

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

Perihalan Produk:

Product Description:

Cat No. :

Synonyms

CAS No

Molecular Formula

Ethyl acetate

Ethyl acetate

TS/0097/27SS

Acetic acid ethyl ester

141-78-6

C₄ H₈ O₂

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

Recommended Use

Laboratory chemicals.

Uses advised against

No Information available

Company

Thermo Fisher Scientific Fisher Scientific (M) Sdn Bhd
Hap Seng Business Park, Lot 01-03, 01-04 Aras 1 Unity Square,
No 12, Persiaran Perusahaan, Seksyen 23, 40300 Shah Alam,
Selangor Darul Ehsan, Malaysia.
Main line: +60 3-5525 7888

Supplier

E-mail address

Enquiry.my@thermofisher.com

Emergency Telephone Number

Tel: +03-5525 7888

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) |
| Serious Eye Damage/Eye Irritation | Category 2 (H319) |
| Specific target organ toxicity - (single exposure) | Category 3 (H336) |

Label Elements



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Signal Word

Danger

Hazard Statements

H225 - Highly flammable liquid and vapor
H319 - Causes serious eye irritation
H336 - May cause drowsiness or dizziness

Precautionary Statements

Prevention

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
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
P271 - Use only outdoors or in a well-ventilated area
P280 - Wear protective gloves/protective clothing/eye protection/face protection

Response

P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower
P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P312 - Call a POISON CENTER or doctor if you feel unwell
P370 + P378 - In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish

Storage

P403 + P233 - Store in a well-ventilated place. Keep container tightly closed

Disposal

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

Other Hazards

EUH066 - Repeated exposure may cause skin dryness or cracking

This product does not contain any known or suspected endocrine disruptors

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

| Component | CAS No | Weight % |
|---------------|----------|----------|
| Ethyl acetate | 141-78-6 | <=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

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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. May cause central nervous system depression. 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. Symptoms may be delayed.

SECTION 5: FIREFIGHTING MEASURES

Extinguishing media

Suitable Extinguishing Media

Water spray, carbon dioxide (CO₂), dry chemical, alcohol-resistant foam.

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. 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.

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.

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.

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

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

Conditions for Safe Storage, Including any Incompatibilities

Flammables area. Keep away from heat, sparks and flame. Keep container tightly closed in a dry and well-ventilated place.

Specific End Uses

Use in laboratories.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

| Component | Malaysia | ACGIH TLV | OSHA PEL |
|---------------|----------|--------------|--|
| Ethyl acetate | | TWA: 400 ppm | (Vacated) TWA: 400 ppm (Vacated) TWA: 1400 mg/m ³ TWA: 400 ppm TWA: 1400 mg/m ³ |

| Component | European Union | The United Kingdom | Germany |
|---------------|---|---|---|
| Ethyl acetate | TWA: 734 mg/m ³ (8h) TWA: 200 ppm (8h) STEL: 1468 mg/m ³ (15min) STEL: 400 ppm (15min) | STEL: 1468 mg/m ³ 15 min STEL: 400 ppm 15 min TWA: 734 mg/m ³ 8 hr TWA: 200 ppm 8 hr | TWA: 200 ppm (8 Stunden). AGW - exposure factor 2 TWA: 730 mg/m ³ (8 Stunden). AGW - exposure factor 2 TWA: 200 ppm (8 Stunden). MAK TWA: 750 mg/m ³ (8 Stunden). MAK Höhepunkt: 400 ppm Höhepunkt: 1500 mg/m ³ |

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

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

No protective equipment is needed under normal use conditions

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice

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Environmental exposure controls No information available

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

| | |
|----------------|--------------------------|
| Appearance | Colorless |
| Physical State | Liquid |
| Odor | sweet |
| Odor Threshold | 50 ppm |
| pH | No information available |

| | |
|---------------------|-----------------------------|
| Melting Point/Range | -83.5 °C / -118.3 °F |
| Softening Point | No data available |
| Boiling Point/Range | 75 - 78 °C / 167 - 172.4 °F |
| Flash Point | -4 °C / 24.8 °F |

Method - CC (closed cup)

| | | |
|--------------------------|---|-----------------------|
| Evaporation Rate | 6.2 | (Butyl Acetate = 1.0) |
| Flammability (solid,gas) | Not applicable | Liquid |
| Explosion Limits | Lower 2 Vol% Upper 12 Vol% | |

| | | |
|------------------------------|--------------------------|-------------|
| Vapor Pressure | 103 mbar @ 20°C | |
| Vapor Density | 3.04 | (Air = 1.0) |
| Specific Gravity / Density | 0.902 | @ 20 °C |
| Bulk Density | Not applicable | Liquid |
| Water Solubility | 80 g/l | 20 °C |
| Solubility in other solvents | Miscible Alcohol acetone | |

Partition Coefficient (n-octanol/water)

| | |
|---------------|----------------|
| Component | log Pow |
| Ethyl acetate | 0.73 |

| | | |
|---------------------------|-------------------|---|
| Autoignition Temperature | 427 °C / 800.6 °F | |
| Decomposition Temperature | No data available | |
| Viscosity | 0.45 cP @ 20 °C | Dynamic |
| Explosive Properties | Not explosive | Vapors may form explosive mixtures with air |
| Oxidizing Properties | Not oxidising | (based on the chemical structure of the substance and oxidation states of the constituent elements) |

| | |
|-------------------|----------------|
| Molecular Formula | C4 H8 O2 |
| Molecular Weight | 88.11 |
| Surface tension | 24 mN/m @ 20°C |

SECTION 10: STABILITY AND REACTIVITY

Reactivity

None known, based on information available.

Chemical Stability

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Stable under normal conditions.

Possibility of Hazardous Reactions

Hazardous Polymerization Hazardous Reactions

Hazardous polymerization does not occur.
None under normal processing.

Conditions to Avoid

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

Incompatible Materials

Strong oxidizing agents. Strong acids. Amines. Peroxides.

Hazardous Decomposition Products

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

SECTION 11: TOXICOLOGICAL INFORMATION

Information on Toxicological Effects

Product Information

(a) acute toxicity;

Oral

Based on available data, the classification criteria are not met

Dermal

Based on available data, the classification criteria are not met

Inhalation

Based on available data, the classification criteria are not met

| Component | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|---------------|----------------------|---|--------------------|
| Ethyl acetate | 10,200 mg/kg (Rat) | > 20 mL/kg (Rabbit) > 18000 mg/kg (Rabbit) | 58 mg/l (rat; 8 h) |

(b) skin corrosion/irritation;

Test method

Based on available data, the classification criteria are not met

Test species

OECD 404

Observational endpoint

rabbit

No skin irritation

(c) serious eye damage/irritation;

Test method

Category 2

Test species

OECD 405

Observation end point

rabbit eye

Irritating to eyes

(d) respiratory or skin sensitization;

Respiratory

Based on available data, the classification criteria are not met

Skin

Based on available data, the classification criteria are not met

| Component | Test method | Test species | Study result |
|-------------------------------------|-------------------------|--------------|-------------------|
| Ethyl acetate 141-78-6 (<=100) | OECD Test Guideline 406 | guinea pig | - non-sensitising |

(e) germ cell mutagenicity;

Based on available data, the classification criteria are not met

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| Component | Test method | Test species | Study result |
|-------------------------------------|---|-----------------------|--------------|
| Ethyl acetate 141-78-6 (<=100) | OECD Test Guideline 471 AMES test | in vitro Bacteria | negative |
| | OECD Test Guideline 473 Chromosomal aberration assay | in vitro Mammalian | negative |
| | OECD Test Guideline 476 Gene cell mutation | in vitro Mammalian | negative |
| | OECD Test Guideline 474 Mouse micronucleus assay | in vivo Mammalian | negative |

(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

| Component | Test method | Test species / Duration | Study result |
|-------------------------------------|-------------------------|-------------------------------|------------------------------------|
| Ethyl acetate 141-78-6 (<=100) | OECD Test Guideline 416 | Oral mouse 2 Generation | NOAEL = 26400 mg/kg bw/day |
| | OECD Test Guideline 414 | Inhalation Rat | NOAEC = 73300 mg/m ³ |

(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

Test method
Test species / Duration
Study result

EPA OTS 795.2600
Rat / 90 days
NOAEL = 900 mg/kg bw/day
LOAEL = 3600 mg/kg

EPA OTS 798.2450
Rat / 90 days
NOEC = 1.28 mg/l

Route of exposure

Oral

Inhalation

Target Organs

None known.

(j) aspiration hazard;

Based on available data, the classification criteria are not met

Symptoms / effects, both acute and delayed

May cause central nervous system depression. 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.

| Component | Freshwater Fish | Water Flea | Freshwater Algae | Microtox |
|---------------|--|---------------------|----------------------|--|
| Ethyl acetate | Fathead minnow: LC50: 230 mg/l/ 96h Gold orfe: LC50: 270 mg/L/48h | EC50 = 717 mg/L/48h | EC50 = 3300 mg/L/48h | EC50 = 1180 mg/L 5 min EC50 = 1500 mg/L 15 min EC50 = 5870 mg/L 15 |

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| | | | | |
|--|--|--|--|-----------------------------|
| | | | | min EC50 = 7400 mg/L 2 h |
|--|--|--|--|-----------------------------|

Persistence and degradability

Readily biodegradable

Persistence

Persistence is unlikely, based on information available.

| Component | Degradability |
|-------------------------------------|--------------------------|
| Ethyl acetate 141-78-6 (<=100) | 79 % (20 d) (OECD 301 D) |

Bioaccumulative potential

Bioaccumulation is unlikely

| Component | log Pow | Bioconcentration factor (BCF) |
|---------------|---------|-------------------------------|
| Ethyl acetate | 0.73 | 30 dimensionless |

Mobility in soil

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.

Surface tension

24 mN/m @ 20°C

Endocrine Disruptor Information

This product does not contain any known or suspected endocrine disruptors

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 UN1173
Hazard Class 3
Packing Group II
Proper Shipping Name ETHYL ACETATE

Road and Rail Transport

UN-No UN1173
Hazard Class 3
Packing Group II
Proper Shipping Name ETHYL ACETATE

IATA

UN-No UN1173

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Hazard Class 3
Packing Group II
Proper Shipping Name ETHYL ACETATE

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 acetate | 205-500-4 | X | X | X | X | X | X | X | KE-00047 |

| 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 acetate | | | | Annex I - Y42 |

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%

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, Chemadviser - LOLI, Merck index, RTECS

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Revision Date
Revision Summary

23-Mar-2025
Initial Release.

**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