

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

Revision Date 29-Sep-2023 Revision Number 6

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

#### 1.1. Product identifier

Product Description: 2-Hydroxyethyl acrylate, stabilized

Cat No.: 334080000; 334080010; 334080025; 334080050

 Index No
 607-072-00-8

 CAS No
 818-61-1

 Molecular Formula
 C5 H8 O3

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

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**

Based on available data, the classification criteria are not met

## **Health hazards**

Acute dermal toxicity Category 3 (H311)

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Skin Corrosion/Irritation Category 1 B (H314) Serious Eve Damage/Eve Irritation Category 1 (H318)

Skin Sensitization

Category 1 (H317)

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**Environmental hazards** 

Acute aquatic toxicity Category 1 (H400)

Full text of Hazard Statements: see section 16

#### 2.2. Label elements



Signal Word

**Danger** 

#### **Hazard Statements**

H314 - Causes severe skin burns and eye damage

H317 - May cause an allergic skin reaction

H311 - Toxic in contact with skin

H400 - Very toxic to aquatic life

#### **Precautionary Statements**

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

P361 - Remove/Take off immediately all contaminated clothing

P302 + P350 - IF ON SKIN: Gently wash with plenty of soap and water

P301 + P330 + P331 - IF SWALLOWED: rinse mouth. 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

P310 - Immediately call a POISON CENTER or doctor/physician

P280 - Wear eye protection/ face protection

P273 - Avoid release to the environment

P301 + P312 - IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell

#### 2.3. Other hazards

Substance is not considered persistent, bioaccumulative and toxic (PBT) / very persistent and very bioaccumulative (vPvB) Lachrymator (substance which increases the flow of tears)

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
Ethylene glycol monoacrylate	818-61-1	EEC No. 212-454-9	100	Acute Tox. 3 (H311) Skin Corr. 1B (H314) Skin Sens. 1 (H317)

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				Aquatic Acute 1 (H400)
4-Methoxyphenol	150-76-5	EEC No. 205-769-8	0.02-0.04	Acute Tox. 4 (H302)
				Skin Sens. 1 (H317)
				Eye Irrit. 2 (H319)

Component	Specific concentration limits (SCL's)	M-Factor	Component notes
Ethylene glycol monoacrylate	Skin Sens. 1 (H317) :: C>=0.2%	1	-

Full text of Hazard Statements: see section 16

## **SECTION 4: FIRST AID MEASURES**

#### 4.1. Description of first aid measures

Eye Contact Immediate medical attention is required. Rinse immediately with plenty of water, also under

the eyelids, for at least 15 minutes.

**Skin Contact** Immediate medical attention is required. Wash off immediately with plenty of water for at

least 15 minutes.

**Ingestion** Do NOT induce vomiting. Call a physician or poison control center immediately.

**Inhalation** Remove to fresh air. Immediate medical attention is required. 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. If

not breathing, give artificial respiration.

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

Causes burns by all exposure routes. May cause allergic skin reaction. Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation: Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing

#### 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

Water spray. Carbon dioxide (CO<sub>2</sub>). Dry chemical. Water mist may be used to cool closed containers. Chemical foam.

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

No information available.

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

Flammable. Vapors may form explosive mixture with air. Do not allow run-off from fire-fighting to enter drains or water courses.

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#### **Hazardous Combustion Products**

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

#### 5.3. Advice for firefighters

Vapors are heavier than air and may spread along floors. 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. Ensure adequate ventilation. Avoid contact with skin, eyes or clothing.

#### 6.2. Environmental precautions

Do not flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water system. Prevent product from entering drains. Local authorities should be advised if significant spillages cannot be contained.

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

Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Prevent product from entering drains. Keep in suitable, closed containers for disposal. Do not flush into surface water or sanitary sewer system.

#### 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

Ensure adequate ventilation. Wear personal protective equipment/face protection. Do not breathe mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Handle product only in closed system or provide appropriate exhaust ventilation.

#### **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 in a dry, cool and well-ventilated place. Keep container tightly closed. Keep away from heat, sparks and flame. Protect from direct sunlight. Keep containers tightly closed in a dry, cool and well-ventilated place. Corrosives area.

Technical Rules for Hazardous Substances (TRGS) 510 Class 6.1C Storage Class (LGK) (Germany)

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

Use in laboratories

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

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#### 8.1. Control parameters

#### **Exposure limits**

List source(s): IRE - 2021 Code of Practice for the Chemical Agents Regulations, Schedule 1. Published by the Health and Safety Authority

Component	The United King	dom European Union	Ireland
4-Methoxyphenol			TWA: 5 mg/m <sup>3</sup> 8 hr.
			STEL: 15 mg/m <sup>3</sup> 15 min

#### **Biological limit values**

This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies

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

See table for values

Component	Acute effects local	Acute effects	Chronic effects local	Chronic effects
	(Inhalation)	systemic (Inhalation)	(Inhalation)	systemic (Inhalation)
Ethylene glycol monoacrylate 818-61-1 ( 100 )			DNEL = 2.4mg/m <sup>3</sup>	
4-Methoxyphenol 150-76-5 ( 0.02-0.04 )				DNEL = 3mg/m <sup>3</sup>

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

See values below.

Component	Fresh water	Fresh water	Water Intermittent	Microorganisms in	Soil (Agriculture)
		sediment		sewage treatment	
Ethylene glycol	PNEC =	PNEC =	PNEC =	PNEC = 10mg/L	PNEC =
monoacrylate	0.0172mg/L	0.0636mg/kg	0.0361mg/L		0.00263mg/kg soil
818-61-1 ( 100 )		sediment dw			dw
4-Methoxyphenol	PNEC =	PNEC =		PNEC = 10mg/L	PNEC =
150-76-5 ( 0.02-0.04 )	0.0136mg/L	0.125mg/kg			0.017mg/kg soil dw
i i		sediment dw			

Component	Marine water	Marine water	Marine water	Food chain	Air
		sediment	intermittent		
Ethylene glycol	PNEC =	PNEC =			
monoacrylate	0.00172mg/L	0.00636mg/kg			
818-61-1 ( 100 )		sediment dw			
4-Methoxyphenol	PNEC =	PNEC =			
150-76-5 ( 0.02-0.04 )	0.00136mg/L	0.0125mg/kg			
		sediment dw			

#### 8.2. Exposure controls

#### **Engineering Measures**

Ensure adequate ventilation, especially in confined areas. 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

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Personal protective equipment

**Eye Protection** Goggles (European standard - EN 166)

Hand Protection Protective gloves

Glove materialBreakthrough timeGlove thicknessEU standardGlove commentsNatural rubberSee manufacturers-EN 374(minimum requirement)Butyl rubberrecommendationsNitrile rubber

Nitrile rubbe Neoprene PVC

**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: Particulates filter conforming to EN 143 Acid gases filter Type

E Yellow 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. Local authorities should be advised if significant spillages cannot be contained.

Liquid

## **SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**

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

Physical State Liquid

Appearance Colorless

Odor
Odor Threshold
No data available
Melting Point/Range
Softening Point
No data available
No data available
No data available

Boiling Point/Range 210 - 215 °C / 410 - 419 °F

Flammability (liquid)

Flammability (solid,gas)

No data available
Not applicable

Explosion Limits No data available

Flash Point 99 °C / 210.2 °F Method - No information available

Autoignition Temperature

348 - °C / 658.4 - °F

Decomposition Temperature

No data available

pH No information available
Viscosity No data available
No data available

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Water Solubility Soluble

Solubility in other solvents No information available

Partition Coefficient (n-octanol/water)

Componentlog PowEthylene glycol monoacrylate-0.174-Methoxyphenol1.3

Vapor Pressure No data available

Density / Specific Gravity 1.106

Bulk DensityNot applicableLiquidVapor DensityNo data available(Air = 1.0)

Particle characteristics Not applicable (liquid)

9.2. Other information

Molecular FormulaC5 H8 O3Molecular Weight116.12

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

10.1. Reactivity

None known, based on information available

10.2. Chemical stability

Light sensitive. Unstable.

10.3. Possibility of hazardous reactions

Hazardous Polymerization Hazardous polymerization may occur.

Hazardous Reactions No information available.

10.4. Conditions to avoid

Excess heat. Exposure to light. Incompatible products.

10.5. Incompatible materials

Acids. Bases. Peroxides. Metals. copper. Reducing Agent.

10.6. Hazardous decomposition products

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

## **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 3

**Inhalation** Based on available data, the classification criteria are not met

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Ethylene glycol monoacrylate	LD50 = 548 mg/kg (Rat)	LD50 > 1000 mg/kg (Rat)	=
4-Methoxyphenol	1600 mg/kg (Rat)	LD50 > 2000 mg/kg (Rabbit)	<del>-</del>

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(b) skin corrosion/irritation; Category 1 B

(c) serious eye damage/irritation; Category 1

(d) respiratory or skin sensitization;

Respiratory No data available

Skin Category 1

May cause sensitization by skin contact

(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

(h) STOT-single exposure; No data available

(i) STOT-repeated exposure; No data available

Target Organs No information available.

(j) aspiration hazard; No data available

Symptoms / effects,both acute and Product is a corrosive material. Use of gastric lavage or emesis is contraindicated.

delayed

Possible perforation of stomach or esophagus should be investigated. Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation. Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the

hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing.

#### 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**The product contains following substances which are hazardous for the environment. Very

toxic to aquatic organisms.

Component	Freshwater Fish	Water Flea	Freshwater Algae
Ethylene glycol monoacrylate	LC50: = 4.8 mg/L, 96h flow-through (Pimephales promelas)	EC50: = 0.78 mg/L, 48h (Daphnia magna)	
4-Methoxyphenol	LC50: = 28.5 mg/L, 96h flow-through (Oncorhynchus mykiss) LC50: = 84.3 mg/L, 96h flow-through (Pimephales promelas)		

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Component	Microtox	M-Factor
Ethylene glycol monoacrylate		1
4-Methoxyphenol	EC50 = 3.66 mg/L 5 min EC50 = 4.30 mg/L 15 min EC50 = 4.61 mg/L 30 min	

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

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water treatment plants.

12.3. Bioaccumulative potential Bioaccumulation is unlikely

Component	log Pow	Bioconcentration factor (BCF)
Ethylene glycol monoacrylate	-0.17	No data available
4-Methoxyphenol	1.3	No data available

12.4. Mobility in soil

The product is water soluble, and may spread in water systems . Will likely be mobile in the

environment due to its water solubility. Highly mobile in soils

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** 

Should not be released into the environment. 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. **Contaminated Packaging** 

**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. Do not empty into drains. Large amounts will affect pH and harm aquatic organisms. Do not let this chemical enter the environment.

## **SECTION 14: TRANSPORT INFORMATION**

#### IMDG/IMO

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#### 2-Hydroxyethyl acrylate, stabilized

**14.1. UN number** UN2927

**14.2. UN proper shipping name** TOXIC LIQUID, CORROSIVE, ORGANIC, N.O.S.

Technical Shipping Name Ethylene glycol monoacrylate

14.3. Transport hazard class(es)6.1Subsidiary Hazard Class814.4. Packing groupII

ADR

**14.1. UN number** UN2927

14.2. UN proper shipping name TOXIC LIQUID, CORROSIVE, ORGANIC, N.O.S.

Technical Shipping Name Ethylene glycol monoacrylate

14.3. Transport hazard class(es)6.Subsidiary Hazard Class814.4. Packing groupII

<u>IATA</u>

**14.1. UN number** UN2927

14.2. UN proper shipping name TOXIC LIQUID, CORROSIVE, ORGANIC, N.O.S.

Technical Shipping Name Ethylene glycol monoacrylate

14.3. Transport hazard class(es)6.1Subsidiary Hazard Class814.4. Packing groupII

14.5. Environmental hazards Dangerous for the environment

Product is a marine pollutant according to the criteria set by IMDG/IMO

**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
Ethylene glycol monoacryla	te 818-61-1	212-454-9	-	-	Х	X	KE-20489	X	X
4-Methoxyphenol	150-76-5	205-769-8	-	-	Х	Х	KE-23353	Х	X

Component	CAS No	TSCA	TSCA Inventory notification - Active-Inactive	DSL	NDSL	AICS	NZIoC	PICCS
Ethylene glycol monoacrylate	818-61-1	Х	ACTIVE	X	-	Х	Х	Х
4-Methoxyphenol	150-76-5	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 -

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on Certain Dangerous Candidate List of **Subject to Authorization Substances of Very High** Substances Concern (SVHC) Ethylene glycol monoacrylate 818-61-1 Use restricted. See item 75. (see link for restriction details) 4-Methoxyphenol 150-76-5 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 (2012/18/EC) -	
		Qualifying Quantities for Major Accident	Qualifying Quantities for Safety Report
		Notification	Requirements
Ethylene glycol monoacrylate	818-61-1	Not applicable	Not applicable
4-Methoxyphenol	150-76-5	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 .

#### **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
Ethylene glycol monoacrylate	WGK3	
4-Methoxyphenol	WGK1	

Component	France - INRS (Tables of occupational diseases)
Ethylene glycol monoacrylate	Tableaux des maladies professionnelles (TMP) - RG 65
4-Methoxyphenol	Tableaux des maladies professionnelles (TMP) - RG 65

#### 15.2. Chemical safety assessment

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

	OTION 40 OTHER INFORMATION
SE	CTION 16: OTHER INFORMATION
	OTION TO. OTTIER IN ORMATION

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

H302 - Harmful if swallowed

H311 - Toxic in contact with skin

H314 - Causes severe skin burns and eye damage

H317 - May cause an allergic skin reaction

H319 - Causes serious eve irritation

H400 - Very toxic to aquatic life

#### Legend

**CAS** - Chemical Abstracts Service

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

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Inventory

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

EINECS/ELINCS - European Inventory of Existing Commercial Chemical DSL/NDSL - 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

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 incident response training.

29-Sep-2023 **Revision Date** Not applicable. **Revision Summary** 

## 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 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**