Chemical Safety Data Sheet MSDS / SDS

2-ethoxyethyl acetate SDS

Revision Date:2024-04-25 Revision Number:1

SECTION 1: Identification of the substance/mixture and of the company/undertaking

Product identifier

Product name: 2-ethoxyethyl acetate

CAS: 111-15-9

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

Relevant identified uses: For R&D use only. Not for medicinal, household or other use.

Uses advised against: none

Company Identification

Company: Chemicalbook.in

Address: 5 vasavi Layout Basaveswara Nilayam Pragathi Nagar Hyderabad, India -500090

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SECTION 2: Hazards identification

Classification of the substance or mixture

Flammable liquids, Category 3
Acute toxicity - Category 4, Oral

Acute toxicity - Category 4, Dermal
Acute toxicity - Category 4, Inhalation
Reproductive toxicity, Category 1B

GHS label elements, including precautionary statements

Pictogram(s)

Signal word Danger

Hazard statement(s)

H226 Flammable liquid and vapour
H302 Harmful if swallowed
H312 Harmful in contact with skin
H332 Harmful if inhaled

Precautionary statement(s)

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.
P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/...
P264 Wash ... thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P271 Use only outdoors or in a well-ventilated area.
P203 Obtain, read and follow all safety instructions before use.

Response

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse affected areas with water [or shower].
P370+P378 In case of fire: Use ... to extinguish.
P301+P317 IF SWALLOWED: Get medical help.
P330 Rinse mouth.
P302+P352 IF ON SKIN: Wash with plenty of water/...

P317 Get medical help.
P321 Specific treatment (see ... on this label).
P362+P364 Take off contaminated clothing and wash it before reuse.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P318 IF exposed or concerned, get medical advice.

Storage

P403+P235 Store in a well-ventilated place. Keep cool.
P405 Store locked up.

Disposal

P501 Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Other hazards which do not result in classification

no data available

SECTION 3: Composition/information on ingredients

Substance

Chemical name:	2-ethoxyethyl acetate
Common names and synonyms:	2-ethoxyethyl acetate
CAS number:	111-15-9
EC number:	203-839-2
Concentration:	100%

SECTION 4: First aid measures

Description of necessary first-aid measures

If inhaled

Fresh air, rest. Refer for medical attention.

Following skin contact

Remove contaminated clothes. Rinse skin with plenty of water or shower. Refer for medical attention .

Following eye contact

First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then refer for medical attention.

Following ingestion

Rinse mouth. Do NOT induce vomiting. Refer for medical attention .

Most important symptoms/effects, acute and delayed

Vapors irritate nose and eyes in high concentrations. Liquid irritates skin in prolonged or repeated contact. (USCG, 1999)

Indication of immediate medical attention and special treatment needed, if necessary

Immediate first aid: Ensure that adequate decontamination has been carried out. If patient is not breathing, start artificial respiration, preferably with a demand-valve resuscitator, bag-valve-mask device, or pocket mask, as trained. Perform CPR as necessary. Immediately flush contaminated eyes with gently flowing water. Do not induce vomiting. If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain an open airway and prevent aspiration. Keep patient quiet and maintain normal body temperature. Obtain medical attention. Ethylene glycol, glycols, and related compounds

SECTION 5: Firefighting measures

Suitable extinguishing media

To fight fire, use alcohol foam, co2, dry chemical.

Specific hazards arising from the chemical

Excerpt from ERG Guide 129 [Flammable Liquids (Water-Miscible / Noxious)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2016)

Special protective actions for fire-fighters

Use water spray, powder, alcohol-resistant foam, carbon dioxide. In case of fire: keep drums, etc., cool by spraying with water.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal protection: filter respirator for organic gases and vapours adapted to the airborne concentration of the substance. Ventilation. Remove all ignition sources. Do NOT let this chemical enter the environment. Collect leaking and spilled liquid in sealable containers as far as possible. Absorb remaining liquid in sand or inert absorbent. Then store and dispose of according to local regulations.

Environmental precautions

Personal protection: filter respirator for organic gases and vapours adapted to the airborne concentration of the substance. Ventilation. Remove all ignition sources. Do NOT let this chemical enter the environment. Collect leaking and spilled liquid in sealable containers as far as possible. Absorb remaining liquid in sand or inert absorbent. Then store and dispose of according to local regulations.

Methods and materials for containment and cleaning up

Collect and arrange disposal. Keep the chemical in suitable and closed containers for disposal. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment. Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations.

SECTION 7: Handling and storage

Precautions for safe handling

NO open flames, NO sparks and NO smoking. Above 51.1°C use a closed system, ventilation and explosion-proof electrical equipment. Handling in a well ventilated place. Wear suitable protective clothing. Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Use non-sparking tools. Prevent fire caused by electrostatic discharge steam.

Conditions for safe storage, including any incompatibilities

Fireproof. Separated from strong oxidants, strong bases and strong acids. Keep in the dark.MATERIALS WHICH ARE TOXIC AS STORED OR WHICH CAN DECOMPOSE INTO TOXIC COMPONENTS ... SHOULD BE STORED IN A COOL WELL VENTILATED PLACE, OUT OF THE DIRECT RAYS OF THE SUN, AWAY FROM AREAS OF HIGH FIRE HAZARD, AND SHOULD BE PERIODICALLY INSPECTED. INCOMPATIBLE MATERIALS SHOULD BE ISOLATED ...

SECTION 8: Exposure controls/personal protection

Control parameters

Occupational Exposure limit values

TLV: 5 ppm as TWA; (skin); BEI issued.MAK: 11 mg/m3, 2 ppm; peak limitation category: II(8); skin absorption (H); pregnancy risk group: B.EU-OEL: 11 mg/m3, 2 ppm as TWA; (skin)

Biological limit values

no data available

Appropriate engineering controls

Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Set up emergency exits and the risk-elimination area.

Individual protection measures, such as personal protective equipment (PPE)

Eye/face protection

Wear safety goggles or eye protection in combination with breathing protection.

Skin protection

Protective gloves. Protective clothing.

Respiratory protection

Use ventilation, local exhaust or breathing protection.

Thermal hazards

no data available

SECTION 9: Physical and chemical properties and safety characteristics

Physical state:	Ethylene glycol monoethyl ether acetate is a clear colorless liquid with a pleasant odor. Flash point of 120°F. Less dense than water. Vapors are heavier than air.
Colour:	Colorless liquid

Odour:	MILD ESTER-LIKE ODOR BECOMES OBJECTIONABLE IN HIGH CONCN ...
Melting point/freezing point:	-62°C(lit.)
Boiling point or initial boiling point and boiling range:	156°C
Flammability:	Class II Combustible Liquid: Fl.P. at or above 100°F and below 140°F.
Lower and upper explosion limit/flammability limit:	Lower flammable limit :1.7 % by volume; Upper flammable limit: 10 % by volume
Flash point:	55°C(lit.)
Auto-ignition temperature:	715° F (USCG, 1999)
Decomposition temperature:	no data available
pH:	no data available
Kinematic viscosity:	1.32 cP at 20 deg C
Solubility:	greater than or equal to 100 mg/mL at 66° F (NTP, 1992)
Partition coefficient n-octanol/water:	log Kow = 0.24
Vapour pressure:	2 mm Hg (20 °C)
Density and/or relative density:	0.97
Relative vapour density:	4.6 (vs air)
Particle characteristics:	no data available

SECTION 10: Stability and reactivity

Reactivity

The substance can presumably form explosive peroxides. Reacts with strong acids, strong bases and strong oxidants.

Chemical stability

no data available

Possibility of hazardous reactions

MODERATE, WHEN EXPOSED TO HEAT OR FLAME; CAN REACT WITH OXIDIZING MATERIALS. SPONTANEOUS HEATING: NO.Mixing ETHYLENE GLYCOL MONOETHYL ETHER ACETATE in equal molar portions with any of the following substances in a closed container caused the temperature and pressure to increase: chlorosulfonic acid, oleum, and vinyl acetate, NFPA 1991.

Conditions to avoid

no data available

Incompatible materials

Incompatibilities: Nitrates, strong oxidizers, strong alkalies, strong acids.

Hazardous decomposition products

When heated to decomposition it emits acrid smoke and irritating fumes.

SECTION 11: Toxicological information

Acute toxicity

Oral: LD50 Rat oral 5.1 g/kg

Inhalation: LC50 Rat inhalation 1500 ppm/8 hr

Dermal: no data available

Skin corrosion/irritation

no data available

Serious eye damage/irritation

no data available

Respiratory or skin sensitization

no data available

Germ cell mutagenicity

no data available

Carcinogenicity

no data available

Reproductive toxicity

no data available

STOT-single exposure

The vapour is mildly irritating to the eyes. The substance may cause effects on the blood at high levels. This may result in lesions of blood cells and kidney impairment. The substance may cause effects on the central nervous system. Exposure far above the OEL could cause unconsciousness.

STOT-repeated exposure

The substance defats the skin, which may cause dryness or cracking. The substance may have effects on the blood. This may result in lesions of blood cells, anaemia and kidney impairment. May cause toxicity to human reproduction or development.

Aspiration hazard

A harmful contamination of the air will be reached rather slowly on evaporation of this substance at 20°C.

SECTION 12: Ecological information

Toxicity

Toxicity to fish: LC50; Species: Pimephales promelas (Fathead minnow, weight 148 mg); Conditions: flow-through bioassay, dissolved oxygen 7.4 (4.6-8.8) mg/L, water hardness 44.9 (42.4-46.6) mg/L as CaCO3, pH 6.9-7.7, alkalinity 42.9 (39.6-61.4) mg/L CaCO3, temp: 26.4 + or - 1.4 deg C; Concentration: 44.0 (43.0-45.1) mg/L for 24 hr /Purity 99%

Toxicity to daphnia and other aquatic invertebrates: no data available

Toxicity to algae: no data available

Toxicity to microorganisms: no data available

Persistence and degradability

AEROBIC: A 5-day BOD test showed a 41% of theoretical BOD for ethylene glycol monoethyl ether acetate using a sewage inoculum and the standard dilution method(1). BOD values which were 36, 79, 82, and 80% of the theoretical value were measured for 5, 10, 15, and 20 days incubation, respectively, using a non-acclimated, settled wastewater seed(2). BOD values of 10, 44, 59, and 69% of the theoretical BOD were measured for 5, 10, 15, and 20 days incubation, respectively, using a non-acclimated seawater seed with added raw wastewater(2). Ethylene glycol monoethyl ether acetate is considered to be "well-biodegradable" (theoretical BOD > 30% after 14 days of inoculation) using the Japanese MITI protocol(3). A 5-day BOD 18.1% of the theoretical value was measured using a sewage inoculum and the standard dilution method(4); a 5-day BOD 1.1% of the theoretical value was measured using a seawater inoculum and a seawater dilution method(4). Ethylene glycol monoethyl ether acetate was classified as easily degraded using the TOC die-away method in two river waters, with a 28 day incubation(5).

Bioaccumulative potential

An estimated BCF value of 3.0 was calculated for ethylene glycol monoethyl ether acetate(SRC), using a measured log Kow of 0.24(1) and a regression-derived equation(2). According to a classification scheme(3), this BCF value suggests the potential for bioconcentration in aquatic organisms is low(SRC).

Mobility in soil

The Koc of ethylene glycol monoethyl ether acetate is estimated as 32(SRC), using a log Kow of 0.24(1) and a regression-derived equation(2). According to a classification scheme(3), this estimated Koc value suggests that ethylene glycol monoethyl ether acetate is expected to have a very high mobility in soil(SRC).

Other adverse effects

no data available

SECTION 13: Disposal considerations

Disposal methods

Product

The material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.

Contaminated packaging

Containers can be triply rinsed (or equivalent) and offered for recycling or reconditioning. Alternatively, the packaging can be punctured to make it unusable for other purposes and then be disposed of in a sanitary landfill. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.

SECTION 14: Transport information

UN Number

ADR/RID: UN1172 (For reference only, please check.)
IMDG: UN1172 (For reference only, please check.)
IATA: UN1172 (For reference only, please check.)

UN Proper Shipping Name

ADR/RID: ETHYLENE GLYCOL MONOETHYL ETHER ACETATE (For reference only, please check.)
IMDG: ETHYLENE GLYCOL MONOETHYL ETHER ACETATE (For reference only, please check.)
IATA: ETHYLENE GLYCOL MONOETHYL ETHER ACETATE (For reference only, please check.)

Transport hazard class(es)

ADR/RID: 3 (For reference only, please check.)
IMDG: 3 (For reference only, please check.)
IATA: 3 (For reference only, please check.)

Packing group, if applicable

ADR/RID: III (For reference only, please check.)
IMDG: III (For reference only, please check.)
IATA: III (For reference only, please check.)

Environmental hazards

ADR/RID: No

IMDG: No
IATA: No

Special precautions for user

no data available

Transport in bulk according to IMO instruments

no data available

SECTION 15: Regulatory information

Safety, health and environmental regulations specific for the product in question

European Inventory of Existing Commercial Chemical Substances (EINECS)

Listed.

EC Inventory

Listed.

United States Toxic Substances Control Act (TSCA) Inventory

Listed.

China Catalog of Hazardous chemicals 2015

Listed.

New Zealand Inventory of Chemicals (NZIoC)

Listed.

(PICCS)

Listed.

Vietnam National Chemical Inventory

Listed.

IECSC)

Listed.

Korea Existing Chemicals List (KECL)

Listed.

SECTION 16: Other information

Abbreviations and acronyms

CAS: Chemical Abstracts Service

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

RID: Regulation concerning the International Carriage of Dangerous Goods by Rail

IMDG: International Maritime Dangerous Goods

IATA: International Air Transportation Association

TWA: Time Weighted Average

STEL: Short term exposure limit

LC50: Lethal Concentration 50%

LD50: Lethal Dose 50%

EC50: Effective Concentration 50%

References

IPCS - The International Chemical Safety Cards (ICSC), website: http://www.ilo.org/dyn/icsc/showcard.home

HSDB - Hazardous Substances Data Bank, website: https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm

IARC - International Agency for Research on Cancer, website: http://www.iarc.fr/

eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website: http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en

CAMEO Chemicals, website: http://cameochemicals.noaa.gov/search/simple

ChemIDplus, website: http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp

ERG - Emergency Response Guidebook by U.S. Department of Transportation, website: http://www.phmsa.dot.gov/hazmat/library/erg

Germany GESTIS-database on hazard substance, website: http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp

ECHA - European Chemicals Agency, website: https://echa.europa.eu/

Other Information

Check for peroxides prior to distillation; eliminate if found.