

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

Creation Date 20-Sep-2011

Revision Date 02-Feb-2024

Revision Number 5

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

1.1. Product identifier

Product Description:	1,2-Dibromoethane
Cat No. :	A12766
Synonyms	EDB; Ethylene dibromide
Index No	602-010-00-6
CAS No	106-93-4
Molecular Formula	C2 H4 Br2
REACH registration number	-

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	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
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

1,2-Dibromoethane

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

Environmental hazards

Chronic aquatic toxicity

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Category 3 (H301) Category 3 (H311) Category 3 (H331) Category 2 (H315) Category 2 (H319) Category 1B (H350) Category 3 (H335)

Category 2 (H411)

Full text of Hazard Statements: see section 16



Signal Word

Danger

Hazard Statements

- H319 Causes serious eye irritation
- H315 Causes skin irritation
- H350 May cause cancer
- H411 Toxic to aquatic life with long lasting effects

H335 - May cause respiratory irritation

H301 + H311 + H331 - Toxic if swallowed, in contact with skin or if inhaled

Precautionary Statements

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

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

P308 + P313 - IF exposed or concerned: Get medical advice/attention

P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

P261 - Avoid breathing dust/fume/gas/mist/vapors/spray

P273 - Avoid release to the environment

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

Additional EU labelling

Restricted to professional users

2.3. Other hazards

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

Toxic to terrestrial vertebrates

This product does not contain any known or suspected endocrine disruptors

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances

Component	CAS No	EC No	Weight %	CLP Classification - According to
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1,2-Dibromoethane

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				GB-CLP Regulations UK SI 2019/720 and UK SI 2020/1567
Ethylene dibromide (1,2-Dibromoethane)	106-93-4	EEC No. 203-444-5	<100	Acute Tox. 3 (H301) Acute Tox. 3 (H311) Acute Tox. 3 (H331) Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) Carc. 1B (H350) STOT SE 3 (H335) Aquatic Chronic 2 (H411)

Component	Specific concentration limits (SCL's)	M-Factor	Component notes
Ethylene dibromide (1,2-Dibromoethane)	Carc. 1B : C ≥ 0.1 % Eye Irrit. 2 : C > 3 % Skin Irrit. 2 : C > 3 %	-	-

REACH registration number	-

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	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Immediate medical attention is required.
Ingestion	Call a physician immediately. Clean mouth with water.
Inhalation	Remove from exposure, lie down. Remove to fresh air. If not breathing, give artificial respiration. Immediate medical attention is required.
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. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting
4.3 Indication of any immediate me	dical attention and special treatment peeded

4.3. Indication of any immediate medical attention and special treatment needed

Notes to Physician	Treat symptomatically. Symptoms may be delayed.
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SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media

Suitable Extinguishing Media

Water spray. Carbon dioxide (CO₂). Dry chemical. 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

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

1,2-Dibromoethane

Hazardous Combustion Products

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

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation.

6.2. Environmental precautions

Do not flush into surface water or sanitary sewer system.

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). Keep in suitable, closed containers for disposal.

6.4. Reference to other sections

Refer to protective measures listed in Sections 8 and 13.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

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. Protect from direct sunlight. Do not store in metal containers.

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

8.1. Control parameters

Exposure limits

1,2-Dibromoethane

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 **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

Component	The United Kingdom	European Union	Ireland
Ethylene dibromide (1,2-Dibromoethane)	STEL: 1.5 ppm 15 min	TWA: 0.8 mg/m ³ (8h)	TWA: 0.1 ppm 8 hr.
	STEL: 11.7 mg/m ³ 15 min	TWA: 0.1 ppm (8h)	TWA: 0.8 mg/m ³ 8 hr.
	TWA: 0.5 ppm 8 hr	Skin	STEL: 0.3 ppm 15 min
	TWA: 3.9 mg/m ³ 8 hr		STEL: 2.4 mg/m ³ 15 min
	Carc.		Skin
	Skin		

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 (Dermal)	Acute effects systemic (Dermal)	Chronic effects local (Dermal)	Chronic effects systemic (Dermal)
Ethylene dibromide		DNEL = 1.13mg/kg		DMEL = 0.01mg/kg
(1,2-Dibromoethane)		bw/day		bw/day
106-93-4(<100)				

Component	Acute effects local (Inhalation)	Acute effects systemic (Inhalation)	Chronic effects local (Inhalation)	Chronic effects systemic (Inhalation)
Ethylene dibromide		DNEL = 8mg/m ³	DNEL = 2.3mg/m ³	DMEL = 0.0005mg/m ³
(1,2-Dibromoethane)				
106-93-4 (<100)				

Predicted No Effect Concentration (PNEC)

See values below.

Component	Fresh water	Fresh water	Water Intermittent	Microorganisms in	Soil (Agriculture)
		sediment		sewage treatment	
Ethylene dibromide (1,2-Dibromoethane) 106-93-4 (<100)	PNEC = 58.1µg/L	PNEC = 0.884mg/kg sediment dw	PNEC = 0.0113mg/L	PNEC = 10mg/L	PNEC = 0.625mg/kg soil dw

Component	Marine water	Marine water sediment	Marine water intermittent	Food chain	Air
Ethylene dibromide (1,2-Dibromoethane) 106-93-4 (<100)	PNEC = 5.81µg/L	PNEC = 0.0884mg/kg sediment dw		PNEC = 0.097mg/kg food	

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

1,2-Dibromoethane

	Breakthrough time	Glove thickness	EU standard	Glove comments
Viton (R)	See manufacturers	-	EN 374	(minimum requirement)
	recommendations			
Skin and body protec	tion Wear ap	propriate protective	gloves and clothing to	prevent skin exposure.
Inspect gloves before use.				
Please observe the instruct	tions regarding perm	eability and breakthro	ough time which are p	rovided by the supplier of the gloves.
(Refer to manufacturer/sup				
				nditions, User susceptibility, e.g.
	ake into consideration	n the specific local co	onditions under which	the product is used, such as the danger
of cuts, abrasion.				
Remove gloves with care a	ivoiding skin contami	nation.		
Respiratory Protectio		orkers are facing cor ate certified respirato		exposure limit they must use
	To prote			ment must be the correct fit and be used
Large scale/emergency u			pean Standard EN 13 r other symptoms are	6 approved respirator if exposure limits
		nended Filter type:		apours filter Type A Brown conforming to
Small scale/Laboratory us			pean Standard EN 14 tion or other symptom	9:2001 approved respirator if exposure
				5; or; Half mask: EN140; plus filter, EN
		PE is used a face pie	ece Fit Test should be	conducted
Environmental exposure	controls Prevent system.	product from entering	g drains. Do not allow	material to contaminate ground water

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	Colorless sweet No data available 9 - 10 °C / 48.2 - 50 °F No data available 131 - 132 °C / 267.8 - 269.6 °F No data available Not applicable No data available	Liquid
Flash Point	 > 104 °C / > 219.2 °F No data available 	Method - No information available
Autoignition Temperature Decomposition Temperature pH	> 340°C No information available	
Viscosity Water Solubility Solubility in other solvents	No data available 4 g/L (20°C) No information available	
Partition Coefficient (n-octanol/wate		
Component Ethylene dibromide (1,2-Dibromoethane)	log Pow 1.93	
Vapor Pressure Density / Specific Gravity Bulk Density	11 mmHg @ 25 °C 2.173 Not applicable	Liquid
Vapor Density	6.5 (Air = 1.0)	(Air = 1.0)

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Particle characteristics	Not applicable (liquid)
9.2. Other information	
Molecular Formula Molecular Weight	C2 H4 Br2 187.86
	SECTION 10: STABILITY AND REACTIVITY
10.1. Reactivity	None known, based on information available
10.2. Chemical stability	Decomposes in contact with water. heat sensitive. Light sensitive. Decomposes on exposure to light.
10.3. Possibility of hazardous re	actions
Hazardous Polymerization Hazardous Reactions	No information available. No information available.
10.4. Conditions to avoid	Exposure to light. Incompatible products. Exposure to moisture.
10.5. Incompatible materials	Strong bases. Ammonia. Metals.
10.6 Hazardous decomposition	products

10.6. Hazardous decomposition products

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

SECTION 11: TOXICOLOGICAL	INFORMATION
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11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Product Information

1,2-Dibromoethane

(a) acute toxicity;	
Oral	Category 3
Dermal	Category 3
Inhalation	Category 3

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Ethylene dibromide (1,2-Dibromoethane)	LD50 = 117 mg/kg (Rat)	LD50 = 300 mg/kg (Rabbit)	LC50 > 200 ppm (Rat) 4 h

	(h)	okin correcton/irritation.	Cotogory 2
1	U)	skin corrosion/irritation;	Category 2

(c) serious eye damage/irritation; Category 2

- (d) respiratory or skin sensitization; Respiratory Skin
 (e) germ cell mutagenicity;
 No data available
- (f) carcinogenicity; Category 1B

1,2-Dibromoethane

The table below indicates whether each agency has listed any ingredient as a carcinogen

Component	EU	UK	Germany	IARC
Ethylene dibromide	Carc Cat. 1B		Cat. 2	Group 2A
(1,2-Dibromoethane)				

(g) reproductive toxicity;	No data available
(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;	No data available
Symptoms / effects,both acute and delayed	Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.

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. Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Component	Freshwater Fish	Water Flea	Freshwater Algae
Ethylene dibromide (1,2-Dibromoethane)	LC50: 27.6 - 37.4 mg/L, 96h flow-through (Oryzias latipes)		

Component	Microtox	M-Factor
Ethylene dibromide (1,2-Dibromoethane)	EC50 = 735 mg/L 5 min	

12.2. Persistence and degradability Not readily biodegradable

Persistence is unlikely.

Degradation in sewage treatment plant

Persistence

Contains substances known to be hazardous to the environment or not degradable in waste water treatment plants.

12.3. Bioaccumulative potential

Bioaccumulation is unlikely

Component	log Pow	Bioconcentration factor (BCF)
Ethylene dibromide (1,2-Dibromoethane)	1.93	<10 dimensionless

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

Component	EU - Endocrine Disrupters Candidate List	EU - Endocrine Disruptors - Evaluated
		Substances
Ethylene dibromide (1.2-Dibromoethane)	Group III Chemical	

12.7. Other adverse effects Persistent Organic Pollutant Ozone Depletion Potential

This product does not contain any known or suspected substance This product does not contain any known or suspected substance

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste from Residues/Unused Products	Waste is classified as hazardous. Dispose of in accordance with the European Directives on waste and hazardous waste. Dispose of in accordance with local regulations.
Contaminated Packaging	Dispose of this container to hazardous or special waste collection point.
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. Do not let this chemical enter the environment.

SECTION 14: TRANSPORT INFORMATION

IMDG/IMO

<u>14.1. UN number</u> 14.2. UN proper shipping name	UN1605 ETHYLENE DIBROMIDE
14.3. Transport hazard class(es)	6.1
14.4. Packing group	Ι

ADR

<u>14.1. UN number</u> <u>14.2. UN proper shipping name</u> <u>14.3. Transport hazard class(es)</u> <u>14.4. Packing group</u>	UN1605 ETHYLENE DIBROMIDE 6.1 I
IATA	FORBIDDEN FOR IATA TRANSPORT
<u>14.1. UN number</u> <u>14.2. UN proper shipping name</u> <u>14.3. Transport hazard class(es)</u> <u>14.4. Packing group</u>	UN1605 ETHYLENE DIBROMIDE, FORBIDDEN FOR IATA TRANSPORT 6.1 I
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	Not applicable, packaged goods

1,2-Dibromoethane

according to IMO instruments

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 dibromide	106-93-4	203-444-5	-	-	Х	Х	KE-05-044	Х	Х
(1,2-Dibromoethane)							7		

Component	CAS No	TSCA	TSCA Inventory notification - Active-Inactive	DSL	NDSL	AICS	NZIoC	PICCS
Ethylene dibromide (1,2-Dibromoethane)	106-93-4	x	ACTIVE	х	-	Х	X	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)
Ethylene dibromide (1,2-Dibromoethane)	106-93-4	-	Use restricted. See item 28. (see link for restriction details) 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) - Qualifying Quantities for Major Accident Notification	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements
Ethylene dibromide (1,2-Dibromoethane)	106-93-4	0.5 tonne	2 tonne

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

Component	ANNEX I - PART 1 List of chemicals subject to export notification procedure (referred to in Article 8)	ANNEX I - PART 2 List of chemicals qualifying for PIC notification (referred to in Article 11)	ANNEX I - PART 3 List of chemicals subject to the PIC procedure (referred to in Articles 13 and 14)
Ethylene dibromide (1,2-Dibromoethane) 106-93-4 (<100)	p(1) — pesticide in the group of plant protection products b — ban (for the category or categories concerned)	-	p — pesticides
	p(2) — other pesticide including biocides b — ban (for the category or		

1,2-Dibromoethane

categories concerned)	
Ref — Please refer to PIC	
circular at www.pic.int/	

https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32012R0649&qid=1604065742303.

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 Dir 76/769/EEC relating to restrictions on the marketing and use of certain dangerous substances and preparations

National Regulations

UK - Take note of Control of Substances Hazardous to Health Regulations (COSHH) 2002 and 2005 Amendment

WGK Classification

See table for values

rmany - Water Classification (AwSV)	Germany - TA-Luft Class
WGK3	
	WGK3

Component	France - INRS (Tables of occupational diseases)
Ethylene dibromide	Tableaux des maladies professionnelles (TMP) - RG 12
(1,2-Dibromoethane)	

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
Ethylene dibromide (1,2-Dibromoethane)	Persistent Organic Pollutants		Annex I - pesticide
106-93-4 (<100)	(POPs)		Annex II - pesticide

15.2. Chemical safety assessment

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

SECTION 16: OTHER INFORMATION

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

H301 - Toxic if swallowed

H311 - Toxic in contact with skin

H315 - Causes skin irritation

H319 - Causes serious eye irritation

H331 - Toxic if inhaled

H335 - May cause respiratory irritation

H350 - May cause cancer

H411 - Toxic 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 List/Non-Domestic Substances List

1,2-Dibromoethane

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 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	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)

Training Advice

Key literature references and sources for data https://echa.europa.eu/information-on-chemicals

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.

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

Prepared By	Health, Safety and Environmental Department
Creation Date	20-Sep-2011
Revision Date	02-Feb-2024
Revision Summary	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