

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

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

Perihal Produk: **95% Ethanol**  
 Product Description: **95% Ethanol**  
 Cat No. : R40132

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

Recommended Use Laboratory chemicals.  
 Uses advised against No Information available

**Details of the supplier of the safety data sheet**

**Company** Thermo Scientific Microbiology Sdn Bhd  
 No.6, Jalan TTC 6, Taman Teknologi Cheng,  
 Cheng, 75250 Melaka, Malaysia  
 +606 334 0975 .

**Supplier** Oxoid Ltd.  
 Wade Road  
 Basingstoke, Hants, UK  
 RG24 8PW  
 Telephone: +44 (0) 1256 841144

**E-mail address** mbd-sds@thermofisher.com

**Emergency Telephone Number**

(603) 5122 8888  
 CHEMTREC Malaysia **1-800-815-308** (Malay)  
 CHEMTREC Malaysia (Kuala Lumpur) **+(60)-327884561** (Malay)

**SECTION 2: HAZARDS IDENTIFICATION**
**Classification of the substance or mixture**

Flammable liquids	Category 2 (H225)
Acute oral toxicity	Category 4 (H302)
Acute Inhalation Toxicity - Vapors	Category 4 (H332)
Specific target organ toxicity - (single exposure)	Category 1 (H370)

**Label Elements**


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**Signal Word**

**Danger**

## Hazard Statements

H225 - Highly flammable liquid and vapor  
H302 - Harmful if swallowed  
H332 - Harmful if inhaled  
H370 - Causes damage to organs

## Precautionary Statements

P301 + P330 + P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting  
P312 - Call a POISON CENTER or doctor if you feel unwell  
P264 - Wash face, hands and any exposed skin thoroughly after handling  
P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing  
P260 - Do not breathe dust/fume/gas/mist/vapors/spray  
P308 + P311 - IF exposed or concerned: Call a POISON CENTER or doctor  
P403 + P233 - Store in a well-ventilated place. Keep container tightly closed  
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

## Other Hazards

This product does not contain any known or suspected endocrine disruptors

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS No	Weight %
Ethyl alcohol	64-17-5	95
Methyl alcohol	67-56-1	5

## 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.

#### 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.

### 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.

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## Indication of any immediate medical attention and special treatment needed

### Notes to Physician

Treat symptomatically. Symptoms may be delayed.

## SECTION 5: FIREFIGHTING MEASURES

### Extinguishing media

#### **Suitable Extinguishing Media**

Water spray, carbon dioxide (CO<sub>2</sub>), dry chemical, 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.

### Special hazards arising from the substance or mixture

Flammable. Keep product and empty container away from heat and sources of ignition. Containers may explode when heated. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Combustible material.

### **Hazardous Combustion Products**

Carbon oxides.

### 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. See Section 12 for additional Ecological Information.

### 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

### 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. 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 away from heat, sparks and flame. Keep containers tightly closed in a cool, well-ventilated place. Keep containers tightly closed in a dry, cool and well-ventilated place.

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## Specific End Uses

Use in laboratories.

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control Parameters

Component	Malaysia	ACGIH TLV	OSHA PEL
Ethyl alcohol		STEL: 1000 ppm	(Vacated) TWA: 1000 ppm (Vacated) TWA: 1900 mg/m <sup>3</sup> TWA: 1000 ppm TWA: 1900 mg/m <sup>3</sup>
Methyl alcohol		TWA: 200 ppm STEL: 250 ppm Skin	(Vacated) TWA: 200 ppm (Vacated) TWA: 260 mg/m <sup>3</sup> (Vacated) STEL: 250 ppm (Vacated) STEL: 325 mg/m <sup>3</sup> Skin TWA: 200 ppm TWA: 260 mg/m <sup>3</sup>

Component	European Union	The United Kingdom	Germany
Ethyl alcohol		TWA: 1000 ppm TWA; 1920 mg/m <sup>3</sup> TWA WEL - STEL: 3000 ppm STEL; 5760 mg/m <sup>3</sup> STEL	200 ppm TWA MAK; 380 mg/m <sup>3</sup> TWA MAK
Methyl alcohol	TWA: 200 ppm 8 hr TWA: 260 mg/m <sup>3</sup> 8 hr Skin	WEL - TWA: 200 ppm TWA; 266 mg/m <sup>3</sup> TWA WEL - STEL: 250 ppm STEL; 333 mg/m <sup>3</sup> STEL	100 ppm TWA MAK; 130 mg/m <sup>3</sup> TWA MAK Skin absorber

### Exposure Controls

#### Engineering Measures

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

Wear safety glasses with side shields (or 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 compatibility, 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

#### 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

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

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

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**Hygiene Measures** When using do not eat, drink or smoke Provide regular cleaning of equipment, work area and clothing

**Environmental exposure controls** No information available

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

**Appearance** Clear Colourless  
**Physical State** Liquid  
**Odor** aromatic  
**Odor Threshold** No data available  
**pH** No information available

**Melting Point/Range** No data available  
**Softening Point** No data available  
**Boiling Point/Range** No information available  
**Flash Point** 65 °C / 149 °F

**Method -** CC (closed cup)

**Evaporation Rate** No data available  
**Flammability (solid,gas)** Not applicable  
**Explosion Limits** No data available **Lower** 3.3%  
**Upper** 19.0%

Liquid

**Vapor Pressure** No data available  
**Vapor Density** No data available  
**Specific Gravity / Density** No data available  
**Bulk Density** Not applicable  
**Water Solubility** No information available  
**Solubility in other solvents** No information available

(Air = 1.0)

Liquid

### Partition Coefficient (n-octanol/water)

Component	log Pow
Ethyl alcohol	-0.32
Methyl alcohol	-0.74

**Autoignition Temperature** 363 °C / 685.4 °F  
**Decomposition Temperature** No data available  
**Viscosity** No data available

**Explosive Properties**

Vapors may form explosive mixtures with air  
explosive air/vapour mixtures possible

**Oxidizing Properties** No information available

## SECTION 10: STABILITY AND REACTIVITY

### Reactivity

None known, based on information available.

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## Chemical Stability

Stable under recommended storage conditions.

## Possibility of Hazardous Reactions

### **Hazardous Polymerization Hazardous Reactions**

Hazardous polymerization does not occur.  
None under normal processing.

## Conditions to Avoid

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

## Incompatible Materials

None known.

## Hazardous Decomposition Products

Carbon oxides.

## SECTION 11: TOXICOLOGICAL INFORMATION

### Information on Toxicological Effects

#### Acute Toxicity

#### Toxicology data for the components

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Ethyl alcohol	LD50 = 7060 mg/kg ( Rat )		20000 ppm/10H ( Rat )
Methyl alcohol	LD50 = 1187 – 2769 mg/kg (Rat)	LD50 = 17100 mg/kg ( Rabbit )	LC50 = 128.2 mg/L ( Rat ) 4 h

#### Chronic Toxicity Carcinogenicity

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

#### **Sensitization Mutagenic Effects Reproductive Effects Developmental Effects Target Organs**

No information available  
No information available  
No information available  
No information available  
No information available.

#### **Symptoms**

Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.

## SECTION 12: ECOLOGICAL INFORMATION

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## Ecotoxicity effects

Component	Freshwater Fish	Water Flea	Freshwater Algae	Microtox
Ethyl alcohol	Fathead minnow (Pimephales promelas) LC50 = 14200 mg/l/96h	EC50 = 9268 mg/L/48h EC50 = 10800 mg/L/24h	EC50 (72h) = 275 mg/l (Chlorella vulgaris)	Photobacterium phosphoreum:EC50 = 34634 mg/L/30 min Photobacterium phosphoreum:EC50 = 35470 mg/L/5 min
Methyl alcohol	Pimephales promelas: LC50 > 10000 mg/L 96h	EC50 > 10000 mg/L 24h		EC50 = 39000 mg/L 25 min EC50 = 40000 mg/L 15 min EC50 = 43000 mg/L 5 min

## Persistence and degradability Expected to be biodegradable

Component	Degradability
Methyl alcohol 67-56-1 ( 5 )	DT50 ~ 17.2d >94% after 20d

## Bioaccumulative potential Bioaccumulation is unlikely

Component	log Pow	Bioconcentration factor (BCF)
Ethyl alcohol	-0.32	No data available
Methyl alcohol	-0.74	<10 dimensionless

## Mobility in soil No information available.

## Other adverse effects No information available

## 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

#### 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

#### 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

### IMDG/IMO

UN-No UN1170  
Hazard Class 3  
Packing Group II  
Proper Shipping Name ETHANOL

### Road and Rail Transport

UN-No UN1170

OXDR40132

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**Hazard Class** 3  
**Packing Group** II  
**Proper Shipping Name** ETHANOL

## IATA

**UN-No** UN1170  
**Hazard Class** 3  
**Packing Group** II  
**Proper Shipping Name** ETHANOL

**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
Ethyl alcohol	-	X	X	X	X	X	X	X	KE-13217
Methyl alcohol	-	X	X	X	X	X	X	X	KE-23193

Component	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements	Rotterdam Convention (PIC)	Basel Convention (Hazardous Waste)
Ethyl alcohol				Annex I - Y42
Methyl alcohol	500 tonne	5000 tonne		

## National Regulations

**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 16: OTHER INFORMATION

### Legend

**CAS** - Chemical Abstracts Service

**EINECS/ELINCS** - European Inventory of Existing Commercial Chemical 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

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

**DSL/NDL** - 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

**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

**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

Revision Date

28-Mar-2023

Revision Summary

Update to CLP Format.

**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**