

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

Creation Date 18-Jun-2009 Revision Date 06-Dec-2024 Revision Number 10

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

1.1. Product identifier

Product Description: Tricyclohexylphosphine, 1M solution in THF

Cat No. : 427830000; 427831000

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

UK entity/business name

Fisher Scientific UK Bishop Meadow Road,

Loughborough, Leicestershire LE11 5RG, United Kingdom

EU entity/business name

Thermo Fisher Scientific

Janssen Pharmaceuticalaan 3a, 2440 Geel, Belgium

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

Flammable liquids Category 2 (H225)

Health hazards

Skin Corrosion/Irritation Category 2 (H315)
Serious Eye Damage/Eye Irritation Category 2 (H319)
Carcinogenicity Category 2 (H351)

Carcinogenicity Category 2 (H351)
Specific target organ toxicity - (single exposure) Category 3 (H335) (H336)

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

H225 - Highly flammable liquid and vapor

H315 - Causes skin irritation

H319 - Causes serious eye irritation

H335 - May cause respiratory irritation

H336 - May cause drowsiness or dizziness

H351 - Suspected of causing cancer

EUH019 - May form explosive peroxides

Precautionary Statements

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

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

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

P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing

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

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

2.3. Other hazards

Toxic to terrestrial vertebrates

This product does not contain any known or suspected endocrine disruptors

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2. Mixtures

Component	CAS No	EC No	Weight %	GHS Classification - According to GB-CLP Regulations UK SI 2019/720 and UK SI 2020/1567
Phosphine, tricyclohexyl-	2622-14-2	EEC No. 220-069-2	31	Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) STOT SE 3 (H335)
Tetrahydrofuran	109-99-9	203-726-8	69	Flam. Liq. 2 (H225) Acute Tox. 4 (H302) Eye Irrit. 2 (H319)

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STOT SE 3 (H335)	
STOT SE 3 (H336)	

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		STOT SE 3 (H335) STOT SE 3 (H336) Carc. 2 (H351) (EUH019)
		(/

Component	Specific concentration limits (SCL's)	M-Factor	Component notes
Tetrahydrofuran	Acute Tox. 4 :: C>82.5%	-	-
	Eye Irrit. 2 :: C>=25%		
	STOT SE 3 :: C>=25%		

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 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

None reasonably foreseeable. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting: Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting: Causes central nervous system depression

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

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

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ignition and flash back. May form explosive peroxides.

Hazardous Combustion Products

Carbon monoxide (CO), Carbon dioxide (CO₂), Oxides of phosphorus.

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. Use personal protective equipment as required. Remove all sources of ignition. Take precautionary measures against static discharges.

6.2. Environmental precautions

Should not be released into the environment.

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

Ensure adequate ventilation. Wear personal protective equipment/face protection. Do not get in eyes, on skin, or on clothing. Avoid ingestion and inhalation. If peroxide formation is suspected, do not open or move container. 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

Flammables area. Keep under nitrogen. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat, sparks and flame. Shelf life 12 months. May form explosive peroxides on prolonged storage. Containers should be dated when opened and tested periodically for the presence of peroxides. Should crystals form in a peroxidizable liquid, peroxidation may have occurred and the product should be considered extremely dangerous. In this instance, the container should only be opened remotely by professionals.

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

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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
Tetrahydrofuran	STEL: 100 ppm 15 min	TWA: 50 ppm (8h)	TWA: 50 ppm 8 hr.
	STEL: 300 mg/m ³ 15 min	TWA: 150 mg/m ³ (8h)	TWA: 150 mg/m ³ 8 hr.
	TWA: 50 ppm 8 hr	STEL: 100 ppm (15min)	STEL: 100 ppm 15 min
	TWA: 150 mg/m ³ 8 hr	STEL: 300 mg/m ³ (15min)	STEL: 300 mg/m ³ 15 min
	Skin	Skin	Skin

Biological limit values

List source(s):

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

See table for values

Component	Acute effects local (Dermal)	Acute effects systemic (Dermal)	Chronic effects local (Dermal)	Chronic effects systemic (Dermal)
Tetrahydrofuran 109-99-9 (69)				DNEL = 12.6mg/kg bw/day

Component	Acute effects local (Inhalation)	Acute effects systemic (Inhalation)	Chronic effects local (Inhalation)	Chronic effects systemic (Inhalation)
Tetrahydrofuran 109-99-9 (69)	DNEL = 300mg/m ³	DNEL = 96mg/m ³	DNEL = 150mg/m ³	DNEL = 72.4mg/m ³

Predicted No Effect Concentration (PNEC)

See values below.

Γ	Component	Fresh water	Fresh water	Water Intermittent	Microorganisms in	Soil (Agriculture)
			sediment		sewage treatment	
Γ	Tetrahydrofuran	PNEC = 4.32mg/L	PNEC = 23.3 mg/kg	PNEC = 21.6mg/L	PNEC = 4.6mg/L	PNEC = 2.13mg/kg
L	109-99-9 (69)		sediment dw	-	_	soil dw

Component	Marine water	Marine water sediment	Marine water intermittent	Food chain	Air
Tetrahydrofuran	PNEC = 0.432mg/L	PNEC = 2.33mg/kg		PNEC = 67mg/kg	
109-99-9 (69)		sediment dw		food	

8.2. Exposure controls

Engineering Measures

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

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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	See manufacturers	-	EN 374	(minimum requirement)
	recommendations			
Neoprene gloves				

Skin and body protection Long sleeved clothing.

Inspect gloves before use.

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information)

Ensure gloves are suitable for the task: Chemical compatability, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion.

Remove gloves with care avoiding skin contamination.

Respiratory Protection When workers are facing concentrations above the exposure limit they must use

appropriate certified respirators.

To protect the wearer, respiratory protective equipment must be the correct fit and be used

and maintained properly

Large scale/emergency use Use a NIOSH/MSHA or European Standard EN 136 approved respirator if exposure limits

are exceeded or if irritation or other symptoms are experienced

Recommended Filter type: low boiling organic solvent Type AX Brown conforming to EN371 or Organic gases and vapours filter Type A Brown conforming to EN14387

Small scale/Laboratory use Use a NIOSH/MSHA or European Standard EN 149:2001 approved respirator if exposure

limits are exceeded or if irritation or other symptoms are experienced.

Recommended half mask:- Valve filtering: EN405; or; Half mask: EN140; plus filter, EN

141

When RPE is used a face piece Fit Test should be conducted

Environmental exposure controls No information available.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Physical State Liquid

Appearance

Odor No information available

Odor ThresholdNo data availableMelting Point/RangeNo data availableSoftening PointNo data availableBoiling Point/RangeNo information available

Flammability (liquid) Highly flammable On basis of test data

Flammability (solid,gas) Not applicable Liquid

Explosion Limits No data available

Flash Point -20 °C / -4 °F Method - No information available

Autoignition Temperature No data available
Decomposition Temperature No data available

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pH No information availableViscosity No data available

Water Solubility Insoluble

Solubility in other solvents No information available

Partition Coefficient (n-octanol/water)

Componentlog PowTetrahydrofuran0.45

Vapor Pressure No data available

Density / Specific Gravity 0.909

Bulk DensityNot applicableLiquidVapor DensityNo data available(Air = 1.0)

Particle characteristics Not applicable (liquid)

9.2. Other information

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

Moisture sensitive. Air sensitive. May form explosive peroxides.

10.3. Possibility of hazardous reactions

Hazardous Polymerization Hazardous polymerization does not occur.

Hazardous Reactions None under normal processing.

10.4. Conditions to avoid

Incompatible products. Excess heat. Keep away from open flames, hot surfaces and

sources of ignition. Exposure to moist air or water. Exposure to air.

10.5. Incompatible materials

Strong oxidizing agents.

10.6. Hazardous decomposition products

Carbon monoxide (CO). Carbon dioxide (CO₂). Oxides of phosphorus.

SECTION 11: TOXICOLOGICAL INFORMATION

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

Product Information

(a) acute toxicity;

OralBased on available data, the classification criteria are not metDermalBased on available data, the classification criteria are not metInhalationBased on available data, the classification criteria are not met

Toxicology data for the components

	Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Te	etrahydrofuran	1650 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	180 mg/L (Rat) 1 h
				53.9 mg/L (Rat) 4 h

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(b) skin corrosion/irritation; Category 2

(c) serious eye damage/irritation; Category 2

(d) respiratory or skin sensitization;

No data available Respiratory No data available Skin

Component	Test method	Test species	Study result
Tetrahydrofuran	Local Lymph Node Assay	mouse	non-sensitising
109-99-9 (69)	OECD Test Guideline 429		_

(e) germ cell mutagenicity; No data available

Component	Test method	Test species	Study result
Tetrahydrofuran	OECD Test Guideline 476	in vivo	negative
109-99-9 (69)	Gene cell mutation	Mammalian	
	OECD Test Guideline 473		
	Chromosomal aberration assay	in vitro	negative
		Mammalian	

(f) carcinogenicity; Category 2

Limited evidence of a carcinogenic effect The table below indicates whether each agency

has listed any ingredient as a carcinogen

Component	EU	UK	Germany	IARC
Tetrahydrofuran				Group 2B

(a) reproductive toxicity: No data available

(3)			
Component	Test method	Test species / Duration	Study result
Tetrahydrofuran	OECD Test Guideline 416	Rat	NOAEL = 3,000 ppm
109-99-9 (69)		2 Generation	

(h) STOT-single exposure; Category 3

Respiratory system, Central nervous system (CNS). Results / Target organs

No data available (i) STOT-repeated exposure;

None known. **Target Organs**

(j) aspiration hazard; No data available

Other Adverse Effects The toxicological properties have not been fully investigated. Tumorigenic effects have

been reported in experimental animals.

delayed

Symptoms / effects,both acute and Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness,

tiredness, nausea and vomiting. Causes central nervous system depression.

11.2. Information on other hazards

Assess endocrine disrupting properties for human health. This product does not contain any **Endocrine Disrupting Properties**

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known or suspected endocrine disruptors.

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Ecotoxicity effects

Do not empty into drains. Do not flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water system.

Component	Freshwater Fish	Water Flea	Freshwater Algae
Tetrahydrofuran	2160 mg/l LC50 = 96 h	EC50 48 h 3485 mg/l	
	Pimephales promelas	EC50: >10000 mg/L/24h	
	Leuciscus idus: LC50: 2820		
	mg/L/48h		

12.2. Persistence and degradability

Persistence

Insoluble in water.

12.3. Bioaccumulative potential

May have some potential to bioaccumulate

Component	log Pow	Bioconcentration factor (BCF)
Tetrahydrofuran	0.45	No data available

12.4. Mobility in soil

Spillage unlikely to penetrate soil The product is insoluble and floats on water . Is not likely

mobile in the environment due its low water solubility.

12.5. Results of PBT and vPvB

assessment

No data available for assessment.

12.6. Endocrine disrupting

properties

Endocrine Disruptor Information

Endooring Dioraptor information		
Component	EU - Endocrine Disrupters Candidate List	EU - Endocrine Disruptors - Evaluated
·	-	Substances
Tetrahydrofuran	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. 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.

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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.

SECTION 14: TRANSPORT INFORMATION

IMDG/IMO

14.1. UN number UN2056

14.2. UN proper shipping name TETRAHYDROFURAN, SOLUTION

14.3. Transport hazard class(es)314.4. Packing groupII

ADR

14.1. UN number UN2056

14.2. UN proper shipping name TETRAHYDROFURAN, SOLUTION

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

IATA

14.1. UN number UN2056

14.2. UN proper shipping name TETRAHYDROFURAN, SOLUTION

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

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
Phosphine, tricyclohexyl-	2622-14-2	220-069-2	-	-	-	X	-	Х	Х
Tetrahydrofuran	109-99-9	203-726-8	-	-	Х	X	KE-33454	Х	X

Component	CAS No	TSCA	TSCA Inventory notification - Active-Inactive	DSL	NDSL	AICS	NZIoC	PICCS
Phosphine, tricyclohexyl-	2622-14-2	X	ACTIVE	-	X	ı	-	-
Tetrahydrofuran	109-99-9	X	ACTIVE	Х	-	X	Х	Х

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

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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)
Phosphine, tricyclohexyl-	2622-14-2	-	-	-
Tetrahydrofuran	109-99-9	-	Use restricted. See entry 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
Phosphine, tricyclohexyl-	2622-14-2	Not applicable	Not applicable
Tetrahydrofuran	109-99-9	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 Water endangering class = 1 (self classification)

Component	Germany - Water Classification (AwSV)	Germany - TA-Luft Class
Tetrahydrofuran	WGK1	

Component	France - INRS (Tables of occupational diseases)
Tetrahydrofuran	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
Tetrahydrofuran 109-99-9 (69)		Group I	

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15.2. Chemical safety assessment

Chemical Safety Assessment/Reports (CSA/CSR) are not required for mixtures

SECTION 16: OTHER INFORMATION

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

H315 - Causes skin irritation

H319 - Causes serious eye irritation

H335 - May cause respiratory irritation

H336 - May cause drowsiness or dizziness

H351 - Suspected of causing cancer

EUH019 - May form explosive peroxides

H225 - Highly flammable liquid and vapor

H302 - Harmful if swallowed

Legend

CAS - Chemical Abstracts Service

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

Inventory

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

OECD - Organisation for Economic Co-operation and Development

Dangerous Goods Code

ICAO/IATA - International Civil Aviation Organization/International Air MARPOL - International Convention for the Prevention of Pollution from

Transport Association

ATE - Acute Toxicity Estimate

BCF - Bioconcentration factor VOC - (Volatile Organic Compound)

Key literature references and sources for data

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

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

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:

Physical hazards On basis of test data **Health Hazards** Calculation method **Environmental hazards** Calculation method

Training Advice

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

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

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

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

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SDS sections updated. **Revision Summary**

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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