

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

Revision Date 25-Feb-2024 Revision Number 3

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

1.1. Product identifier

Product Description: <u>1,3-Dichloropropene, cis + trans</u>

 Cat No.:
 L10332

 Index No
 602-030-00-5

 CAS No
 542-75-6

Molecular Formula CICH2 CH=CHCI

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

Flammable liquids Category 2 (H225)

Health hazards

Aspiration Toxicity Category 1 (H304)

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Revision Date 25-Feb-2024

1,3-Dichloropropene, cis + trans

Acute oral toxicity Category 4 (H302) Acute dermal toxicity Category 3 (H311) Acute Inhalation Toxicity - Vapors Category 3 (H331) Skin Corrosion/Irritation Category 2 (H315) Serious Eye Damage/Eye Irritation Category 2 (H319) Respiratory Sensitization Category 1 (H334) Germ Cell Mutagenicity Category 2 (H341) Carcinogenicity Category 1B (H350) Specific target organ toxicity - (single exposure) Category 3 (H335) **Environmental hazards** Acute aquatic toxicity Category 1 (H400) Chronic aquatic toxicity Category 1 (H410)

Full text of Hazard Statements: see section 16

2.2. Label elements



Signal Word

Danger

Hazard Statements

- H225 Highly flammable liquid and vapor
- H302 Harmful if swallowed
- H304 May be fatal if swallowed and enters airways
- H315 Causes skin irritation
- H319 Causes serious eye irritation
- H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled
- H335 May cause respiratory irritation
- H341 Suspected of causing genetic defects
- H350 May cause cancer
- H410 Very toxic to aquatic life with long lasting effects
- H311 + H331 Toxic in contact with skin or if inhaled

Precautionary Statements

- P301 + P330 + P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting
- P264 Wash face, hands and any exposed skin thoroughly after handling
- P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
- P331 Do NOT induce vomiting
- P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing
- P311 Call a POISON CENTER or doctor/physician
- P280 Wear protective gloves/protective clothing/eye protection/face protection
- P332 + P313 If skin irritation occurs: Get medical advice/attention
- P337 + P313 If eye irritation persists: Get medical advice/attention
- P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower
- P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking

Additional EU labelling

Restricted to professional users

2.3. Other hazards

Revision Date 25-Feb-2024

Toxic to terrestrial invertebrates 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

Component	CAS No	EC No	Weight %	CLP Classification - According to GB-CLP Regulations UK SI 2019/720 and UK SI 2020/1567
1,3-Dichloropropene	542-75-6	EEC No. 208-826-5	<=100	Flam. Liq. 2 (H225) Acute Tox. 4 (H302) Acute Tox. 3 (H311) Acute Tox. 3 (H331) Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) Resp. Sens. 1 (H334) Muta. 2 (H341) Carc. 18 (H350) STOT SE 3 (H335) Asp. Tox. 1 (H304) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)

Component	Specific concentration limits (SCL's)	M-Factor	Component notes
1,3-Dichloropropene	-	10	-

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. In

the case of contact with eyes, rinse immediately with plenty of water and seek medical

advice.

Skin Contact Wash off immediately with plenty of water for at least 15 minutes. Immediate medical

attention is required.

Ingestion Do NOT induce vomiting. Call a physician or poison control center immediately. If vomiting

occurs naturally, have victim lean forward.

Inhalation Remove to fresh air. If not breathing, give artificial respiration. Do not use mouth-to-mouth

method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Immediate medical attention is required. Risk of serious damage to the lungs (by

aspiration).

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

Revision Date 25-Feb-2024

Difficulty in breathing. May cause allergy or asthma symptoms or breathing difficulties if inhaled. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting: Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing

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

Notes to Physician Treat symptomatically.

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media

Suitable Extinguishing Media

Carbon dioxide (CO₂). Powder. Water spray. In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion. 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

Flammable. Containers may explode when heated. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Do not allow run-off from fire-fighting to enter drains or water courses.

Hazardous Combustion Products

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

5.3. Advice for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation. Use personal protective equipment as required. Keep people away from and upwind of spill/leak. Evacuate personnel to safe areas. Remove all sources of ignition. Take precautionary measures against static discharges.

6.2. Environmental precautions

Do not flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water system. Prevent product from entering drains. Local authorities should be advised if significant spillages cannot be contained.

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

1,3-Dichloropropene, cis + trans

Revision Date 25-Feb-2024

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. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded. 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.

7.2. Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry 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): **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
1,3-Dichloropropene			TWA: 1 ppm 8 hr.
			TWA: 5 mg/m ³ 8 hr.
			STEL: 3 ppm 15 min
			STEL: 15 mg/m ³ 15 min
			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	Acute effects	Chronic effects local	Chronic effects
	(Inhalation)	systemic (Inhalation)	(Inhalation)	systemic (Inhalation)
1,3-Dichloropropene	DNEL = 200mg/m ³		DNEL = 200mg/m ³	
542-75-6 (<=100)				

Predicted No Effect Concentration (PNEC)

See values below.

Component	Fresh water	Fresh water sediment	Microorganisms in sewage treatment	
1,3-Dichloropropene 542-75-6 (<=100)	PNEC = 24µg/L		PNEC = 12mg/L	

1,3-Dichloropropene, cis + trans

Component	Marine water	Marine water sediment	Marine water intermittent	Food chain	Air
1,3-Dichloropropene 542-75-6 (<=100)	PNEC = 2.4µg/L				

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 equipment

Eye Protection Goggles (European standard - EN 166)

Hand Protection Protective gloves

Glove material	Breakthrough time	Glove thickness	EU standard	Glove comments
Viton (R)	480 minutes	0.7 mm	EN 374	(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

Revision Date 25-Feb-2024

and maintained properly

Large scale/emergency use In case of insufficient ventilation, wear suitable respiratory equipment

Recommended Filter type: Multi-purpose/ABEK 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.

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. Local authorities should be advised if significant spillages cannot be contained.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Physical State Liquid

Appearance Colorless
Odor Chloroform-like
Odor Threshold No data available

Melting Point/Range ~ -84 - 84 °C / -119.2 - 183.2 °F

Softening Point No data available

Boiling Point/Range 105 - 106 °C / 221 - 222.8 °F

Flammability (liquid) Highly flammable On basis of test data

Flammability (solid,gas) Not applicable Liquid

Explosion Limits

Lower 5.3 Vol %
Upper 14.5 Vol %

Flash Point 21 °C / 69.8 °F Method - No information available

Revision Date 25-Feb-2024

1,3-Dichloropropene, cis + trans

Autoignition Temperature
Decomposition Temperature
pH
Viscosity
Vater Solubility

No data available
No data available
No information available
No information available
No information available

Solubility in other solvents

No information available

Partition Coefficient (n-octanol/water)

Componentlog Pow1,3-Dichloropropene2.3

Vapor Pressure No data available

Density / Specific Gravity1.181 g/cm3@ 20 °CBulk DensityNot applicableLiquidVapor DensityNo data available(Air = 1.0)

Particle characteristics Not applicable (liquid)

9.2. Other information

Molecular Formula CICH2 CH=CHCI

Molecular Weight 110.97

Explosive Properties Vapors may form explosive mixtures with air

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 reactions

Hazardous PolymerizationNo information available.Hazardous ReactionsNone under normal processing.

10.4. Conditions to avoid

Keep away from open flames, hot surfaces and sources of ignition.

10.5. Incompatible materials

Oxidizing agent.

10.6. Hazardous decomposition products

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

SECTION 11: TOXICOLOGICAL INFORMATION

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

Product Information

(a) acute toxicity;

OralCategory 4DermalCategory 3InhalationCategory 3

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
1,3-Dichloropropene	LD50 = 224 mg/kg (Rat)	LD50 = 333 mg/kg (Rabbit)	LC50 = 904 ppm (Rat) 4 h

(b) skin corrosion/irritation; Category 2

Revision Date 25-Feb-2024

(c) serious eye damage/irritation; Category 2

(d) respiratory or skin sensitization;

Respiratory Category 1 No data available Skin

(e) germ cell mutagenicity; Category 2

(f) carcinogenicity; Category 1B

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

Component	EU	UK	Germany	IARC
1,3-Dichloropropene			Cat. 2	Group 2B

(g) reproductive toxicity; No data available

Category 3 (h) STOT-single exposure;

Respiratory system. Results / Target organs

(i) STOT-repeated exposure; No data available

No information available. **Target Organs**

Category 1 (j) aspiration hazard;

delayed

Symptoms / effects,both acute and Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting. Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing.

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. Very

toxic to aquatic organisms, may cause long-term adverse effects in the aquatic

environment.

Component	Freshwater Fish	Water Flea	Freshwater Algae
1,3-Dichloropropene	LC50: 5.1 - 6.8 mg/L, 96h static	EC50: = 0.09 mg/L, 48h	EC50: 3.12 - 10.5 mg/L, 72h
	(Lepomis macrochirus)	(Daphnia magna)	(Pseudokirchneriella subcapitata)
	LC50: = 2 mg/L, 96h	EC50: 0.063 - 0.129 mg/L, 48h	EC50: 2.45 - 6.45 mg/L, 96h
	(Oncorhynchus mykiss)	Static (Daphnia magna)	(Pseudokirchneriella subcapitata)
	LC50: = 4.5 mg/L, 96h		
	semi-static (Oncorhynchus		
	mykiss)		
	LC50: 3.1 - 4.9 mg/L, 96h static		
	(Oncorhynchus mykiss)		
	LC50: 0.211 - 0.271 mg/L, 96h		
	flow-through (Pimephales		
	promelas)		
	LC50: 1.52 - 2.68 mg/L, 96h		

1,3-Dichloropropene, cis + trans

Revision Date 25-Feb-2024

Component	Microtox	M-Factor
1,3-Dichloropropene	EC50 = 112 mg/L 5 min	10
	EC50 = 71.6 mg/L 30 min	

12.2. Persistence and degradability No information available

Persistence Persis

Degradation in sewageContains substances known to be hazardous to the environment or not degradable in waste

treatment plant water treatment plants.

12.3. Bioaccumulative potential Bioaccumulation is unlikely

Component	log Pow	Bioconcentration factor (BCF)
1,3-Dichloropropene	2.3	No data available

12.4. Mobility in soil No information available

12.5. Results of PBT and vPvB

assessment

No data available for assessment.

12.6. Endocrine disrupting

properties

Endocrine Disruptor Information This product does not contain any known or suspected endocrine disruptors

12.7. Other adverse effects

Persistent Organic Pollutant Ozone Depletion Potential This product does not contain 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. 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 let this chemical enter the environment. Do not

empty into drains.

SECTION 14: TRANSPORT INFORMATION

IMDG/IMO

<u>14.1. UN number</u> UN2047

14.2. UN proper shipping name DICHLOROPROPENES

1,3-Dichloropropene, cis + trans

Revision Date 25-Feb-2024

14.3. Transport hazard class(es) 3 14.4. Packing group II

<u>ADR</u>

14.1. UN number UN2047

14.2. UN proper shipping name DICHLOROPROPENES

14.3. Transport hazard class(es) 3 14.4. Packing group II

<u>IATA</u>

14.1. UN number UN2047

14.2. UN proper shipping name DICHLOROPROPENES

14.3. Transport hazard class(es) 3 14.4. Packing group II

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 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
Ī	1,3-Dichloropropene	542-75-6	208-826-5	-	-	Х	Х	KE-05-046	Х	Х
Į								ь		

	Component	CAS No	TSCA	TSCA Inventory notification - Active-Inactive	DSL	NDSL	AICS	NZIoC	PICCS
Ī	1,3-Dichloropropene	542-75-6	Х	ACTIVE	-	Х	Х	Х	Х

Legend: X - Listed '-' - Not Listed KECL - NIER number or KE number (http://ncis.nier.go.kr/en/main.do)

Authorisation/Restrictions according to EU REACH

Component	CAS No	REACH (1907/2006) - Annex XIV - Substances Subject to Authorization		REACH Regulation (EC 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC)
1,3-Dichloropropene	542-75-6	-	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)

Revision Date 25-Feb-2024

1,3-Dichloropropene, cis + trans

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
1,3-Dichloropropene	542-75-6	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

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)
1,3-Dichloropropene 542-75-6 (<=100)	p(1) — pesticide in the group of plant protection products b — ban (for the category or categories concerned)	b — ban (for the category or categories concerned) p — pesticides	-
	b — ban (for the category or categories concerned)		

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 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

Component Germany - Water Classification (AwSV)		Germany - TA-Luft Class	
1,3-Dichloropropene	WGK3		

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
1,3-Dichloropropene	Prohibited and Restricted		Annex I - pesticide
542-75-6 (<=100)	Substances		

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

H302 - Harmful if swallowed

H304 - May be fatal if swallowed and enters airways

H311 - Toxic in contact with skin

1,3-Dichloropropene, cis + trans

H331 - Toxic if inhaled

H315 - Causes skin irritation

H319 - Causes serious eye irritation

H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled

H335 - May cause respiratory irritation

H341 - Suspected of causing genetic defects

H350 - May cause cancer

H400 - Very toxic to aquatic life

H410 - Very toxic to aquatic life with long lasting effects

H225 - Highly flammable liquid and vapor

Legend

CAS - Chemical Abstracts Service

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

Revision Date 25-Feb-2024

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

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

> **ENCS** - Japanese Existing and New Chemical Substances AICS - Australian Inventory of Chemical Substances NZIoC - New Zealand Inventory of Chemicals

WEL - Workplace Exposure Limit

ACGIH - American Conference of Governmental Industrial Hygienists

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 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

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)

Key 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 incident response training.

Prepared By Health, Safety and Environmental Department

Revision Date 25-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