

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

Revision Date 21-Mar-2024

Revision Number 3

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

1.1. Product identifier	
Product Description: Cat No. : Molecular Formula	Zinc 2-methoxyethoxide, 5% w/v in 2-methoxyethanol 43903 C6 H14 O2 Zn
Unique Formula Identifier (UFI)	UY0Q-26W2-VX0X-UG64
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	afety data sheet
Company	Avocado Research Chemicals Ltd. (Part of Thermo Fisher Scientific) Shore Road, Heysham Lancashire, LA3 2XY, United Kingdom Office Tel: +44 (0) 1524 850506 Office Fax: +44 (0) 1524 850608
E-mail address	begel.sdsdesk@thermofisher.com
<u>1.4. Emergency telephone number</u>	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
Poison Centre - Emergency information services	Ireland : National Poisons Information Centre (NPIC) - 01 809 2166 (8am-10pm, 7 days a week) Malta : +356 2395 2000 Cyprus : +357 2240 5611

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)

Zinc 2-methoxyethoxide, 5% w/v in 2-methoxyethanol

Health hazards

Acute oral toxicity Acute dermal toxicity Acute Inhalation Toxicity - Vapors Skin Corrosion/Irritation Serious Eye Damage/Eye Irritation Reproductive Toxicity Specific target organ toxicity - (single exposure) Specific target organ toxicity - (repeated exposure)

Environmental hazards

Based on available data, the classification criteria are not met

Full text of Hazard Statements: see section 16



Hazard Statements

H226 - Flammable liquid and vapor H302 + H312 + H332 - Harmful if swallowed, in contact with skin or if inhaled H314 - Causes severe skin burns and eye damage

H360FD - May damage fertility. May damage the unborn child

H370 - Causes damage to organs

H373 - May cause damage to organs through prolonged or repeated exposure

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

P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower 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

Additional EU labelling

Restricted to professional users

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

Category 4 (H302) Category 4 (H312) Category 4 (H332) Category 1 B (H314) Category 1 (H318) Category 1 B (H360FD) Category 1 (H370) Category 2 (H373)

3.2. Mixtures

Component	CAS No	EC No	Weight %	CLP Classification - According to GB-CLP Regulations UK SI 2019/720 and UK SI 2020/1567
2-Methoxyethanol	109-86-4	EEC No. 203-713-7	95.00	Flam. Liq. 3 (H226) Acute Tox. 4 (H302) Acute Tox. 4 (H312) Acute Tox. 4 (H332) Repr. 1B (H360FD) STOT SE1 (H370) STOT RE2 (H373)
Zinc 2-methoxyethoxide	129918-15-6		5.00	Skin Corr. 1B (H314) Eye Dam. 1 (H318)

Full text of Hazard Statements: see section 16

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

General Advice	Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.
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. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Call a physician immediately.
Ingestion	Do NOT induce vomiting. Clean mouth with water. Never give anything by mouth to an unconscious person. Call a physician immediately.
Inhalation	If not breathing, give artificial respiration. Remove from exposure, lie down. 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. Call a physician immediately.
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. Difficulty in breathing. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting: 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

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

CO₂, 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 No information available.

5.2. Special hazards arising from the substance or mixture

Thermal decomposition can lead to release of irritating gases and vapors. The product causes burns of eyes, skin and mucous membranes. Flammable. Containers may explode when heated. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back.

Hazardous Combustion Products

None under normal use conditions.

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. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Remove all sources of ignition. Take precautionary measures against static discharges.

6.2. Environmental precautions

Should not be released into the environment. See Section 12 for additional Ecological Information.

6.3. Methods and material for containment and cleaning up

Soak up with inert absorbent material. Keep in suitable, closed containers for disposal. Remove all sources of ignition. 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

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. Keep away from open flames, hot surfaces and sources of ignition. Use only non-sparking tools. Take precautionary measures against static discharges.

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.

Zinc 2-methoxyethoxide, 5% w/v in 2-methoxyethanol

7.2. Conditions for safe storage, including any incompatibilities

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

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
2-Methoxyethanol	STEL: 3 ppm 15 min	TWA: 1 ppm (8h)	TWA: 1 ppm 8 hr.
	STEL: 9 mg/m ³ 15 min	Skin	STEL: 3 ppm 15 min
	TWA: 1 ppm 8 hr		Skin
	TWA: 3 mg/m ³ 8 hr		
	Skin		

Biological limit values

List source(s):

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)
2-Methoxyethanol 109-86-4 (95.00)				11 mg/kg bw/d

Component	Acute effects local (Dermal)	Acute effects systemic (Dermal)	Chronic effects local (Dermal)	Chronic effects systemic (Dermal)
2-Methoxyethanol				DNEL = 0.22mg/kg
109-86-4 (95.00)				bw/day

Component	Acute effects local (Inhalation)	Acute effects systemic (Inhalation)	Chronic effects local (Inhalation)	Chronic effects systemic (Inhalation)
2-Methoxyethanol 109-86-4 (95.00)				DNEL = 0.31mg/m ³

Predicted No Effect Concentration (PNEC)

See values below.

Component	Fresh water	Fresh water sediment		Microorganisms in sewage treatment	
2-Methoxyethanol	PNEC = 10mg/L	PNEC = 36.8mg/kg	PNEC = 94mg/L	PNEC = 1000mg/L	PNEC = 1.87mg/kg

Zinc 2-methoxyethoxide, 5% w/v in 2-methoxyethanol

Revision Date 21-Mar-2024

109-86-4 (95.00) sediment dw soil dw
--

Component	Marine water	Marine water sediment	Marine water intermittent	Food chain	Air
2-Methoxyethanol	PNEC = 1mg/L	PNEC = 3.68mg/kg		PNEC = 7.3mg/kg	
109-86-4 (95.00)		sediment dw		food	

8.2. Exposure controls

Engineering Measures

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

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 eq Eye Protection		(European standard	I - EN 166)		
Hand Protection	Protectiv	ve gloves			
Glove material Viton (R)	Breakthrough time See manufacturers recommendations	Glove thickness	EU standard EN 374	Glove comments (minimum requirement)	

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 Recommended Filter type: low boiling organic solvent Type AX Brown conforming to EN371 or 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 No information available.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Physical State	Liquid
Appearance	Clear

Zinc 2-methoxyethoxide, 5% w/v in 2-methoxyethanol

Revision Date 21-Mar-2024

Odor	No information available	
Odor Threshold	No data available	
Melting Point/Range	No data available	
Softening Point	No data available	
Boiling Point/Range	No information available	
Flammability (liquid)	Flammable	Estimated
Flammability (solid,gas)	Not applicable	Liquid
Explosion Limits	No data available	
Flash Point	No information available	Method - No information available
Autoignition Temperature	No data available	
Decomposition Temperature	No data available	
рН	No information available	
Viscosity	No data available	
Water Solubility	Miscible	
Solubility in other solvents	No information available	
Partition Coefficient (n-octanol/w	vater)	
Component	log Pow	
2-Methoxyethanol	-0.77	
Vapor Pressure	No data available	
Density / Specific Gravity	No data available	
Bulk Density	Not applicable	Liquid
Vapor Density	No data available	(Air = 1.0)
Particle characteristics	Not applicable (liquid)	
9.2. Other information		

Molecular Formula Molecular Weight Explosive Properties C6 H14 O2 Zn 215.56 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 react	ions			
Hazardous Polymerization Hazardous Reactions	No information available. None under normal processing.			
10.4. Conditions to avoid	Keep away from open flames, hot surfaces and sources of ignition.			
10.5. Incompatible materials	None known.			

10.6. Hazardous decomposition products

None under normal use conditions.

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	Category 4
Inhalation	Category 4

Toxicology data for the components

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
2-Methoxyethanol	LD50 = 2370 mg/kg (Rat)	LD50 = 1280 mg/kg (Rabbit)	LC50 = 1478 ppm (Rat) 7 h
(b) skin corrosion/irritation;	Category 1 B		
(c) serious eye damage/irritation;	Category 1		
(d) respiratory or skin sensitization; Respiratory Skin	No data available No data available		
(e) germ cell mutagenicity;	No data available		
(f) carcinogenicity;	No data available		
	There are no known carcinoge	enic chemicals in this product	
(g) reproductive toxicity;	Category 1B		
(h) STOT-single exposure;	Category 1		
Results / Target organs	Immune system.		
(i) STOT-repeated exposure;	Category 2		
Target Organs	Thymus.		
(j) aspiration hazard;	No data available		
Symptoms / effects,both acute and delayed	Product is a corrosive materia Possible perforation of stomac	ay be headache, dizziness, tire I. Use of gastric lavage or eme ch or esophagus should be inve ge to the delicate tissue and da	esis is contraindicated. estigated. Ingestion causes
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

Zinc 2-methoxyethoxide, 5% w/v in 2-methoxyethanol

Component	Freshwater Fish	Water Flea	Freshwater Algae
2-Methoxyethanol	LC50: = 9650 mg/L, 96h static (Lepomis macrochirus) LC50: = 16000 mg/L, 96h static (Oncorhynchus mykiss) LC50: = 10000 mg/L, 96h static (Lepomis macrochirus)		

12.2. Persistence and degradability

Persistence Persistence is unlikely.

12.3. Bioaccumulative potential Bioaccumulation is unlikely

Component	log Pow	Bioconcentration factor (BCF)
2-Methoxyethanol	-0.77	No data available

12.4. Mobility in soilThe product is water soluble, and may spread in water systemsWill likely be mobile in the
environment due to its water solubility. Highly mobile in soils12.5. Results of PBT and vPvB
assessmentNo data available for assessment.12.6. Endocrine disrupting
properties
Endocrine Disruptor InformationThis product does not contain any known or suspected endocrine disruptors

12.7. Other adverse effectsPersistent Organic PollutantThis product does not contain any known or suspected substanceOzone Depletion PotentialThis 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	Waste codes should be assigned by the user based on the application for which the product was used. Do not flush to sewer. Can be landfilled or incinerated, when in compliance with local regulations. Do not empty into drains. Large amounts will affect pH and harm aquatic organisms.

Zinc 2-methoxyethoxide, 5% w/v in 2-methoxyethanol

SECTION 14: TRANSPORT INFORMATION

IMDG/IMO

<u>14.1. UN number</u> 14.2. UN proper shipping name 14.3. Transport hazard class(es) 14.4. Packing group	UN1188 ETHYLENE GLYCOL MONOMETHYL ETHER 3 III
ADR	
<u>14.1. UN number</u> 14.2. UN proper shipping name 14.3. Transport hazard class(es) 14.4. Packing group	UN1188 ETHYLENE GLYCOL MONOMETHYL ETHER 3 III
IATA	
<u>14.1. UN number</u> <u>14.2. UN proper shipping name</u> 14.3. Transport hazard class(es) 14.4. Packing group	UN1188 ETHYLENE GLYCOL MONOMETHYL ETHER 3 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
2-Methoxyethanol	109-86-4	203-713-7	-	-	Х	Х	KE-23272	Х	Х
Zinc 2-methoxyethoxide	129918-15-6	-	-	-	-	-	-	-	-

Component	CAS No	TSCA	TSCA Inventory notification - Active-Inactive	DSL	NDSL	AICS	NZIoC	PICCS
2-Methoxyethanol	109-86-4	Х	ACTIVE	Х	-	Х	Х	Х
Zinc 2-methoxyethoxide	129918-15-6	-	-	-	-	-	-	-

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)

Zinc 2-methoxyethoxide, 5% w/v in 2-methoxyethanol

Revision Date 21-Mar-2024

2-Methoxyethanol	109-86-4	-	Use restricted. See item 30.	SVHC Candidate list - 203-713-7 - Toxic for
			(see link for restriction details)	reproduction, Article 57c
			Use restricted. See item 75.	
			(see link for restriction details)	
Zinc 2-methoxyethoxide	129918-15-6	-	-	-

After the sunset date the use of this substance requires either an authorization or can only be used for exempted uses, e.g. use in scientific research and development which includes routine analytics or use as intermediate.

REACH links

https://echa.europa.eu/authorisation-list https://echa.europa.eu/substances-restricted-under-reach https://echa.europa.eu/candidate-list-table

Seveso III Directive (2012/18/EC)

Component	CAS No	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements
2-Methoxyethanol	109-86-4	Not applicable	Not applicable
Zinc 2-methoxyethoxide	129918-15-6	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

Take note of Directive 94/33/EC on the protection of young people at work

Take note of Dir 92/85/EC on the protection of pregnant and breastfeeding women 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 = 2 (self classification)

Component	Germany - Water Classification (AwSV)	Germany - TA-Luft Class
2-Methoxyethanol	WGK 2	

Component	France - INRS (Tables of occupational diseases)
2-Methoxyethanol	Tableaux des maladies professionnelles (TMP) - RG 84

Redu	nd - Ordinance on the ction of Risk from ling of hazardous ices 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
------	--	--

Zinc 2-methoxyethoxide, 5% w/v in 2-methoxyethanol

Revision Date 21-Mar-2024

2-Methoxyethanol	Group I	
109-86-4 (95.00)		

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

- H302 Harmful if swallowed
- H312 Harmful in contact with skin
- H332 Harmful if inhaled
- H314 Causes severe skin burns and eye damage

H318 - Causes serious eye damage

- H370 Causes damage to organs
- H360FD May damage fertility. May damage the unborn child
- H373 May cause damage to organs through prolonged or repeated exposure
- H226 Flammable liquid and vapor

Legend

CAS - Chemical Abstracts Service	TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
EINECS/ELINCS - European Inventory of Existing Commercial Chemical	,
Substances/EU List of Notified Chemical Substances	Substances List
PICCS - Philippines Inventory of Chemicals and Chemical Substances	ENCS - Japanese Existing and New Chemical Substances
IECSC - Chinese Inventory of Existing Chemical Substances	AICS - Australian Inventory of Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances	NZIOC - New Zealand Inventory of Chemicals
WEL - Workplace Exposure Limit	TWA - Time Weighted Average
ACGIH - American Conference of Governmental Industrial Hygienists	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
PBT - Persistent, Bioaccumulative, Toxic	vPvB - very Persistent, very Bioaccumulative
ADR - European Agreement Concerning the International Carriage of	ICAO/IATA - International Civil Aviation Organization/International Air
Dangerous Goods by Road	Transport Association
IMO/IMDG - International Maritime Organization/International Maritime	MARPOL - International Convention for the Prevention of Pollution from
Dangerous Goods Code	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, R	TECS

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:Physical hazardsOn basis of test dataHealth HazardsCalculation methodEnvironmental hazardsCalculation method

Training Advice

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

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

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

Chemical incident response training.

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

Prepared By Revision Date Revision Summary

Health, Safety and Environmental Department 21-Mar-2024 New emergency telephone response service provider.

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