

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

Creation Date 27-Jan-2010

Revision Date 02-May-2025

**Revision Number** 7

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

#### 1.1. Product identifier

Product Description:	<b>Dichloromethane</b>
Cat No. :	22917
Synonyms	Dichloromethane; DCM
Index No	602-004-00-3
CAS No	75-09-2
EC No	200-838-9
Molecular Formula	C H2 Cl2
REACH registration number	-

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

Recommended Use	Laboratory chemicals.
Sector of use	SU3 - Industrial uses: Uses of substances as such or in preparations at industrial sites
Product category	PC21 - Laboratory chemicals
Process categories	PROC15 - Use as a laboratory reagent
Environmental release category	ERC6a - Industrial use resulting in manufacture of another substance (use of intermediates)
Uses advised against	REACH Annex XVII Restriction - refer to SECTION 15

#### 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

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

Physical hazards

#### Dichloromethane

Based on available data, the classification criteria are not met

#### Health hazards

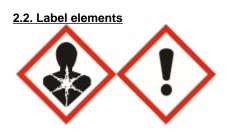
Skin Corrosion/Irritation Serious Eye Damage/Eye Irritation Carcinogenicity Specific target organ toxicity - (single exposure)

## Environmental hazards

Based on available data, the classification criteria are not met

Category 2 (H315) Category 2 (H319) Category 2 (H351) Category 3 (H336)

Full text of Hazard Statements: see section 16



Signal Word

Warning

#### Hazard Statements

H315 - Causes skin irritation

H319 - Causes serious eye irritation

H336 - May cause drowsiness or dizziness

H351 - Suspected of causing cancer

The vapor has narcotic effect and in high concentrations induces unconsciousness which can be fatal

#### **Precautionary Statements**

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

P284 - Wear respiratory protection

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

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

P312 - Call a POISON CENTER or doctor if you feel unwell

#### Additional EU labelling

Restricted to industrial use and to approved professionals

#### 2.3. Other hazards

Substance is not considered persistent, bioaccumulative and toxic (PBT) / very persistent and very bioaccumulative (vPvB) Causes formation of carbon monoxide in the blood. Carbon monoxide may cause adverse effects on the cardiovascular system and the central nervous system

The vapor has narcotic effect and in high concentrations induces unconsciousness which can be fatal Do not use in areas without adequate ventilation.

Vapors are heavier than air and can cause suffocation by reducing oxygen available for breathing Decomposes in a fire, giving off toxic fumes: phosgene and hydrochloric acid, Carbon monoxide Empty containers pose a potential fire and explosion hazard. Do not cut, puncture of weld containers This product does not contain any known or suspected endocrine disruptors

#### Dichloromethane

# SAFETY DATA SHEET

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

#### 3.1. Substances

Component	CAS No	EC No	Weight %	GHS Classification - According to GB-CLP Regulations UK SI 2019/720 and UK SI 2020/1567
Methylene chloride	75-09-2	EEC No. 200-838-9	>99.5	Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) STOT SE 3 (H336) Carc. 2 (H351)

#### Note

Stabilised with Amylene (CAS 513-35-9)

REACH registration number	-

Full text of Hazard Statements: see section 16

# **SECTION 4: FIRST AID MEASURES**

#### 4.1. Description of first aid measures

General Advice	If symptoms persist, call a physician.
Eye Contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.
Skin Contact	Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician.
Ingestion	Clean mouth with water and drink afterwards plenty of water.
Inhalation	Remove to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms occur.
Self-Protection of the First Aider	Use personal protective equipment as required.
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: Causes central nervous system depression: Continued or high exposures by inhalation will cause anaesthetic effects. This may result in a loss of consciousness and could prove fatal: Causes formation of carbon monoxide in the blood. Carbon monoxide may cause adverse effects on the cardiovascular system and the central nervous system
4.3. Indication of any immediate me	edical attention and special treatment needed

## **SECTION 5: FIREFIGHTING MEASURES**

#### 5.1. Extinguishing media

#### Suitable Extinguishing Media

Water spray, carbon dioxide (CO2), dry chemical, alcohol-resistant 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. Keep product and empty container away from heat and sources of ignition.

#### **Hazardous Combustion Products**

Carbon monoxide (CO), Carbon dioxide (CO<sub>2</sub>), Phosgene, Hydrogen chloride gas.

#### 5.3. Advice for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

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

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

Use personal protective equipment as required. Ensure adequate ventilation. Avoid breathing vapors or mists. Wear respiratory protection.

#### 6.2. Environmental precautions

Should not be released into the environment.

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

Prevent further leakage or spillage if safe to do so. Soak up with inert absorbent material. Keep in suitable, closed containers for disposal. Ventilate the area.

#### 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. Avoid ingestion and inhalation. Vapors are heavier than air and may spread along floors. Handle product only in closed system or provide appropriate exhaust ventilation. Reacts with aluminum and its alloys.

#### **Hygiene Measures**

Handle in accordance with good industrial hygiene and safety practice.

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

Keep containers tightly closed in a dry, cool and well-ventilated place. Do not store in aluminum containers.

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): **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
Methylene chloride	STEL: 200 ppm 15 min	TWA: 353 mg/m <sup>3</sup> (8h)	TWA: 100 ppm 8 hr.
	STEL: 706 mg/m <sup>3</sup> 15 min	TWA: 100 ppm (8h)	TWA: 353 mg/m <sup>3</sup> 8 hr.
	TWA: 353 mg/m <sup>3</sup> 8 hr	STEL: 706 mg/m <sup>3</sup> (15min)	STEL: 200 ppm 15 min
	TWA: 100 ppm 8 hr	STEL: 200 ppm (15min)	STEL: 706 mg/m <sup>3</sup> 15 min
	Skin	Skin	Skin

#### Biological limit values

List source(s): **UK** - Biological Monitoring Guidance Values provided by the UK's Health and Safety Executive (HSE) Control of Substances Hazardous to Health Regulations (COSHH) 2002 (as amended) and EH40/2005.

Component	United Kingdom	European Union
Methylene chloride	Carbon monoxide: 30 ppm end-tidal breath	
	post shift	

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

See table for values

Component	Acute effects local (Dermal)	Acute effects systemic (Dermal)	Chronic effects local (Dermal)	Chronic effects systemic (Dermal)
Methylene chloride 75-09-2 ( >99.5 )				DNEL = 12mg/kg bw/day

Component	Acute effects local (Inhalation)	Acute effects systemic (Inhalation)	Chronic effects local (Inhalation)	Chronic effects systemic (Inhalation)
Methylene chloride 75-09-2 ( >99.5 )		DMEL = 132.14mg/m <sup>3</sup>		DNEL = 176mg/m <sup>3</sup>

#### Predicted No Effect Concentration (PNEC)

Predicted No Effect Concentration (PNEC). See values below.

Component	Fresh water	Fresh water	Water Intermittent	Microorganisms in	Soil (Agriculture)
		sediment		sewage treatment	
Methylene chloride	PNEC = 130µg/L	PNEC = 163µg/kg	PNEC = 0.27mg/L	PNEC = 26mg/L	PNEC = 173µg/kg
75-09-2 (>99.5)	PNEC = 0.31 mg/L	sediment dw			soil dw
		PNEC = 2.57mg/kg			PNEC = 0.33mg/kg
		sediment dw			soil dw

Component	Marine water	Marine water sediment	Marine water intermittent	Food chain	Air
Methylene chloride	PNEC = 130µg/L	PNEC = 163µg/kg	PNEC = 0.027mg/L		

#### Dichloromethane

75-09-2 (>99.5)	PNEC = 0.031mg/L	sediment dw		
		PNEC = 0.26mg/kg		
		sediment dw		

#### 8.2. Exposure controls

#### **Engineering Measures**

Use only under a chemical fume hood. Ensure that eyewash stations and safety showers are close to the workstation location. Ensure adequate ventilation, especially in confined areas.

Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source

#### Personal protective equipment

I	Eye Protection	Goggles	(European standard - EN 166)

Hand Protection	Protective gloves
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<b>Glove material</b> Viton (R) Nitrile rubber PVA	Breakthrough tim < 120 minutes < 4 minutes > 360 minutes	e Glove thickness 0.7 mm 0.38 mm	EU standard EN 374	Glove comments As tested under EN374-3 Determination of Resistance to Permeation by Chemicals
Skin and body prot	ection Long	leeved 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	In case of inadequate ventilation wear 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	In case of insufficient ventilation, wear suitable respiratory equipment: Any supplied-air respirator that has a full facepiece and is operated in a pressure-demand or other positive pressure mode: When workers are facing concentrations above the exposure limit they must use appropriate certified respirators: full face mask (DIN EN 136) <b>Recommended Filter type:</b> low boiling organic solvent Type AX Brown conforming to EN371
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 No information available.

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

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

Physical State	Liquid
Appearance	Colorless

ALFAA22917

Odor	sweet	
Odor Threshold	No data available	
Melting Point/Range	-97 °C / -142.6 °F	
Softening Point	No data available	
Boiling Point/Range	39 °C / 102.2 °F	
Flammability (liquid)	No data available	
Flammability (solid,gas)	Not applicable	Liquid
Explosion Limits	Lower 13 vol%	
	Upper 22 vol%	
Flash Point	No information available	Method - No information available
Autoignition Temperature	556 °C / 1032.8 °F	
Decomposition Temperature	No data available	
рН	Not applicable	Insoluble in water
Viscosity	0.42 mPas @ 25°C	
Water Solubility	20 g/L (20°C)	
Solubility in other solvents	No information available	
Partition Coefficient (n-octanol/wa		
Component	log Pow	
Methylene chloride	1.25	
Vapor Pressure	350 mbar @ 20°C	
Density / Specific Gravity	1.33	
Bulk Density	Not applicable	Liquid
Vapor Density	2.93	(Air = 1.0)
Particle characteristics	Not applicable (liquid)	
9.2. Other information		
Molecular Formula	C H2 Cl2	
Molecular Weight	84.93	

# **SECTION 10: STABILITY AND REACTIVITY**

10.1. Reactivity	None known, based on information available		
10.2. Chemical stability	Stable under normal conditions. Decomposes on exposure to light.		
10.3. Possibility of hazardous react	ions		
Hazardous Polymerization Hazardous Reactions	Hazardous polymerization does not occur. Forms a detonable mixture with nitric acid.		
10.4. Conditions to avoid	Excess heat. Protect from direct sunlight.		
10.5. Incompatible materials	Strong oxidizing agents. Strong acids. Amines.		
<u>10.6. Hazardous decomposition products</u>			

Carbon monoxide (CO). Carbon dioxide (CO<sub>2</sub>). Phosgene. Hydrogen chloride gas.

# SECTION 11: TOXICOLOGICAL INFORMATION

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

Dichloromethane

### Dichloromethane

### **Product Information**

#### (a) acute toxicity; Oral

Inhalation

Dermal

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

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Methylene chloride	> 2000 mg/kg (Rat)	> 2000 mg/kg ( Rat )	53 mg/L ( Rat ) 6 h
			76000 mg/m <sup>3</sup> ( Rat ) 4 h

(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
(e) germ cell mutagenicity;	Based on available data, the classification criteria are not met
(f) carcinogenicity;	Category 2
	The table below indicates whether each agency has listed any ingredient as a carcinogen

Component	EU	UK	Germany	IARC	
Methylene chloride				Group 2A	
(g) reproductive toxicity;	Based on availab	Based on available data, the classification criteria are not met			
(h) STOT-single exposure;	Category 3	Category 3			
Results / Target organs	Central nervous	Central nervous system (CNS).			
(i) STOT-repeated exposure;	Based on availab	Based on available data, the classification criteria are not met			
Target Organs	None known.	None known.			
(j) aspiration hazard;	Based on availab	Based on available data, the classification criteria are not met			
Other Adverse Effects	Tumorigenic effe	Tumorigenic effects have been reported in experimental animals.			
Symptoms / effects,both acute and delayed Inhalation of high vapor concentrations may cause symptoms like headache, dizziness tiredness, nausea and vomiting. Causes central nervous system depression. Continued high exposures by inhalation will cause anaesthetic effects. This may result in a loss of consciousness and could prove fatal. Causes formation of carbon monoxide in the bloc Carbon monoxide may cause adverse effects on the cardiovascular system and the centro nervous system.			pression. Continued or ay result in a loss of nonoxide in the blood.		
11.2. Information on other haza	ards_				

Endocrine Disrupting Properties	
Assess endocrine disrupting	Contains a substance on the National Authorities Endocrine Disruptor Lists
properties for human health	

## **SECTION 12: ECOLOGICAL INFORMATION**

#### 12.1. Toxicity Ecotoxicity effects

Component	Freshwater Fish	Water Flea	Freshwater Algae
Methylene chloride	Pimephales promelas: LC50:193 mg/L/96h	EC50: 140 mg/L/48h	EC50:>660 mg/L/96h

Component	Microtox	M-Factor
Methylene chloride	EC50: 1 mg/L/24 h	
	EC50: 2.88 mg/L/15 min	

#### 12.2. Persistence and degradability

Persistence

Persistence is unlikely, based on information available.

12.3. Bioaccumulative potential

Bioaccumulation is unlikely

.

Component	log Pow	Bioconcentration factor (BCF)
Methylene chloride	1.25	6.4 - 40 dimensionless
		•

**12.4. Mobility in soil** The product contains volatile organic compounds (VOC) which will evaporate easily from all surfaces Will likely be mobile in the environment due to its volatility. Disperses rapidly in air

 12.5. Results of PBT and vPvB
 Substance is not considered persistent, bioaccumulative and toxic (PBT) / very persistent and very bioaccumulative (vPvB).

 12.6. Endocrine disrupting
 12.6. Endocrine disrupting

<b></b>	
properties	
properties	
Endocrine Disruptor Information	This product does not contain any known or suspected endocrine disruptors

12.7. Other adverse effects	
Persistent Organic Pollutant	This product does not contain any known or suspected substance
Ozone Depletion Potential	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	Waste codes should be assigned by the user based on the application for which the product was used. Do not empty into drains.

#### Dichloromethane

## **SECTION 14: TRANSPORT INFORMATION**

#### IMDG/IMO

<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>	UN1593 Dichloromethane 6.1 III
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>	UN1593 Dichloromethane 6.1 III
IATA	
14.1. UN number 14.2. UN proper shipping name 14.3. Transport hazard class(es) 14.4. Packing group	UN1593 Dichloromethane 6.1 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
Methylene chloride	75-09-2	200-838-9	-	-	Х	Х	KE-23893	Х	Х
Component	CAS No	TSCA	notific	iventory ation - Inactive	DSL	NDSL	AICS	NZIoC	PICCS
Methylene chloride	75-09-2	Х	ACT	IVE	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 (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances	REACH Regulation (EC 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC)
Methylene chloride	75-09-2	-	Use restricted. See entry 59.	-

#### Dichloromethane

	(see link for restriction details) Use restricted. See entry 75.	
	(see link for restriction details)	

#### **REACH links**

*https://echa.europa.eu/substances-restricted-under-reach* Restricted to industrial use and to approved professionals.

#### 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 I	
		Notification	Requirements
Methylene chloride	75-09-2	Not applicable	Not applicable

# Regulation (EC) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of dangerous chemicals

Not applicable

# Contains component(s) that meet a 'definition' of per & poly fluoroalkyl substance (PFAS)? Not applicable

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work .

Take note of Directive 2000/39/EC establishing a first list of indicative occupational exposure limit values

#### National Regulations

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

#### WGK Classification

See table for values

Component	Germany - Water Classification (AwSV)	Germany - TA-Luft Class
Methylene chloride	WGK2	Class I : 20 mg/m <sup>3</sup> (Massenkonzentration)

Component	France - INRS (Tables of occupational diseases)
Methylene chloride	Tableaux des maladies professionnelles (TMP) - RG 12

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
Methylene chloride 75-09-2 ( >99.5 )	Persistent Organic Pollutants (POPs) Prohibited and Restricted Substances	Group I	

#### 15.2. Chemical safety assessment

A Chemical Safety Assessment/Report (CSA/CSR) has been conducted

#### Dichloromethane

### **SECTION 16: OTHER INFORMATION**

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

H315 - Causes skin irritation

H319 - Causes serious eye irritation

H336 - May cause drowsiness or dizziness

H351 - Suspected of causing cancer

#### Legend

CAS - Chemical Abstracts Service	<b>TSCA</b> - 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 PICCS - Philippines Inventory of Chemicals and Chemical Substances IECSC - Chinese Inventory of Existing Chemical Substances KECL - Korean Existing and Evaluated Chemical Substances	5
<ul> <li>WEL - Workplace Exposure Limit</li> <li>ACGIH - American Conference of Governmental Industrial Hygienists</li> <li>DNEL - Derived No Effect Level</li> <li>RPE - Respiratory Protective Equipment</li> <li>LC50 - Lethal Concentration 50%</li> <li>NOEC - No Observed Effect Concentration</li> <li>PBT - Persistent, Bioaccumulative, Toxic</li> </ul>	<ul> <li>TWA - Time Weighted Average</li> <li>IARC - International Agency for Research on Cancer</li> <li>Predicted No Effect Concentration (PNEC)</li> <li>LD50 - Lethal Dose 50%</li> <li>EC50 - Effective Concentration 50%</li> <li>POW - Partition coefficient Octanol:Water</li> <li>vPvB - very Persistent, very Bioaccumulative</li> </ul>
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 Key literature references and sources for data	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)

https://echa.europa.eu/information-on-chemicals

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

#### **Training Advice**

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

Prepared By	Health, Safety and Environmental Department
Creation Date	27-Jan-2010
Revision Date	02-May-2025
Revision Summary	SDS sections updated, 2, 3, 6, 8, 15.

# 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