

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

Creation Date 06-Nov-2009

Revision Date 02-May-2024

Revision Number 16

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

1.1. Product identifier

Product Description: Cat No. :	<u>Petroleum ether 40-60⁰C</u> P/1760/15, P/1760/17, P/1760/17X, P/1760/21, P/1760/25, P/1760/27, P/1760/PB17, P/1760/21RSS, P/1760/24RSS, P/1760/25RSS, P/1760/34RSS, P/1760/27RSS, P/1760/25SS
Synonyms	Ligroine
Index No	649-328-00-1
CAS No	64742-49-0
EC No	931-254-9
REACH registration number	01-2119484651-34
-	

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	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

Tel: 01509 231166 Chemtrec US: (800) 424-9300 Chemtrec EU: 001-703-527-3887

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

CLP Classification - Regulation (EC) No 1272/2008

Physical hazards

Flammable liquids

Health hazards

Aspiration Toxicity Skin Corrosion/Irritation Specific target organ toxicity - (single exposure)

Environmental hazards

Chronic aquatic toxicity

Category 2 (H225)

Category 1 (H304) Category 2 (H315) Category 3 (H336)

Category 2 (H411)

Full text of Hazard Statements: see section 16

2.2. Label elements



Signal Word

Danger

Hazard Statements

- H225 Highly flammable liquid and vapor
- H304 May be fatal if swallowed and enters airways
- H315 Causes skin irritation
- H336 May cause drowsiness or dizziness
- H411 Toxic to aquatic life with long lasting effects

Precautionary Statements

- P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
- P280 Wear protective gloves/protective clothing
- P301 + P330 + P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting
- P302 + P352 IF ON SKIN: Wash with plenty of soap and water
- P312 Call a POISON CENTER or doctor if you feel unwell

2.3. Other hazards

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

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 - Regulation (EC) No
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Petroleum ether 40-60°C

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				1272/2008
Hydrocarbons, C6, isoalkanes < 5%	64742-49-0	931-254-9	<100	Flam. Liq. 2 (H225)
n-hexane (Iso-Hexane)				Asp. Tox. 1 (H304)
				Skin Irrit. 2 (H315)
				STOT SE 3 (H336)
				Aquatic Chronic 2 (H411)
Hexane	110-54-3	EEC No. 203-777-6	-	Flam. Liq. 2 (H225)
				Asp. Tox. 1 (H304)
				Skin Irrit. 2 (H315)
				STOT SE 3 (H336)
				Repr. 2 (H361f)
				STOT RE 2 (H373)
				Aquatic Chronic 2 (H411)

Component	Specific concentration limits (SCL's)	M-Factor	Component notes
Hexane	STOT RE 2 (H373) :: C>=5%	-	-

Note

UVCB Hydrocarbons C6, isoalkanes, < 5% n-Hexane

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The classification as a carcinogen need not apply if the full refining history is known and it can be shown that the substance from which it is produced is not a carcinogen. This note applies only to certain complex oil derived substances in Annex I

REACH registration number	01-2119484651-34

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. 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. Get medical attention if symptoms occur. Risk of serious damage to the lungs (by aspiration).	
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: Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting

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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

CO₂, dry chemical, dry sand, alcohol-resistant foam. Water mist may be used to cool closed containers.

Extinguishing media which must not be used for safety reasons

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. Risk of ignition. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Containers may explode when heated. 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 (CO₂).

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. 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.

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

Wear personal protective equipment/face protection. Ensure adequate ventilation. Do not get in eyes, on skin, or on clothing. Avoid ingestion and inhalation. 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.

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) 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): **UK** - EH40/2005 Work Exposure Limits, Fourth edition. Published 2020. **EU** - Commission Directive (EU) 2019/1831 of 24 October 2019 establishing a fifth list of indicative occupational exposure limit values pursuant to Council Directive 98/24/EC and amending Commission Directive 2000/39/EC

Component	The United Kingdom	European Union	Ireland
Hydrocarbons, C6, isoalkanes < 5% n-hexane	RCP Isohexanes, TWA (8 h)		
(Iso-Hexane)	250 ppm, 1000 mg/m ³		
Hexane	TWA: 72 mg/m ³	TWA: 20 ppm (8hr)	TWA: 20 ppm 8 hr.
	TWA: 20 ppm	TWA: 72 mg/m ³ (8hr)	TWA: 72 mg/m ³ 8 hr.
	STEL: 60 ppm		STEL: 60 ppm 15 min
	STEL: 216 mg/m ³		STEL: 216 mg/m ³ 15 min
	_		Skin

Biological limit values

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)
Hexane 110-54-3 (-)				DNEL = 11mg/kg bw/day

Component	Acute effects local (Inhalation)	Acute effects systemic (Inhalation)	Chronic effects local (Inhalation)	Chronic effects systemic (Inhalation)
Hydrocarbons, C6, isoalkanes < 5% n-hexane (Iso-Hexane) 64742-49-0 (<100)	DNEL = 1066.67mg/m ³	DNEL = 1286.4mg/m ³	DNEL = 837.5mg/m ³	
Hexane 110-54-3 (-)				DNEL = 75mg/m ³

Predicted No Effect Concentration (PNEC)

Substance is complex UVCB.

EN 166)

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	Wear safety glasses with side shields (or goggles) (European standard - I

Hand Protection	Protective gloves

Glove material	Breakthrough time	Glove thickness	EU standard	Glove comments
Nitrile rubber	See manufacturers	-	EN 374	(minimum requirement)
Viton (R)	recommendations			

Skin and body protection Wear appropriate protective gloves and clothing to prevent skin exposure.

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
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	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	Petroleum distillates
Odor Threshold	No data available
Melting Point/Range	No data available
Softening Point	No data available

Boiling Point/Range	40 - 70 °C / 104 - 158 °F	
Flammability (liquid)	Highly flammable	On basis of test data
Flammability (solid,gas)	Not applicable	Liquid
Explosion Limits	Lower 1 vol%	
	Upper 7.4 vol%	
Flash Point	-45 °C / -49 °F	Method - No information available
Autoignition Temperature	230 °C / 446 °F	
Decomposition Temperature	No data available	
pH	No information available	
Viscosity	0.45 mm2/s at 25 °C (ASTM D445)	
Water Solubility	Insoluble	
Solubility in other solvents	No information available	
Partition Coefficient (n-octanol/wat	er)	
Component	log Pow	
Hexane	4.11	
Vapor Pressure	23 hPa @ 20 °C	
Density / Specific Gravity	0.65	
Bulk Density	Not applicable	Liquid
Vapor Density	>1 @ 101 kPa	(Air = 1.0)
Particle characteristics	(liquid) Not applicable	

9.2. Other information

Petroleum ether 40-60°C

Explosive Properties	Vapors may form explosive mixtures with air
Evaporation Rate	13 (Butyl acetate = 1.0)

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.		

10.6. Hazardous decomposition products

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

SECTION 11: TOXICOLOGICAL INFORMATION

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

Product Information

(a) acute toxicity;

FSUP1760

Oral	
Dermal	
Inhalation	

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

Toxicology data for the components

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Hydrocarbons, C6, isoalkanes < 5% n-hexane (Iso-Hexane)	LD50 > 5000 mg/kg (Rat)	LD50 > 3160 mg/kg (Rabbit)	LC50 = 73680 ppm (Rat) 4 h
Hexane	LD50 = 25 g/kg (Rat)	LD50 = 3000 mg/kg (Rabbit)	LC50 = 48000 ppm (Rat) 4 h

(b) skin corrosion/irritation;	Category 2
(c) serious eye damage/irritation;	Based on available data, the classification criteria are not met
(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 The classification as a carcinogen need not apply if the full refining history is known and it can be shown that the substance from which it is produced is not a carcinogen. This note applies only to certain complex oil derived substances in Annex I

Component	EU	UK	Germany	IARC
Hydrocarbons, C6, isoalkanes <	Carc Cat. 1B			
5% n-hexane (Iso-Hexane)				

(g) reproductive toxicity; Reproductive Effects	Based on available data, the classification criteria are not met California Proposition 65. Product is or contains a chemical which is a known or suspected reproductive hazard.	
(h) STOT-single exposure;	Category 3	
Results / Target organs	Central nervous system (CNS).	
(i) STOT-repeated exposure;	Based on available data, the classification criteria are not met	
Target Organs	None known.	
(j) aspiration hazard;	Category 1	
Symptoms / effects,both acute and delayed	Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.	

11.2. Information on other hazards

Endocrine Disrupting Properties	Assess endocrine disrupting properties for human health. known or suspected endocrine disruptors.	This product does not contain any

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity **Ecotoxicity effects**

The product contains following substances which are hazardous for the environment. Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Component	Freshwater Fish	Water Flea	Freshwater Algae
Hydrocarbons, C6, isoalkanes < 5% n-hexane (Iso-Hexane)	LC50: = 8.41 mg/L, 96h semi-static, closed (Oncorhynchus mykiss)		
Hexane	LC50: 2.1 - 2.98 mg/L, 96h flow-through (Pimephales promelas)	EC50: 3.87 mg/L/48h	

12.2. Persistence and degradability

Persistence Persistence is unlikely, based on information available. Contains substances known to be hazardous to the environment or not degradable in waste Degradation in sewage treatment plant water treatment plants.

12.3. Bioaccumulative potential Bioaccumulation is unlikely

Component	log Pow	Bioconcentration factor (BCF)
Hexane	4.11	No data available

<u>12.4. Mobility in soil</u>	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 assessment	Substance is not considered persistent, bioaccumulative and toxic (PBT) / very persistent and very bioaccumulative (vPvB).
<u>12.6. Endocrine disrupting</u> properties Endocrine Disruptor Information	This product does not contain any known or suspected endocrine disruptors
<u>12.7. Other adverse effects</u> 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

<u>13.1.</u>	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> 14.2. UN proper shipping name 14.3. Transport hazard class(es) 14.4. Packing group	UN1268 Petroleum distillates, n.o.s. 3 II
ADR	
<u>14.1. UN number</u> <u>14.2. UN proper shipping name</u> <u>14.3. Transport hazard class(es)</u> 14.4. Packing group	UN1268 Petroleum distillates, n.o.s. 3 II
IATA	
<u>14.1. UN number</u> 14.2. UN proper shipping name 14.3. Transport hazard class(es) 14.4. Packing group	UN1268 Petroleum distillates, n.o.s. 3 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
Hydrocarbons, C6, isoalkanes <	64742-49-0	265-151-9	-	-	Х	Х	KE-25623	-	-
5% n-hexane (Iso-Hexane)									
Hexane	110-54-3	203-777-6	438-390-3	-	Х	Х	KE-18626	Х	Х
Component	CAS No	TSCA	notific	ventory ation - Inactive	DSL	NDSL	AICS	NZIoC	PICCS

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Hydrocarbons, C6, isoalkanes < 5% n-hexane (Iso-Hexane)	64742-49-0	Х	ACTIVE	Х	-	Х	Х	Х
Hexane	110-54-3	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 (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)
Hydrocarbons, C6, isoalkanes < 5% n-hexane (Iso-Hexane)	64742-49-0	-	Use restricted. See item 28. (see link for restriction details) Use restricted. See item 29. (see link for restriction details) Use restricted. See item 75. (see link for restriction details)	-
Hexane	110-54-3	-	Use restricted. See item 75. (see link for restriction details)	-

REACH links

https://echa.europa.eu/substances-restricted-under-reach

Seveso III Directive (2012/18/EC)

Component	CAS No	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements
Hydrocarbons, C6, isoalkanes < 5% n-hexane (Iso-Hexane)	64742-49-0	Not applicable	Not applicable
Hexane	110-54-3	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

Petroleum ether 40-60°C

Component	Germany - Water Classification (AwSV)	Germany - TA-Luft Class
Hydrocarbons, C6, isoalkanes <	WGK2	
5% n-hexane (Iso-Hexane)		
Hexane	WGK2	

Component	France - INRS (Tables of occupational diseases)
Hydrocarbons, C6, isoalkanes <	Tableaux des maladies professionnelles (TMP) - RG 84
5% n-hexane (Iso-Hexane)	
Hexane	Tableaux des maladies professionnelles (TMP) - RG 59,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
Hexane 110-54-3(-)	Prohibited and Restricted Substances	Group I	

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

H225 - Highly flammable liquid and vapor

H304 - May be fatal if swallowed and enters airways

H315 - Causes skin irritation

H336 - May cause drowsiness or dizziness

H411 - Toxic to aquatic life with long lasting effects

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

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

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)

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

Training Advice

Chemical incident response training.

Creation Date Revision Date Revision Summary 06-Nov-2009 02-May-2024 SDS sections updated, 2, 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