

according to Regulation UK SI 2019/758 and UK SI 2020/1577 as amended

Creation Date 24-Mar-2014 Revision Date 11-Oct-2023 Revision Number 9

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

#### 1.1. Product identifier

Molecular Formula

Product Description: p-Xylene

 Cat No.:
 422670000; 422670010

 Synonyms
 1,4-Dimethylbenzene

 Index No
 601-022-00-9

 CAS No
 106-42-3

 EC No
 203-396-5

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

C8 H10

Recommended Use Laboratory chemicals.
Uses advised against No Information available

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

Company

**UK entity/business name** Fisher Scientific UK

Bishop Meadow Road,

Loughborough, Leicestershire LE11 5RG, United Kingdom

EU entity/business name

Thermo Fisher Scientific

Janssen Pharmaceuticalaan 3a, 2440 Geel, Belgium

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

## **SECTION 2: HAZARDS IDENTIFICATION**

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

CLP Classification - According to GB-CLP Regulations UK SI 2019/720 and UK SI 2020/1567

**Physical hazards** 

Flammable liquids Category 3 (H226)

**Health hazards** 

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Aspiration Toxicity

Acute dermal toxicity

Acute Inhalation Toxicity - Vapors

Skin Corrosion/Irritation

Serious Eye Damage/Eye Irritation

Specific target organ toxicity - (single exposure)

Category 1 (H304)

Category 4 (H312)

Category 4 (H332)

Category 2 (H315)

Category 2 (H315)

Category 2 (H319)

Category 3 (H335)

#### **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

H315 - Causes skin irritation

H319 - Causes serious eye irritation

H335 - May cause respiratory irritation

H412 - Harmful to aquatic life with long lasting effects

H312 + H332 - Harmful in contact with skin or if inhaled

#### **Precautionary Statements**

P280 - Wear protective gloves/protective clothing/eye protection/face protection

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

P301 + P330 + P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting

#### 2.3. Other hazards

Substance is not considered persistent, bioaccumulative and toxic (PBT) / very persistent and very bioaccumulative (vPvB)

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 - According to GB-CLP Regulations UK SI 2019/720 and
				UK SI 2020/1567

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p-Xylene	106-42-3	EEC No. 203-396-5	>95	Asp. Tox. 1 (H304)
				Acute Tox. 4 (H312)
				Skin Irrit. 2 (H315)
				Flam. Liq. 3 (H226)
				Acute Tox. 4 (H332)
				Eye Irrit. 2 (H319)
				STOT SE 3 (H335)
				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.

Immediate medical attention is required.

Skin Contact Wash off immediately with plenty of water for at least 15 minutes. Immediate medical

attention is required.

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. If breathing is difficult, give oxygen. 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. Immediate medical attention is required. Risk of serious damage to the lungs (by

aspiration).

Self-Protection of the First Aider Ensure that medical personnel are aware of the material(s) involved, take precautions to

protect themselves and prevent spread of contamination.

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.

## **SECTION 5: FIREFIGHTING MEASURES**

## 5.1. Extinguishing media

#### **Suitable Extinguishing Media**

CO<sub>2</sub>, dry chemical, dry sand, alcohol-resistant foam. Water mist may be used to cool closed containers.

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

Water may be ineffective.

#### 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

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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.

#### 6.2. Environmental precautions

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

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

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

#### 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

Use only under a chemical fume hood. Use spark-proof tools and explosion-proof equipment. Wear personal protective equipment/face protection. 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. Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharges. Use only non-sparking tools.

#### **Hygiene Measures**

Handle in accordance with good industrial hygiene and safety practice. Keep away from food, drink and animal feeding stuffs. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Wash hands before breaks and after work.

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

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

Technical Rules for Hazardous Substances (TRGS) 510 Class 3 Storage Class (LGK) (Germany)

## 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, Fourth edition. Published 2020. **IRE** - 2021 Code of Practice for the Chemical Agents Regulations, Schedule 1. Published by the Health and Safety Authority

Component	The United Kingdom	European Union	Ireland
p-Xylene	STEL: 100 ppm 15 min	TWA: 50 ppm (8h)	TWA: 50 ppm 8 hr.
	STEL: 441 mg/m <sup>3</sup> 15 min	TWA: 221 mg/m <sup>3</sup> (8h)	TWA: 221 mg/m <sup>3</sup> 8 hr.
	TWA: 50 ppm 8 hr	STEL: 100 ppm (15min)	STEL: 100 ppm 15 min
	TWA: 220 mg/m <sup>3</sup> 8 hr	STEL: 442 mg/m <sup>3</sup> (15min)	STEL: 442 mg/m <sup>3</sup> 15 min
	Skin	Skin	Skin

#### **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.

Component	United Kingdom	European Union
p-Xylene	Methyl hippuric acid: 650 mmol/mol	
	creatinine urine post shift	

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

See table for values

Component	Acute effects local (Dermal)	Acute effects systemic (Dermal)	Chronic effects local (Dermal)	Chronic effects systemic (Dermal)
p-Xylene 106-42-3 ( >95 )				DNEL = 212mg/kg bw/day

Component	Acute effects local	Acute effects local Acute effects C		Chronic effects
<u>-</u>	(Inhalation)	systemic (Inhalation)	(Inhalation)	systemic (Inhalation)
p-Xylene	DNEL = $442 \text{mg/m}^3$	DNEL = $442 \text{mg/m}^3$	DNEL = 221mg/m <sup>3</sup>	DNEL = $221 \text{mg/m}^3$
106-42-3 ( >95 )	-	_	_	_

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

See values below.

	Component	Fresh water	Fresh water	Water Intermittent	Microorganisms in	Soil (Agriculture)
			sediment		sewage treatment	
Γ	p-Xylene	PNEC = 0.044mg/L	PNEC = 2.52mg/kg	PNEC = 0.01mg/L	PNEC = 1.6mg/L	PNEC =
	106-42-3 (>95)	PNEC = 0.327 mg/L	sediment dw	PNEC = 0.327mg/L	PNEC = 6.58mg/L	0.852mg/kg soil dw
		_	PNEC =	_	_	PNEC = 2.31 mg/kg
			12.46mg/kg			soil dw
L			sediment dw			

Component	Marine water	Marine water sediment	Marine water intermittent	Food chain	Air
p-Xylene 106-42-3 ( >95 )	PNEC = 0.0044mg/L PNEC = 0.327mg/L	PNEC = 0.252mg/kg sediment dw PNEC = 12.46mg/kg sediment dw	PNEC = 0.001mg/L		

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8.2. Exposure controls

#### **Engineering Measures**

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

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
Nitrile rubber Neoprene Natural rubber PVC	See manufacturers recommendations	-	EN 374	(minimum requirement)

**Skin and body protection**Wear appropriate protective gloves and clothing to prevent skin exposure.

Inspect gloves before use.

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information)

Ensure 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.

Remove 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

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 ThresholdNo data availableMelting Point/Range13 °C / 55.4 °FSoftening PointNo data available

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Boiling Point/Range 138 °C / 280.4 °F

Flammability (liquid) Flammable On basis of test data

Flammability (solid,gas) Not applicable Liquid

Explosion Limits Lower 1.1 Vol%

Upper 7 Vol%

Flash Point 25 °C / 77 °F Method - No information available

Autoignition Temperature

Decomposition Temperature
pH

Viscosity

465 °C / 869 °F

No data available
Not applicable
0.648 mPa.s (20°C)

Water Solubility 0.2 g/L (20°C) practically insoluble

Solubility in other solvents No information available

Partition Coefficient (n-octanol/water)

**Component log Pow** p-Xylene 3.2

Vapor Pressure 8 mbar @ 20 °C

**Density / Specific Gravity** 0.866

Bulk DensityNot applicableLiquidVapor Density3.7 (Air = 1.0)(Air = 1.0)

Particle characteristics (liquid) Not applicable

9.2. Other information

Molecular Formula C8 H10 Molecular Weight 106.17

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

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

sources of ignition.

10.5. Incompatible materials

Strong oxidizing agents. Strong acids. Strong bases.

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**

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(a) acute toxicity:

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

DermalCategory 4InhalationCategory 4

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
p-Xylene	LD50 = 4029 mg/kg (Rat)	LD50 = 12126 mg/kg ( Rabbit )	LC50 = 4740 ppm (Rat) 4 h

(b) skin corrosion/irritation; Category 2

(c) serious eye damage/irritation; Category 2

(d) respiratory or skin sensitization;

Respiratory No data available Skin No data available

(e) germ cell mutagenicity; No data available

(f) carcinogenicity; No data available

There are no known carcinogenic chemicals in this product

(g) reproductive toxicity; No data available

**Reproductive Effects** Experiments have shown reproductive toxicity effects on laboratory animals.

**Developmental Effects Teratogenicity**Developmental effects have occurred in experimental animals.

Teratogenic effects have occurred in experimental animals.

(h) STOT-single exposure; Category 3

Results / Target organs Respiratory system.

(i) STOT-repeated exposure; No data available

Target Organs No information available.

(j) aspiration hazard; Category 1

Other Adverse Effects See actual entry in RTECS for complete information

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** Do not empty into drains. The product contains following substances which are hazardous

for the environment. Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Contains a substance which is:. Toxic to aquatic organisms.

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Component	Freshwater Fish	Water Flea	Freshwater Algae
p-Xylene	LC50: = 8.8 mg/L, 96h semi-static (Poecilia reticulata) LC50: = 2.6 mg/L, 96h static (Oncorhynchus mykiss) LC50: = 2.6 mg/L, 96h (Oncorhynchus mykiss) LC50: 7.2 - 9.9 mg/L, 96h static (Pimephales promelas)	, i ,	EC50: = 3.2 mg/L, 72h static (Pseudokirchneriella subcapitata)

Component	Microtox	M-Factor
p-Xylene	EC50 = 5.7 mg/L 30 min	

12.2. Persistence and degradability Expected to be biodegradable

**Persistence** 

Insoluble in water, Persistence is unlikely, based on information available.

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

May have some potential to bioaccumulate

Component	log Pow	Bioconcentration factor (BCF)	
p-Xylene	3.2	2.2 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

Substance is not considered persistent, bioaccumulative and toxic (PBT) / very persistent

and very bioaccumulative (vPvB).

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.

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

empty container away from heat and sources of ignition.

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

application specific.

Other Information Do not flush to sewer. Waste codes should be assigned by the user based on the

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application for which the product was used. Can be landfilled or incinerated, when in compliance with local regulations. Do not let this chemical enter the environment. Do not empty into drains.

## **SECTION 14: TRANSPORT INFORMATION**

## IMDG/IMO

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

14.4. Packing group

#### 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 numberUN130714.2. UN proper shipping nameXYLENES14.3. 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
p-Xylene	106-42-3	203-396-5	ı	-	Х	Χ	KE-35430	Х	Χ
C	CACNI	TCCA	TCCA I		DCI	NDCI	AICC	NZLO	DICCC

Component	CAS No	TSCA	TSCA Inventory notification - Active-Inactive	DSL	NDSL	AICS	NZIoC	PICCS
p-Xylene	106-42-3	X	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

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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)
p-Xylene	106-42-3	-	Use restricted. See item	-
			75.	
			(see link for restriction	
			details)	

#### **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) - Seveso III Directive (20	
		Qualifying Quantities for Major Accident	Qualifying Quantities for Safety Report
		Notification	Requirements
p-Xylene	106-42-3	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
p-Xylene	WGK2	

Component	France - INRS (Tables of occupational diseases)	
p-Xylene	Tableaux des maladies professionnelles (TMP) - RG 4bis,RG 84	

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
p-Xylene 106-42-3 ( >95 )	Prohibited and Restricted Substances	Group I	

### 15.2. Chemical safety assessment

A Chemical Safety Assessment/Report (CSA/CSR) has not been conducted

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## **SECTION 16: OTHER INFORMATION**

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

H226 - Flammable liquid and vapor

H304 - May be fatal if swallowed and enters airways

H312 - Harmful in contact with skin

H315 - Causes skin irritation

H319 - Causes serious eye irritation

H332 - Harmful if inhaled

H335 - May cause respiratory irritation

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

## **Training Advice**

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

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.

**Creation Date** 24-Mar-2014 **Revision Date** 11-Oct-2023 **Revision Summary** Not applicable.

## This safety data sheet complies with Regulation UK SI 2019/758 and UK SI 2020/1577 as amended.

#### 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

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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**