

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

Creation Date 22-Sep-2009

Revision Date 09-Feb-2024

Revision Number 10

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

#### 1.1. Product identifier

Product Description: Cat No. : Synonyms Index No CAS No EC No Molecular Formula	Bromoform, stabilized 15820000; 158200010; 158200025; 158200050; 158202500 Methenyl Tribromide.; Tribromomethane 602-007-00-X 75-25-2 200-854-6 C H Br3
1.2. Relevant identified uses of the	substance or mixture and uses advised against
Recommended Use Uses advised against	Laboratory chemicals. No Information available
1.3. Details of the supplier of the sa	fety 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 <b>US</b> call: 001-800-227-6701 / <b>Europe</b> call: +32 14 57 52 11 Emergency Number <b>US</b> :001-201-796-7100 / <b>Europe:</b> +32 14 57 52 99 <b>CHEMTREC</b> Tel. No. <b>US</b> :001-800-424-9300 / <b>Europe:</b> 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

#### Bromoform, stabilized

#### Revision Date 09-Feb-2024

#### Health hazards

Acute oral toxicity Acute Inhalation Toxicity - Vapors Skin Corrosion/Irritation Serious Eye Damage/Eye Irritation

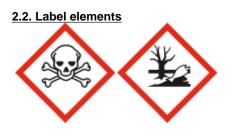
#### **Environmental hazards**

Chronic aquatic toxicity

Category 4 (H302) Category 3 (H331) Category 2 (H315) Category 2 (H319)

Category 2 (H411)

Full text of Hazard Statements: see section 16



Signal Word

Danger

#### **Hazard Statements**

- H302 Harmful if swallowed
- H331 Toxic if inhaled
- H315 Causes skin irritation
- H319 Causes serious eye irritation
- H411 Toxic to aquatic life with long lasting effects

#### **Precautionary Statements**

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

- P301 + P330 + P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting
- P302 + P352 IF ON SKIN: Wash with plenty of soap and water
- P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing
- P311 Call a POISON CENTER or doctor/physician

#### 2.3. Other hazards

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
Bromoform	75-25-2	EEC No. 200-854-6	>95	Acute Tox. 3 (H331) Acute Tox. 4 (H302) Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) Aquatic Chronic 2 (H411)
Ethyl alcohol	64-17-5	200-578-6	3 - 5	Flam. Liq. 2 (H225) Eye Irrit. 2 (H319)

#### Bromoform, stabilized

#### Revision Date 09-Feb-2024

Component	Specific concentration limits (SCL's)	M-Factor	Component notes
Ethyl alcohol	Eye Irrit. 2 :: C>=50%	-	-

Full text of Hazard Statements: see section 16

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

#### 4.1. Description of first aid measures

Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
Wash off immediately with plenty of water for at least 15 minutes. Immediate medical attention is required.
Do NOT induce vomiting. Call a physician or poison control center immediately.
Remove to fresh air. If not breathing, give artificial respiration. 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.
Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.
effects, both acute and delayed
Difficulty in breathing. Inhalation of high vapor concentrations may cause symptoms like 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

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

#### Extinguishing media which must not be used for safety reasons No information available.

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

Thermal decomposition can lead to release of irritating gases and vapors.

#### **Hazardous Combustion Products**

Carbon monoxide (CO), Carbon dioxide (CO<sub>2</sub>), Hydrogen halides.

#### 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. Thermal decomposition can lead to release of irritating gases and vapors.

## **SECTION 6: ACCIDENTAL RELEASE MEASURES**

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

Ensure adequate ventilation. Use personal protective equipment as required. Keep people away from and upwind of spill/leak. Evacuate personnel to safe areas.

#### 6.2. Environmental precautions

Do not flush into surface water or sanitary sewer system.

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

Keep in suitable, closed containers for disposal. Soak up with inert absorbent material.

#### 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. Do not get in eyes, on skin, or on clothing. Use only under a chemical fume hood. Do not breathe mist/vapors/spray. Do not ingest. If swallowed then seek immediate medical assistance.

#### 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. Do not store in metal containers. Keep away from oxidizing agents.

Technical Rules for Hazardous Substances (TRGS) 510 Class 6.1D 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): **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
Bromoform			TWA: 0.5 ppm 8 hr.
			TWA: 5 mg/m <sup>3</sup> 8 hr.
			STEL: 1.5 ppm 15 min
			STEL: 15 mg/m <sup>3</sup> 15 min
			Skin

#### Bromoform, stabilized

#### Revision Date 09-Feb-2024

Ethyl alcohol	TWA: 1000 ppm TWA; 1920	STEL: 1000 ppm 15 min
	mg/m³ TWA	
	WEL - STEL: 3000 ppm	
	STEL; 5760 mg/m <sup>3</sup> STEL	

#### **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
	(Oral)	systemic (Oral)	(Oral)	systemic (Oral)
Ethyl alcohol 64-17-5 ( 3 - 5 )		DNEL = 87 mg/kg bw/d		

Component	Acute effects local (Dermal)	Acute effects systemic (Dermal)	Chronic effects local (Dermal)	Chronic effects systemic (Dermal)
Bromoform				DNEL = 0.168mg/kg
75-25-2 (>95)				bw/day
Ethyl alcohol				DNEL = 343mg/kg
64-17-5 (3-5)				bw/day

Component	Acute effects local (Inhalation)	Acute effects systemic (Inhalation)	Chronic effects local (Inhalation)	Chronic effects systemic (Inhalation)
Bromoform 75-25-2(>95)				DNEL = 0.592mg/m <sup>3</sup>
Ethyl alcohol 64-17-5(3 - 5)	DNEL = 1900mg/m <sup>3</sup>			DNEL = 950mg/m <sup>3</sup>

#### Predicted No Effect Concentration (PNEC)

See values below.

Component	Fresh water	Fresh water sediment		Microorganisms in sewage treatment	
Bromoform 75-25-2 ( >95 )	PNEC = 13µg/L	PNEC = 49.5µg/kg sediment dw	PNEC = 0.13mg/L		PNEC = 2.26µg/kg soil dw

Component	Marine water	Marine water sediment	Marine water intermittent	Food chain	Air
Bromoform	PNEC = 1.3µg/L	PNEC = 4.95µg/kg	PNEC = 13µg/L		
75-25-2 (>95)		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

#### Personal protective equipment

Eye Protection	Goggles	(European standard - EN 166)

**Hand Protection** 

Protective gloves

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

#### Revision Date 09-Feb-2024

#### Bromoform, stabilized

#### Skin and body protection Long sleeved clothing.

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 <b>Recommended Filter type:</b> 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. <b>Recommended half mask:-</b> Valve filtering: EN405; or; Half mask: EN140; plus filter, EN 141 When RPE is used a face piece Fit Test should be conducted
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 Odor Odor Threshold Melting Point/Range Softening Point Boiling Point/Range Flammability (liquid) Flammability (solid,gas) Explosion Limits	Yellow-orange sweet No data available 8 °C / 46.4 °F No data available 150 - 151 °C / 302 - 303.8 °F No data available Not applicable No data available	Liquid
Flash Point Autoignition Temperature Decomposition Temperature pH Viscosity Water Solubility Solubility in other solvents Partition Coefficient (n-octanol/wat Component Bromoform Ethyl alcohol	log Pow 2.16 -0.32	Method - No information available
Vapor Pressure Density / Specific Gravity Bulk Density Vapor Density Particle characteristics	6.6 hPa @ 20 °C 2.8 Not applicable 8.7 Not applicable (liquid)	Calculated Liquid (Air = 1.0)

9.2. Other information

Bromoform, stabilized

Molecular Formula	C H Br3
Molecular Weight	252.73

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

10.1. Reactivity	None known, based on information available
10.2. Chemical stability	Stable under normal conditions. Light sensitive.
10.3. Possibility of hazardous reacti	ons
Hazardous Polymerization Hazardous Reactions	No information available. None under normal processing.
10.4. Conditions to avoid	Exposure to light. Incompatible products.
10.5. Incompatible materials	Strong bases. Bases. Strong oxidizing agents. Metals.

#### 10.6. Hazardous decomposition products

Carbon monoxide (CO). Carbon dioxide (CO<sub>2</sub>). Hydrogen halides.

#### **SECTION 11: TOXICOLOGICAL INFORMATION**

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

#### **Product Information**

(a) acute toxicity;	
Oral	Category 4
Dermal	No data available
Inhalation	Category 3

#### Toxicology data for the components

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Bromoform	LD50 = 933 mg/kg(Rat)	-	-
Ethyl alcohol	LD50 = 10470 mg/kg OECD 401 (Rat) 3450 mg/kg ( Mouse )	-	LC50 = 117-125 mg/l (4h) OECD 403 (rat) 20000 ppm/10H (rat)

(b) skin corrosion/irritation; Category 2

(c) serious eye damage/irritation; Category 2

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

Respiratory Skin Based on available data, the classification criteria are not met Based on available data, the classification criteria are not met

Component	Test method	Test species	Study result
Ethyl alcohol	Mouse Ear Swelling Test (MEST)	mouse	non-sensitising
64-17-5(3-5)			
		mouse	non-sensitising

Bromoform, stabilized

Revision Date 09-Feb-2024

Local Lymph Node Assay		Juidelin												lideline	ne 429
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#### (e) germ cell mutagenicity;

Based on available data, the classification criteria are not met

Component	Test method	Test species	Study result
Ethyl alcohol 64-17-5 ( 3 - 5 )	AMES test OECD Test Guideline 471	in vitro Bacteria	negative
	Gene cell mutation OECD Test Guideline 476	in vitro Mammalian	negative

#### (f) carcinogenicity;

Based on available data, the classification criteria are not met

Ethanol has been shown to be carcinogenic in long-term studies only when consumed and abused as an alcoholic beverage. The table below indicates whether each agency has listed any ingredient as a carcinogen

Component	EU	UK	Germany	IARC
Bromoform			Cat. 2	

#### (g) reproductive toxicity: Based on available data, the classification criteria are not met

(9)	,		
Component	Test method	Test species / Duration	Study result
Ethyl alcohol 64-17-5 ( 3 - 5 )	OECD Test Guideline 416	Oral / mouse 2 Generation	NOAEL = 13.8 g/kg/day
04-17-5 ( 3 - 3 )	OECD Test Guideline 414		
		Inhalation / Rat	NOAEC =
			16000 ppm

- (h) STOT-single exposure; No data available
- (i) STOT-repeated exposure; No data available
- Target OrgansNo information available.
- (j) aspiration hazard; No data available
- Symptoms / effects,both acute and Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, delayed tiredness, nausea and vomiting.

#### 11.2. Information on other hazards

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Endocrine Disrupting Properties Assess endocrine disrupting properties for human health. This product does not contain any known or suspected endocrine disruptors.
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## SECTION 12: ECOLOGICAL INFORMATION

#### 12.1. Toxicity Ecotoxicity effects

Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. The product contains following substances which are hazardous for the environment.

Component	Freshwater Fish	Water Flea	Freshwater Algae
Ethyl alcohol	Fathead minnow (Pimephales promelas) LC50 = 14200 mg/l/96h	EC50 = 9268 mg/L/48h EC50 = 10800 mg/L/24h	EC50 (72h) = 275 mg/l (Chlorella vulgaris)

Component	Microtox	M-Factor
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#### Bromoform, stabilized

Ethyl alcohol	Photobacterium phosphoreum:EC50 = 34634 mg/L/30 min	
	Photobacterium phosphoreum: $EC50 = 35470$ mo/L/5 min	

#### 12.2. Persistence and degradability

12.2. Persistence and degradability					
Persistence	Persistence is unlikely.	De sure de la 1916 e			
Compo		Degradability OECD 301E = 94%			
Ethyl al 64-17-5		$OECD \ 301E = 94\%$			
Degradation in sewage treatment plant	Contains substances known to be hazardous to the environment or not degradable in water treatment plants.				
12.3. Bioaccumulative potential	Bioaccumulation is unlikely				
Component	log Pow	Bioconcentration factor (BCF)			
Bromoform	2.16	No data available			
Ethyl alcohol	-0.32	No data available			
<u>12.5. Results of PBT and vPvB</u> assessment	environment due to its water solubility. Highly mobile in soils No data available for assessment.				
<u>12.6. Endocrine disrupting</u> 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 an This product does not contain an				
SI	ECTION 13: DISPOSAL C	ONSIDERATIONS			
13.1. Waste treatment methods Waste from Residues/Unused		Dispose of in accordance with the European Directives			
Products	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.
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European Waste Catalogue (EWC)According to the European Waste Catalog, Waste Codes are not product specific, but<br/>application specific.Other InformationDo not flush to sewer. Waste codes should be assigned by the user based on the

ation 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. Do not let this chemical enter the environment.

## **SECTION 14: TRANSPORT INFORMATION**

#### IMDG/IMO

Revision Date 09-Feb-2024

Ш 14.4. Packing group ADR 14.1. UN number UN2515 BROMOFORM 14.2. UN proper shipping name 14.3. Transport hazard class(es) 6.1 14.4. Packing group III IATA UN2515 14.1. UN number 14.2. UN proper shipping name BROMOFORM 14.3. Transport hazard class(es) 6.1 14.4. Packing group III 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. Not applicable, packaged goods 14.7. Maritime transport in bulk according to IMO instruments

#### **SECTION 15: REGULATORY INFORMATION**

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

#### International Inventories

Bromoform, stabilized

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
Bromoform	75-25-2	200-854-6	-	-	Х	Х	KE-34017	Х	Х
Ethyl alcohol	64-17-5	200-578-6	-	-	Х	Х	KE-13217	Х	Х

Component	CAS No	TSCA	TSCA Inventory notification - Active-Inactive	DSL	NDSL	AICS	NZIoC	PICCS
Bromoform	75-25-2	Х	ACTIVE	Х	-	Х	Х	Х
Ethyl alcohol	64-17-5	Х	ACTIVE	Х	-	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) - Annex XIV - Substances Subject to Authorization		REACH Regulation (EC 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC)
Bromoform	75-25-2	-	Use restricted. See item 75. (see link for restriction details)	-
Ethyl alcohol	64-17-5	-	-	-

#### **REACH links**

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

#### Bromoform, stabilized

Component	CAS No	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements
Bromoform	75-25-2	Not applicable	Not applicable
Ethyl alcohol	64-17-5	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

Water endangering class = 3 (self classification)

Component	Germany - Water Classification (AwSV)	Germany - TA-Luft Class
Bromoform	WGK3	Class I : 20 mg/m <sup>3</sup> (Massenkonzentration)
Ethyl alcohol	WGK1	

Component	France - INRS (Tables of occupational diseases)
Bromoform	Tableaux des maladies professionnelles (TMP) - RG 12
Ethyl alcohol	Tableaux des maladies professionnelles (TMP) - 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
Ethyl alcohol 64-17-5 ( 3 - 5 )		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

H225 - Highly flammable liquid and vapor

H302 - Harmful if swallowed

H315 - Causes skin irritation

H319 - Causes serious eye irritation

H331 - Toxic if inhaled

H411 - Toxic to aquatic life with long lasting effects

#### Legend

#### Bromoform, stabilized

CAS - Chemical Abstracts Service	TSCA - United States Toxic Substances Control Act Section 8(b) Inventory	
EINECS/ELINCS - European Inventory of Existing Commercial Chemica Substances/EU List of Notified Chemical Substances	I DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List	
PICCS - Philippines Inventory of Chemicals and Chemical Substances	ENCS - Japanese Existing and New Chemical Substances	
IECSC - Chinese Inventory of Existing Chemical Substances KECL - Korean Existing and Evaluated 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	TWA - Time Weighted Average IARC - International Agency for Research on Cancer	
DNEL - Derived No Effect Level	Predicted No Effect Concentration (PNEC)	
RPE - Respiratory Protective Equipment	LD50 - Lethal Dose 50%	
LC50 - Lethal Concentration 50%	EC50 - Effective Concentration 50%	
NOEC - No Observed Effect Concentration	POW - Partition coefficient Octanol:Water	
<b>PBT</b> - Persistent, Bioaccumulative, Toxic	vPvB - very Persistent, very Bioaccumulative	
ADR - European Agreement Concerning the International Carriage of Dangerous Goods by Road	ICAO/IATA - International Civil Aviation Organization/International Air Transport Association	
<b>IMO/IMDG</b> - International Maritime Organization/International Maritime Dangerous Goods Code	MARPOL - International Convention for the Prevention of Pollution from Ships	
OECD - Organisation for Economic Co-operation and Development	ATE - Acute Toxicity Estimate	
BCF - Bioconcentration factor	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, F	RTECS	
Suppliers salely data sheet, one had usor - LOLI, we for index, ITLOO		
Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:		

# Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLF Physical hazards On basis of test data Health Hazards Calculation method Environmental hazards Calculation method

#### Training Advice

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

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

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

Chemical incident response training.

Creation Date	22-Sep-2009
Revision Date	09-Feb-2024
Revision Summary	Not applicable.

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

Disclaimer

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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