

Safety Data Sheet

Section 1. Identification of the substance/mixture and of the company/undertaking

Product identifier:

Product name: Ethyl acetate

Reference number(SDS):31055jis_E1-3

Product type:

Reagent

Details of the supplier of the safety data sheet

Manufacturer/Supplier: JUNSEI CHEMICAL CO., LTD.

Address: 1-6, Ohmano-cho, Koshigaya-shi, Saitama 343-0844, Japan

Division: Quality Assurance Department

Telephone number: +81-48-986-6161

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e-mail address: shiyaku-t@junsei.co.jp

Section 2. Hazards identification

GHS classification and label elements of the product**Classification of the substance or mixture****PHYSICAL AND CHEMICAL HAZARDS**

Flammable liquids: Category 2

HEALTH HAZARDS

Acute toxicity (Inhalation): Category 4

Serious eye damage/eye irritation: Category 2B

Specific target organ toxicity – single exposure: Category 3 (Respiratory tract irritation)

Specific target organ toxicity – single exposure: Category 3 (Narcotic effects)

(Note) GHS classification without description: Not classified/Classification not possible

Label elements

Signal word: Danger

HAZARD STATEMENT

H225-Highly flammable liquid and vapor

H332-Harmful if inhaled

H320-Causes eye irritation

H335-May cause respiratory irritation

H336-May cause drowsiness or dizziness

PRECAUTIONARY STATEMENT**Prevention**

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

Keep container tightly closed.

Ground and bond container and receiving equipment.

Use explosion-proof electrical/ventilating/lighting equipment.

Use non-sparking tools.

Take action to prevent static discharges.

Avoid breathing vapors.

Use only outdoors or in a well-ventilated area.

Wash contaminated parts thoroughly after handling.

Wear protective gloves/protective clothing/eye protection/face protection.

Response

In case of fire: Use alcohol-resistant foam, dry powder, CO2 to extinguish.

Call a POISON CENTER/doctor/physician if you feel unwell.

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

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

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

If eye irritation persists: Get medical advice/attention.

Storage

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

Keep cool.

Store locked up.

Disposal

Dispose of contents/container in accordance with local/national regulation.

Specific Physical and Chemical hazards

Highly flammable liquid. Vapor/air mixture may explode.

Section 3. Composition/information on ingredients

Mixture/Substance selection:

Substance

Ingredient name: Ethyl acetate

Content (%): 99.0 <

Chemical formula: C₄H₈O₂

Chemicals No, Japan: 2-726

CAS No.: 141-78-6

MW: 88.11

ECNO: 205-500-4

Note : The figures shown above are not the specifications of the product.

Section 4. First-aid measures

Descriptions of first-aid measures

General measures

Call a POISON CENTER/doctor/physician if you feel unwell.

Keep victim warm and quiet.

Call emergency medical service.

Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed.

IF INHALED

Remove person to fresh air and keep comfortable for breathing.

Give artificial respiration if victim is not breathing.

Administer oxygen if breathing is difficult.

Call a POISON CENTER/doctor/physician if you feel unwell.

IF ON SKIN (or hair)

Take off immediately all contaminated clothing. Rinse skin with water or shower.

If skin irritation or rash occurs: Get medical advice/attention.

Remove and isolate contaminated clothing and shoes.

In case of burns, immediately cool affected skin for as long as possible with child water.

Do not remove clothing if adhering to skin.

IF IN EYES

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

If eye irritation persists: Get medical advice/attention.

IF SWALLOWED

Rinse mouth.

Call a POISON CENTER/doctor/physician if you feel unwell.

Most important symptoms and effects, both acute and delayed

(Symptoms when inhalation or ingestion)

Headache. Drowsiness. Cough. Sore throat

(Symptoms when skin and/or eye contact)

Dry skin. Conjunctival redness of the eyes. Redness of the skin.

Indication of any immediate medical attention and special treatment needed

Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

Section 5. Fire-fighting measures**Extinguishing media****Suitable extinguishing media**

In case of fire, use alcohol-resistant foam, dry powder, CO2 to extinguish.

✕When fighting fire may be inefficient, use of water spray.

Unsuitable extinguishing media

Water may be effective for cooling, but may not effect extinguishment.

Specific hazards arising from the substance or mixture

Containers may explode when heated.

Fire may produce irritating, corrosive and/or toxic gases.

Runoff from fire control or dilution water may cause pollution.

Advice for firefighters**Specific fire-fighting measures**

Evacuate non-essential personnel to safe area.

Cool container with water spray.

Special protective equipment and precautions for fire-fighters

Wear fire resistant or flame retardant clothing.

Wear protective gloves/protective clothing/eye protection/face protection.

Firefighters should wear self-contained breathing apparatus with a full facepiece operated in the positive pressure mode.

Section 6. Accidental release measures**Personnel precautions, protective equipment and emergency procedures**

Keep unauthorized personnel away.

In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.

Ventilate area until material pick up is complete.

Wear proper protective equipment.

PUBLIC SAFETY: Ventilate closed spaces before entering.

Do not touch or walk through spilled material.

Environmental precautions

Runoff to sewer may create fire or explosion hazard.

Vapor explosion hazard indoors, outdoors or in sewers.

Avoid release to headsprings, rivers, lakes, ocean and groundwater.

Methods and materials for containment and cleaning up

Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers.

Use clean non-sparking tools to collect absorbed material.

All equipment used when handling the product must be grounded.

Preventive measures for secondary accident

Collect spillage.

Stop leak if you can do it without risk.

ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).

Prevent entry into waterways, sewers, basements or confined areas.

Keep out of low areas.

Section 7. Handling and storage

Precautions for safe handling

Preventive measures

(Exposure Control for handling personnel)

Avoid breathing vapors.

(Protective measures against fire and explosion)

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

Ground and bond container and receiving equipment.

Use explosion-proof electrical/ventilating/lighting equipment.

Use non-sparking tools.

Take action to prevent static discharges.

(Exhaust/ventilator)

Exhaust/ventilator should be available.

(Safety treatments)

Avoid contact with skin.

Avoid contact with eyes.

Safety Measures

Use only outdoors or in a well-ventilated area.

Wear protective gloves/protective clothing/eye protection/face protection.

Use personal protective equipment as required.

When using do not eat, drink or smoke.

Any incompatibilities

Strong acids, Strong bases, Strong oxidizing agents should not be mixed with the chemicals.

Advice on general occupational hygiene

Wash contaminated parts thoroughly after handling.

Storage

Conditions for safe storage

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

Keep cool. Protect from sunlight.

Store in accordance with local/national regulation.

Store locked up.

Container and packaging materials for safe handling data is not available.

Specific end use(s)

See information in Section 7.1 and 7.2 for handling and storage recommendations. See

Section 8 for exposure controls and personal protection recommendations.

Section 8. Exposure controls/personal protection

Control parameters

Control value and Concentration standard value

Japan control value 200ppm

Adopted value

JSOH(1995) 200ppm; 720mg/m³

ACGIH(1979) TWA: 400ppm (URT & eye irr)

Exposure controls

Appropriate engineering controls

Do not use in areas without adequate ventilation.

Eye wash station should be available.

Washing facilities should be available.

Individual protection measures

Respiratory protection

Wear respiratory protection.

Recommended respiratory protection: Gas mask (e.g. JIS T8152)

Hand protection

Wear protective gloves. Recommended material(s): butyl rubber

Inspect before use and replace worn or damaged gloves.

Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions.

Chemical-resistant, impervious gloves complying with an approved standard (e.g. JIS T8116) should be used.

Eye protection

Wear safety glasses with side-shields.

Wear eye/face protection.

Skin and body protection

Wear impervious clothing and boots in case of repeated or prolonged treatment.

Personal protective equipment for the body and skin should be selected based on the task being performed and the risks involved.

Section 9. Physical and Chemical Properties

Information on basic physical and chemical properties

Physical state: Volatile liquid

Color: Colorless

Odor: Characteristic odor

Odor threshold: 3.9 ppm; 0.0196~665.0 mg/m³

Melting point/Freezing point: -84°C

Boiling point or initial boiling point: 77°C

Boiling range data is not available.

Flammability (gases, liquids and solids): Ignitable

Lower and upper explosion limit/flammability limit:

Lower explosion limit: 2.0vol %

Upper explosion limit: 12.8vol %

Flash point: (c.c.)-4°C

Auto-ignition temperature: 427°C

Decomposition temperature data is not available.

Self-Accelerating Decomposition Temperature/SADT data is not available.

pH data is not available.

Dynamic viscosity: 0.451 mPas (20°C)

Kinematic viscosity: 0.50 mm²/s (20°C)

Solubility:

Solubility in water: 8.7 g/100 ml (20°C)

Solubility in solvent: Very soluble in ethanol (99.5), diethyl ether.

n-Octanol/water partition coefficient: log Pow 0.73

Vapor pressure: 10 kPa (20°C)

Vapor density data is not available.

Density and/or relative density: 0.90 g/cm³ (20°C)

Relative vapor density (Air=1): 3.0

Relative density of the Vapor/air - mixture at 20°C (Air = 1): 1.2

Particle characteristics data is not available.

Other information

Critical temperature: 523.7K

Evaporation rate data is not available.

VOC data is not available.

Section 10. Stability and Reactivity

Reactivity

Runaway polymerization will not occur.

Chemical stability

Stable under normal storage/handling conditions.

Highly flammable.

Possibility of hazardous reactions

The vapour is heavier than air and may travel along the ground; distant ignition possible.

Reacts with strong oxidants. This generates fire and explosion hazard.

Reacts violently with strong bases and strong acids.

Attacks rubber and some forms of plastic (e.g. Polyvinyl chloride).

Conditions to avoid

Contact with incompatible materials.

Open flames. Heating. Sparks. Sun light.

Incompatible materials

Strong acids, Strong bases, Strong oxidizing agents

Hazardous decomposition products

Carbon oxides

Section 11. Toxicological Information

Information on toxicological effects

Acute toxicity

Acute toxicity (Oral)

[Product]

Based on available data, the classification criteria are not met.

[Data for components of the product]

[GHS Cat. Japan, base data]

rat LD50=5600mg/kg (ACGIH 7th, 2001)

Acute toxicity (Dermal)

[Product]

Based on available data, the classification criteria are not met.

[Data for components of the product]

[GHS Cat. Japan, base data]

rabbit LD50 > 18000mg/kg (SIDS, 2008)

Acute toxicity (Inhalation)

[Product]

Category 4, Harmful if inhaled

[Data for components of the product]

[GHS Cat. Japan, base data]

vapor: rat LC50=14640ppm/4hr (DFGOT vol.12, 1999)

Irritant properties

Skin corrosion/irritation

[Product]

Based on available data, the classification criteria are not met.

[Data for components of the product]

[GHS Cat. Japan, base data]

not irritating (SIDS, 2008)

Serious eye damage/irritation

[Product]

Category 2B, Causes eye irritation

[Data for components of the product]

[GHS Cat. Japan, base data]

rabbit : transient irritation, recover within 7 days (ECETOC TR48, 1998)

Sensitization

Respiratory sensitization

[Product]

Classification not possible (Insufficient data available or no data available).

[Data for components of the product]

No data available.

Skin sensitization

[Product]

Classification not possible (Insufficient data available or no data available).

[Data for components of the product]

No data available.

Germ cell mutagenicity

[Product]

Classification not possible (Insufficient data available or no data available).

[Data for components of the product]

[GHS Cat. Japan, base data]

mice and hamster(micronucleus tests)(in vivo) : Negative (DFGOT vol.12, 1999; SIDS, 2008)

Reverse-mutation assay in bacteria (Ames test) :Negative(DFGOT vol.12,1999 et al.)

Chromosome aberration test :Negative(DFGOT vol.12,1999 et al.)

Carcinogenicity

[Product]

Classification not possible (Insufficient data available or no data available).

[Data for components of the product]

No data available.

Reproductive toxicity

[Product]

Classification not possible (Insufficient data available or no data available).

[Data for components of the product]

No data available.

Specific target organ toxicity (STOT)

STOT-single exposure

[Product]

Category 3, May cause respiratory irritation

Category 3, May cause drowsiness or dizziness

[Data for components of the product]

[cat.3 (respiratory tract irritation)]

[GHS Cat. Japan, base data]

respiratory tract irritation (ACGIH 7th, 2001; MOE Environmental Risk Assessment for Chemical Substances, vol.10, 2012)

[cat.3 (narcotic effects)]

[GHS Cat. Japan, base data]

narcotic effect (ACGIH 7th, 2001; SIDS, 2008)

STOT-repeated exposure

[Product]

Classification not possible (Insufficient data available or no data available).

[Data for components of the product]

No data available.

Aspiration hazard

[Product]

Classification not possible (Insufficient data available or no data available).

[Data for components of the product]

No data available.

Section 12. Ecological Information

Toxicity

Aquatic toxicity

[Product]

Based on available data, the classification criteria are not met.

Classification not possible (Insufficient data available or no data available).

[Data for components of the product]

Hazardous to the aquatic environment, short-term (acute)

[GHS Cat. Japan, base data]

Crustacea (Daphnia pulex) EC50=262 mg/L/48hr; Fish (Pimephales promelas) LC50=230mg/L/96hr

(MOE risk assessment vol.10, 2012)

Hazardous to the aquatic environment, long-term (chronic)

[GHS Cat. Japan, base data]

Crustacea (Daphnia magna) NOEC=2.4mg/L/21days (ECETOC TR91, 2003)

Water solubility

[Data for components of the product]

8.7 g/100 ml (20°C) (ICSC, 2014)

Persistence and degradability

[Data for components of the product]

Rapidly degradable (BOD_Degradation : 66, 112, 105%/28day (MITI official bulletin, 1993)

Bioaccumulative potential

[Data for components of the product]

log Pow=0.73 (ICSC, 2014)

Mobility in soil

Mobility in soil data is not available.

Other adverse effects

Ozone depleting chemical data is not available.

Section 13. Disposal considerations

Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging

Waste treatment methods

Dispose of contents/container in accordance with local/national regulation.

Section 14. Transport Information

UN No., UN CLASS

UN Number or ID Number : 1173

UN Proper Shipping Name : ETHYL ACETATE

Class or division (Transport hazard class) : 3

Packing group : II

ERG GUIDE No.: 129

IMDG Code (International Maritime Dangerous Goods Regulations)

UN Number or ID Number : 1173

UN Proper Shipping Name : ETHYL ACETATE

Class or division (Transport hazard class) : 3

Packing group : II

IATA (Dangerous Goods Regulations)

UN Number or ID Number : 1173

Ethyl acetate, JUNSEI CHEMICAL CO., LTD., 31055jis_E1-3,22/Jan/2024

UN Proper Shipping Name : ETHYL ACETATE

Class or division (Transport hazard class) : 3

Hazard labels : Flamm.liquid

Packing group : II

Environmental hazards

Marine pollutants (yes/no) : no

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Noxious Liquid Substances ; Cat. Z

Ethyl acetate

Flammable Liquid

Ethyl acetate

Section 15. Regulatory Information

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

Labor Standards Act, Japan

Chemical substances or compounds (including alloys) causing disease (Regulation, Appended Table 1-2-4-1)

Ethyl acetate

U.S. Toxic Substances Control Act (TSCA) Inventory

Chemicals listed in TSCA Inventory

141-78-6

All components are listed or exempted.

Other regulatory information

We are not able to check up the regulatory information with regard to the substances in your country or region, therefore, we request this matter would be filled by your responsibility.

Regulatory information with regard to this substance in your country or in your region should be examined by your own responsibility.

Ensure this material in compliance with federal requirements and ensure conformity to local regulations.

Regulatory information in this section are limited to intentional ingredient(s), but does not contain information on non-intentional ingredients or impurities which are not informed by supplier(s).

Chemical safety assessment

Advice on safe handling for this product can be found in sections 7 and 8 of this SDS.

Section 16. Other information

GHS classification and labelling

H225-Flammable liquids, Category 2: H225 Highly flammable liquid and vapour

H332-Acute toxicity, Category 4: H332 Harmful if inhaled

H320-Serious eye damage/eye irritation, Category 2B: H320 Causes eye irritation

H335-STOT - single exposure, Category 3, Respiratory tract irritation: H335 May cause respiratory irritation.

H336-STOT - single exposure, Category 3, Narcotic effects: H336 May cause drowsiness or dizziness.

References and sources for data

Globally Harmonized System of classification and labelling of chemicals, UN

Recommendations on the TRANSPORT OF DANGEROUS GOODS 22nd edit., 2021 UN

IMDG Code, 2020 Edition (Incorporating Amendment 40-20)

IATA Dangerous Goods Regulations (64th Edition) 2023

2020 EMERGENCY RESPONSE GUIDEBOOK (US DOT)

2023 TLVs and BEIs. (ACGIH)

JIS Z 7252 : 2019

JIS Z 7253 : 2019

Ethyl acetate, JUNSEI CHEMICAL CO., LTD., 31055jis_E1-3,22/Jan/2024

2022 Recommendation on TLVs (JSOH)

Notification No. 0111-1 (January 11, 2022), Chemical Hazards Control Division, Industrial Safety and Health Department, Labour Standards Bureau, MHLW in Japan

Supplier's data/information

Chemicals safety data management system "GHS Assistant" Version 4.26 (<https://www.asahi-ghs.com/>)

NITE Chemical Risk Information Platform "NITE-CHRIP"

(https://www.nite.go.jp/en/chem/chrip/chrip_search/systemTop)

GHS Classification Guidance for Enterprises 2019 Revised Edition (Ver. 2.0) (Mar. 2020, METI)

Abbreviations and acronyms

SDS (Safety Data Sheet)

LD50 (Lethal Dose, 50%)

LC50 (Lethal Concentration, 50%)

IARC (International Agency for Research on Cancer)

ACGIH (American Conference of Governmental Industrial Hygienists)

EPA (US Environmental Protection Agency)

NTP (US National Toxicology Program)

JSOH (Japan Society for Occupational Health)

EU (European Union)

EC50 (Effective Concentration, 50%)

NOEC (No Observed Effect Concentration)

BOD (Biochemical Oxygen Demand)

COD (Chemical Oxygen Demand)

BCF (Bioconcentration Factor)

anh (anhydride)

General Disclaimer

This data sheet was created based on the information we currently have and may be revised according to new information. In addition, the precautions apply only to normal handling, and in the case of special handling, please make adequate countermeasure to maintain your safety.

The data given here is based on current knowledge and experience. The purpose of this Safety Data Sheet is to describe the products in terms of their safety requirements. The data does not signify any warranty with regard to the products' properties.

The GHS classification data given here is based on current Japan official data (NITE published in 2022).