1330-20-7 ( >75 )				
Ethylbenzene	DMEL = 884mg/m <sup>3</sup>	DMEL = 884mg/m <sup>3</sup>	$DMEL = 442 mg/m^3$	$DMEL = 442 mg/m^3$
100-41-4 ( <25 )	DNEL = 293mg/m <sup>3</sup>	DNEL = $442 \text{mg/m}^3$	DNEL = 221mg/m <sup>3</sup>	DNEL = 77mg/m <sup>3</sup>
, ,	$DNEL = 442 mg/m^3$			DNEL = $221 \text{mg/m}^3$

#### **Predicted No Effect Concentration (PNEC)**

See values below.

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

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

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

**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

Large scale/emergency use Use a NIOSH/MSHA or European Standard EN 136 approved respirator if exposure limits

are exceeded or if irritation or other symptoms are experienced

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Recommended Filter type: Organic gases and vapours filter Type A Brown conforming to

EN14387

Small scale/Laboratory use 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.

Recommended half mask:- Valve filtering: EN405; or; Half mask: EN140; plus filter, EN

141

When RPE is used a face piece Fit Test should be conducted

**Environmental exposure controls** 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

Physical State Liquid

Appearance Colorless Odor aromatic

Odor Threshold

Melting Point/Range
Softening Point

No data available

-34 °C / -29.2 °F

No data available

Boiling Point/Range 136 - 140 °C / 276.8 - 284 °F @ 760 mmHg
Flammability (liquid) Flammable On basis of test data
Flammability (solid.gas) Not applicable Liquid

Flammability (solid,gas)

Not applicable

Explosion Limits

Not applicable

Lower 1.1 vol%

Upper 7 vol%

Flash Point 23 - 30 °C / 73.4 - 86 °F Method - No information available

Autoignition Temperature
Decomposition Temperature
pH
Viscosity
Viscosity
Viscosity
Viscosity
460 °C / 860 °F
No data available
No information available
0.6 mPa s @ 20 °C
0.2 mg/L (20°C)

Water Solubility0.2 mg/L (20°C)practically insolubleSolubility in other solventsNo information available

Partition Coefficient (n-octanol/water)

Componentlog PowXylenes (o-, m-, p- isomers)3.15Ethylbenzene3.6

Vapor Pressure 8 mbar @ 20 °C

Density / Specific Gravity 0.865

Bulk DensityNot applicableLiquidVapor DensityNo data available(Air = 1.0)

Particle characteristics Not applicable (liquid)

#### 9.2. Other information

Molecular FormulaC8 H10Molecular Weight106.17

**Explosive Properties** explosive air/vapour mixtures possible

## **SECTION 10: STABILITY AND REACTIVITY**

10.1. Reactivity

None known, based on information available

#### 10.2. Chemical stability

Xylenes, mixture of isomers

Stable under normal conditions.

#### 10.3. Possibility of hazardous reactions

Hazardous Polymerization

Hazardous polymerization does not occur.

**Hazardous Reactions** 

None under normal processing.

10.4. Conditions to avoid

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

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sources of ignition.

10.5. Incompatible materials

Strong oxidizing agents. Strong acids.

#### 10.6. Hazardous decomposition products

Carbon monoxide (CO). Carbon dioxide (CO2). 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

DermalCategory 4InhalationCategory 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

(h) STOT-single exposure; Category 3

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

delayed

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) LC50: = 9.6 mg/L, 96h static (Poecilia reticulata)	(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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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

<u>assessment</u>

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 Ozone Depletion Potential This product does not contain any known or suspected substance 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,

ADWO) SR 814.600

https://www.fedlex.admin.ch/eli/cc/2015/891/en

## **SECTION 14: TRANSPORT INFORMATION**

#### IMDG/IMO

14.1. UN numberUN130714.2. UN proper shipping nameXYLENES

14.3. Transport hazard class(es) 3 14.4. Packing group III

#### <u>ADR</u>

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 numberUN130714.2. UN proper shipping nameXYLENES14.3. Transport hazard class(es)3

14.4. Packing group

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	-	-	Х	Х	KE-35427	X	X
Ethylbenzene	100-41-4	202-849-4	-	-	Х	X	KE-13532	Χ	X

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

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) -	REACH (1907/2006) -	REACH Regulation (EC
-		Annex XIV - Substances	Annex XVII - Restrictions	1907/2006) article 59 -
		Subject to Authorization	on Certain Dangerous	Candidate List of
			Substances	Substances of Very High
				Concern (SVHC)

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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	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report
		Notification	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	

#### 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

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

EINECS/ELINCS - European Inventory of Existing Commercial Chemical DSL/NDSL - Canadian Domestic Substances List/Non-Domestic

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 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

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)

#### Key literature references and sources for data

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

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

## 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**

**ACR39079** 

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.

**Creation Date** 11-Jun-2009 04-Oct-2023 **Revision Date** Not applicable. **Revision Summary** 

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**