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Version 6

Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013

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

Product Identifier

Perihalan Produk: Cyclopentyl methyl ether, stabilized **Product Description:** Cyclopentyl methyl ether, stabilized

396130000, 396130010, 396130025; 396130500, 396132500 Cat No.:

CAS No 5614-37-9 Molecular Formula C6 H12 O

Relevant identified uses of the substance or mixture and uses advised against

Recommended Use Laboratory chemicals. No Information available Uses advised against

Company Thermo Fisher Scientific Fisher Scientific (M) Sdn Bhd

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SECTION 2: HAZARDS IDENTIFICATION

Classification of the substance or mixture

Flammable liquids	Category 2 (H225)
Acute oral toxicity	Category 4 (H302)
Skin Corrosion/Irritation	Category 2 (H315)
Serious Eye Damage/Eye Irritation	Category 2 (H319)

Label Elements



Signal Word **Danger**

Hazard Statements

H225 - Highly flammable liquid and vapor

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H302 - Harmful if swallowed

H315 - Causes skin irritation

H319 - Causes serious eye irritation

Precautionary Statements

Prevention

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

P233 - Keep container tightly closed

P240 - Ground and bond container and receiving equipment

P241 - Use explosion-proof electrical/ ventilating/ lighting equipment

P242 - Use non-sparking tools

P243 - Take action to prevent static discharges

P264 - Wash face, hands and any exposed skin thoroughly after handling

P270 - Do not eat, drink or smoke when using this product

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

Response

P301 + P312 - IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell

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

P330 - Rinse mouth

P332 + P313 - If skin irritation occurs: Get medical advice/attention

P337 + P313 - If eye irritation persists: Get medical advice/attention

P370 + P378 - In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish

P362 + P364 - Take off contaminated clothing and wash it before reuse

Storage

P403 + P235 - Store in a well-ventilated place. Keep cool

Disposal

P501 - Dispose of contents/ container to an approved waste disposal plant

Other Hazards

EUH019 - May form explosive peroxides

This product does not contain any known or suspected endocrine disruptors

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS No	Weight %		
Cyclopentane, methoxy-	5614-37-9	100		

SECTION 4: FIRST AID MEASURES

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.

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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.

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Most important symptoms and effects, both acute and delayed

None reasonably foreseeable. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.

Indication of any immediate medical attention and special treatment needed

Notes to Physician

Treat symptomatically.

SECTION 5: FIREFIGHTING MEASURES

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.

Special hazards arising from the substance or mixture

Thermal decomposition can lead to release of irritating gases and vapors. 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 (CO2).

Advice for fire-fighters

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

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.

Environmental precautions

Should not be released into the environment.

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.

Reference to Other Sections

Refer to protective measures listed in Sections 8 and 13.

SECTION 7: HANDLING AND STORAGE

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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. 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.

Conditions for Safe Storage, Including any Incompatibilities

Keep containers tightly closed in a dry, cool and well-ventilated place. Flammables area. Keep away from heat, sparks and flame. May form explosive peroxides. Keep under nitrogen. 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.

Specific End Uses

Use in laboratories.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

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

Hand Protection Protective 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 ProtectionNo protective equipment is needed under normal use conditions

<u>Hygiene Measures</u> Handle in accordance with good industrial hygiene and safety practice

Environmental exposure controls Prevent product from entering drains

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

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Information on basic physical and chemical properties

Appearance

Physical State

No information available Odor **Odor Threshold** No data available рΗ No information available

-140 °C / -220 °F **Melting Point/Range** Softening Point No data available **Boiling Point/Range** 106 °C / 222.8 °F Flash Point -1 °C / 30.2 °F

Method - No information available

Vapors may form explosive mixtures with air

Liquid

(Air = 1.0)

Liquid

Evaporation Rate Flammability (solid,gas)

Not applicable **Explosion Limits** Lower 1.10 vol%

Upper 9.90 vol%

No data available

4,270 Pa @ 25 °C **Vapor Pressure Vapor Density** No data available

Specific Gravity / Density 0.86

Bulk Density Not applicable

Water Solubility No information available Solubility in other solvents No information available

Partition Coefficient (n-octanol/water)

log Pow Component Cyclopentane, methoxy-1.59

Autoignition Temperature Decomposition Temperature

Viscosity

Explosive Properties Oxidizing Properties

185.5 °C

No data available No data available

No information available

C6 H12 O Molecular Formula 100.16 **Molecular Weight**

SECTION 10: STABILITY AND REACTIVITY

Reactivity

Yes.

Chemical Stability

Stable under normal conditions. May form explosive peroxides. Air sensitive. Light

sensitive.

Possibility of Hazardous Reactions

Hazardous Polymerization Hazardous Reactions

Hazardous polymerization does not occur.

None under normal processing.

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Conditions to Avoid

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

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sources of ignition. Exposure to air. Exposure to light.

Incompatible Materials

Strong oxidizing agents. . Strong oxidizing agents. Acids.

Hazardous Decomposition Products

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

SECTION 11: TOXICOLOGICAL INFORMATION

Information on Toxicological Effects

Product Information

(a) acute toxicity;

Oral Category 4

DermalBased on available data, the classification criteria are not metInhalationBased on available data, the classification criteria are not met

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation		
Cyclopentane, methoxy-	LD50 = >200 - <2000 mg/kg bw	LD50 > 2000 mg/kg (Rat)	LC50 > 21.5 mg/L (Rat) 4 h		
	OECD 423		- '		

(b) skin corrosion/irritation; Category 2

(c) serious eye damage/irritation; Category 2

(d) respiratory or skin sensitization;

RespiratoryBased on available data, the classification criteria are not met **Skin**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

There are no known carcinogenic chemicals in this product

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

Target Organs None known.

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(i) aspiration hazard; Based on available data, the classification criteria are not met

delayed

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

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

Ecotoxicity effects Do not empty into drains. Harmful 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	Microtox
Cyclopentane, methoxy-	LC50: > 220 mg/L, 96h semi-static (Oncorhynchus mykiss)			
	(Oncomynoniae mykise)			

Persistence and degradability

Persistence

Readily biodegradable Persistence is unlikely.

Degradation in sewage treatment plant

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

water treatment plants.

Bioaccumulative potential Bioaccumulation is unlikely

Component	log Pow	Bioconcentration factor (BCF)
Cyclopentane, methoxy-	1.59	No data available

No information available. Mobility in soil

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

No information available Other adverse effects

SECTION 13: DISPOSAL CONSIDERATIONS

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

Dispose of this container to hazardous or special waste collection point. Empty containers **Contaminated Packaging**

retain product residue, (liquid and/or vapor), and can be dangerous Keep product and

empty container away from heat and sources of ignition

Other Information Waste codes should be assigned by the user based on the application for which the product

was used Do not flush to sewer Can be landfilled or incinerated, when in compliance with

local regulations

SECTION 14: TRANSPORT INFORMATION

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IMDG/IMO

UN-No UN3271 **Hazard Class** 3 **Packing Group**

Proper Shipping Name ETHERS, N.O.S. Cyclopentyl methyl ether

Road and Rail Transport

UN-No UN3271 **Hazard Class Packing Group** Ш

ETHERS, N.O.S. Cyclopentyl methyl ether **Proper Shipping Name**

IATA

UN-No UN3271 **Hazard Class** 3 **Packing Group**

Proper Shipping Name ETHERS, N.O.S. Cyclopentyl methyl ether

Special Precautions for User No special precautions required

SECTION 15: REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture

International Inventories X = listed

Component	EINECS	TSCA	DSL	PICCS	ENCS	ISHL	IECSC	AICS	KECL
Cyclopentane, methoxy-	•	X	X	-	X	X	Χ	-	2010-3-4628

National Regulations

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 16: OTHER INFORMATION

Legend

CAS - Chemical Abstracts Service

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

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 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

RPE - Respiratory Protective Equipment

LC50 - Lethal Concentration 50%

POW - Partition coefficient Octanol:Water

TWA - Time Weighted Average

IARC - International Agency for Research on Cancer

LD50 - Lethal Dose 50%

EC50 - Effective Concentration 50%

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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

 $\mbox{\bf MARPOL}$ - 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

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Revision Summary SDS sections updated.

In accordance with local and national regulations: Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013

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