

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

Creation Date 25-Aug-2010

Revision Date 26-Jan-2024

**Revision Number** 4

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

#### 1.1. Product identifier

Product Description:	<u>Cyclohexanone</u>
Cat No. :	33309
Synonyms	Ketohexamethylene; Pimelic ketone.
Index No	606-010-00-7
CAS No	108-94-1
EC No	203-631-1
Molecular Formula	C6 H10 O
<b>REACH</b> registration number	-

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

Recommended Use Sector of use	Laboratory chemicals. 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	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

#### Cyclohexanone

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#### Flammable liquids

#### Health hazards

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

#### **Environmental hazards**

Based on available data, the classification criteria are not met

Full text of Hazard Statements: see section 16

#### 2.2. Label elements



Signal Word

Danger

#### **Hazard Statements**

H226 - Flammable liquid and vapor

H315 - Causes skin irritation

H318 - Causes serious eye damage

H302 + H312 + H332 - Harmful if swallowed, in contact with skin or if inhaled

#### **Precautionary Statements**

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

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

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

P310 - Immediately call a POISON CENTER or doctor/physician

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking

#### 2.3. Other hazards

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

Toxicity to Soil Dwelling Organisms

Toxic to terrestrial vertebrates

This product does not contain any known or suspected endocrine disruptors

#### SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

#### 3.1. Substances

Comp	onent CAS N	EC No	Weight %	CLP Classification - According to
				GB-CLP Regulations UK SI 2019/720 and

Category 3 (H226)

Category 4 (H302) Category 4 (H312) Category 4 (H332) Category 2 (H315) Category 1 (H318)

#### Cyclohexanone

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				UK SI 2020/1567
Cyclohexanone	108-94-1	EEC No. 203-631-1	>95	Flam. Liq. 3 (H226)
				Acute Tox. 4 (H302)
				Acute Tox. 4 (H312)
				Acute Tox. 4 (H332)
				Eye Dam. 1 (H318)
				Skin Irrit. 2 (H315)

#### **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. Immediate medical attention is required.
Skin Contact	Wash off immediately with plenty of water for at least 15 minutes. Get medical attention.
Ingestion	Clean mouth with water and drink afterwards plenty of water.
Inhalation	Remove to fresh air. Get medical attention. If not breathing, give artificial respiration.
Self-Protection of the First Aider	Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.
4.2. Most important symptoms and	effects, both acute and delayed
	Difficulty in breathing. Causes eye burns. Causes severe eye damage. Symptoms of overexposure may be 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

Water spray, carbon dioxide (CO2), dry chemical, alcohol-resistant foam. Water mist may be used to cool closed containers.

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

Water may be ineffective. Do not use a solid water stream as it may scatter and spread fire.

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

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**

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

#### 5.3. Advice for firefighters

#### Cyclohexanone

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. Remove all sources of ignition. Take precautionary measures against static discharges.

#### 6.2. Environmental precautions

Should not be released into the environment. Do not flush into surface water or sanitary sewer system. 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. Take precautionary measures against static discharges.

#### 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. Ensure adequate ventilation. Avoid ingestion and inhalation. Keep away from open flames, hot surfaces and sources of ignition. Use only non-sparking tools. Take precautionary measures against static discharges. Use spark-proof tools and explosion-proof equipment.

#### **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. Keep away from heat, sparks and flame. Flammables area.

Technical Rules for Hazardous Substances (TRGS) 510Class 3Storage Class (LGK) (Germany)Class 3

#### 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

#### Cyclohexanone

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Cyclohexanone	STEL: 20 ppm 15 min	TWA: 10 ppm (8h)	TWA: 10 ppm 8 hr.
	STEL: 82 mg/m <sup>3</sup> 15 min	TWA: 40.8 mg/m <sup>3</sup> (8h)	TWA: 40.8 mg/m <sup>3</sup> 8 hr.
	TWA: 10 ppm 8 hr	STEL: 20 ppm (15min)	STEL: 20 ppm 15 min
	TWA: 41 mg/m <sup>3</sup> 8 hr	STEL: 81.6 mg/m <sup>3</sup> (15min)	STEL: 81.6 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
Cyclohexanone	Cyclohexanol: 2 mmol/mol creatinine urine	
	post shift	

#### 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
	(Dermal)	systemic (Dermal)	(Dermal)	systemic (Dermal)
Cyclohexanone 108-94-1 ( >95 )		DNEL = 4mg/kg bw/day		DNEL = 4mg/kg bw/day

Component	Acute effects local (Inhalation)	Acute effects systemic (Inhalation)	Chronic effects local (Inhalation)	Chronic effects systemic (Inhalation)
Cyclohexanone 108-94-1 ( >95 )	DNEL = 80mg/m <sup>3</sup>	DNEL = 80mg/m <sup>3</sup>	DNEL = 40mg/m <sup>3</sup>	DNEL = 40mg/m <sup>3</sup>

#### Predicted No Effect Concentration (PNEC)

See values below.

Γ	Component	Fresh water	Fresh water	Water Intermittent	Microorganisms in	Soil (Agriculture)
			sediment		sewage treatment	
Γ	Cyclohexanone	PNEC =	PNEC =	PNEC = 0.329mg/L	PNEC = 10mg/L	PNEC =
	108-94-1 (>95)	0.0329mg/L	0.249mg/kg	-	-	0.0304mg/kg soil
			sediment dw			dw

Component	Marine water	Marine water sediment	Marine water intermittent	Food chain	Air
Cyclohexanone	PNEC =	PNEC =			
108-94-1 (>95)	0.00329mg/L	0.0249mg/kg			
	_	sediment dw			

#### 8.2. Exposure controls

#### **Engineering Measures**

Ensure adequate ventilation, especially in confined areas. Use explosion-proof electrical/ventilating/lighting equipment. 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
Butyl rubber	> 480 minutes	0.35 mm	Level 6	As tested under EN374-3 Determination of
Viton (R)	> 480 minutes	0.70 mm	EN 374	Resistance to Permeation by Chemicals
Nitrile rubber				
Neoprene	< 100 minutes	0.45 mm		

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Nitrile rubber	< 60	minutes	0.38 mm
Skin and body protec	tion	Long slee	eved 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	Colorless
Odor	Mint-like
Odor Threshold	0.12 ppm
Melting Point/Range	-47 °C / -52.6 °F
Softening Point	No data available
Boiling Point/Range	155 °C / 311 °F
Flammability (liquid)	Flammable
Flammability (solid,gas)	Not applicable
Explosion Limits	Lower 1.1 vol%
	Upper 8.1 vol%
Flash Point	46 °C / 114.8 °F
Autoignition Temperature	520 - °C / 968 - °F
Decomposition Temperature	No data available
рН	No information available
Viscosity	2.2 mPas @ 20°C
Water Solubility	Soluble
Solubility in other solvents	No information available
Partition Coefficient (n-octanol/wate	er)
Component	log Pow
Cyclohexanone	0.86
Vapor Pressure	4.5 mbar @ 20 °C
Density / Specific Gravity	0.947
Bulk Density	Not applicable
Vapor Density	3.4
Particle characteristics	Not applicable (liquid)

@ 760 mmHgOn basis of test dataLiquid

Method - CC (closed cup)

Liquid (Air = 1.0)

Cyclohexanone

9.2. Other information

Molecular Formula Molecular Weight Explosive Properties C6 H10 O 98.14 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	Hazardous polymerization does not occur. None under normal processing.
10.4. Conditions to avoid	Incompatible products. Excess heat. Keep away from open flames, hot surfaces and sources of ignition.
10.5. Incompatible materials	Strong oxidizing agents. Strong acids Strong bases.

#### 10.6. Hazardous decomposition products

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

**SECTION 11: TOXICOLOGICAL INFORMATION** 

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

#### **Product Information**

Category 4
Category 4
Category 4

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Cyclohexanone	LD50 = 1544 mg/kg (Rat)	LD50 = 947 mg/kg (Rabbit)	LC50 > 6.2 mg/L (Rat)4 h

(b) skin corrosion/irritation;	Category 2
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(c) serious eye damage/irritation; Category 1

(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;	Based on available data, the classification criteria are not met
	The table below indicates whether each agency has listed any ingredient as a carcinogen

(g) reproductive toxicity;	Based on available data, the classification criteria are not met
(h) STOT-single exposure;	Based on available data, the classification criteria are not met
(i) STOT-repeated exposure; Target Organs	Based on available data, the classification criteria are not met None known.
(j) aspiration hazard;	Based on available data, the classification criteria are not met
Symptoms / effects,both acute and delayed	Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.
11.2 Information on other herorde	

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

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
Cyclohexanone	Leusiscus idus: LC50>500mg/L		
	48h		

Component	Microtox	M-Factor
Cyclohexanone	EC50 = 18.5 mg/L 5 min	
	EC50 = 21.3 mg/L 10 min	
	EC50 = 25 mg/L 5 min	

12.2. Persistence and degradability<br/>Persistence<br/>Degradation in sewage<br/>treatment plantReadily biodegradable<br/>based on information available, May persist.<br/>Contains no substances known to be hazardous to the environment or not degradable in<br/>waste water treatment plants. Contains substances known to be hazardous to the<br/>environment or not degradable in waste water treatment plants.

#### **12.3. Bioaccumulative potential** May have some potential to bioaccumulate

Component	log Pow	Bioconcentration factor (BCF)
Cyclohexanone	0.86	No data available

<u>12.4. Mobility in soil</u>	The product is insoluble and floats on water The product is water soluble, and may spread in water systems The product evaporates slowly Is not likely mobile in the environment due its low water solubility. Will likely be mobile in the environment due to its water solubility. Disperses rapidly in air: Highly mobile in soils: Spillage unlikely to penetrate soil
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

#### Cyclohexanone

#### 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. 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	Do not flush to sewer. Waste codes should be assigned by the user based on the application for which the product was used. Can be landfilled or incinerated, when in compliance with local regulations. Do not empty into drains.

### **SECTION 14: TRANSPORT INFORMATION**

#### IMDG/IMO

14.1. UN number14.2. UN proper shipping name14.3. Transport hazard class(es)14.4. Packing group	UN1915 CYCLOHEXANONE 3 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>	UN1915 CYCLOHEXANONE 3 III
IATA	
14.1. UN number 14.2. UN proper shipping name 14.3. Transport hazard class(es) 14.4. Packing group	UN1915 CYCLOHEXANONE 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	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

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
Cyclohexanone	108-94-1	203-631-1	-	-	Х	Х	KE-09188	Х	Х
Component	CAS No	TSCA	TSCA In notific Active-I	ation -	DSL	NDSL	AICS	NZIoC	PICCS
Cyclohexanone	108-94-1	Х	ACT		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

REACH (1907/2006) -REACH (1907/2006) -**REACH Regulation (EC** CAS No Component 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) 108-94-1 Cyclohexanone --

Not applicable

#### Seveso III Directive (2012/18/EC)

Component	CAS No	Seveso III Directive (2012/18/EC) -	Seveso III Directive (2012/18/EC) -
		Qualifying Quantities for Major Accident	Qualifying Quantities for Safety Report
		Notification	Requirements
Cyclohexanone	108-94-1	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
Cyclohexanone	WGK1	

Component	France - INRS (Tables of occupational diseases)
Cyclohexanone	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
Cyclohexanone 108-94-1(>95)		Group I	

#### 15.2. Chemical safety assessment

A Chemical Safety Assessment/Report (CSA/CSR) has been conducted by the manufacturer/importer

#### SECTION 16: OTHER INFORMATION

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

H226 - Flammable liquid and vapor

H302 - Harmful if swallowed

H312 - Harmful in contact with skin

H315 - Causes skin irritation

H318 - Causes serious eye damage

H332 - Harmful if inhaled

#### Legend

**CAS** - Chemical Abstracts Service

EINECS/ELINCS - European Inventory of Existing Commercial Chemical DSL/NDSL - Canadian Domestic Substances List/Non-Domestic 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

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

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

#### Kev literature references and sources for data

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

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

#### Training Advice

Chemical 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.

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

Prepared By	Health, Safety and Environmental Department
Creation Date	25-Aug-2010
Revision Date	26-Jan-2024
Revision Summary	New emergency telephone response service provider.

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory Substances List ENCS - Japanese Existing and New Chemical Substances AICS - Australian Inventory of Chemical Substances

NZIOC - New Zealand Inventory of Chemicals

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

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)

# 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