

Product name	Ethyl acetate, urethane grade	AP/EN	
MSDS number	80034	Revision Date	Oct.25.2007
Revision Number	1.01	Issuing date	Oct.26.2007

1. Identification of the substance/preparation and the company/undertaking

Manufacturer or supplier's details

Celanese Pte Ltd

111 Somerset Road, #02-02
Singapore Power Building
Singapore 238164
Tel No: (65) 6733 1767

Emergency telephone number

+(65) 63050259 (Operations Room direct dial)
+(65) 62656917 (Operations Room direct dial)
+(65) 63050200 (Switchboard, ask for Operations Room)

or fax request to

+(65) 62644190 (Facsimile to Operations Room)
+(65) 62664696 (Facsimile to Operations Room)

or email to

opsroom@semco.psa.com.sg

or Call CHEMTREC 703 527 3887 (USA), collect calls accepted
"+" = International Dialing Access Code

End use:

Chemical intermediate (including monomers)

2. Hazards identification

Indication of danger Highly flammable
 Irritant

R-phrases(s)

R11 - Highly flammable.
R36 - Irritating to eyes.
R66 - Repeated exposure may cause skin dryness or cracking.
R67 - Vapors may cause drowsiness and dizziness.

3. Composition/Information on ingredients

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3. Composition/Information on ingredients

Components	CAS-No	Percent %
Ethyl acetate	141-78-6	99.7 min.

4. First aid measures

General Information

Remove contaminated, soaked clothing immediately and dispose of safely.

Inhalation

Keep at rest. Aerate with fresh air. If symptoms persist, call a physician.

Skin

Wash off immediately with soap and plenty of water. If symptoms persist, call a physician.

Eyes

In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Ingestion

Call a physician immediately. Do not induce vomiting without medical advice.

5. Fire-fighting measures

NFPA: **Health:** 1

Flammability: 3

Instability: 0

Suitable extinguishing media

foam, Dry chemical, carbon dioxide (CO₂)

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 exposure hazards arising from the substance or preparation itself, its combustion products, or released gases

Under conditions giving incomplete combustion, hazardous gases produced may consist of
carbon monoxide
carbon dioxide (CO₂)

Combustion gases of organic materials must in principle be graded as inhalation poisons
Vapors are heavier than air and may spread along floors

Special protective equipment for fire-fighters

self-contained breathing apparatus (EN 133).

Environmental precautions

Water runoff can cause environmental damage. Dike and collect water used to fight fire.

Other Information

Cool containers / tanks with water spray.

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6. Accidental release measures

Personal precautions

Avoid contact with the skin and the eyes. Keep away from heat and sources of ignition. Provide adequate ventilation.

Environmental precautions

Prevent further leakage or spillage. Do not discharge into the drains/surface waters/groundwater.

Methods for cleaning Up

Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal. Dispose of in accordance with local regulations.

7. Handling and storage

Handling

Advice on safe handling

Provide sufficient air exchange and/or exhaust in work rooms.

Protection - fire and explosion:

Keep away from sources of ignition - No smoking. Take necessary action to avoid static electricity discharge. Ground and bond containers when transferring material. In case of fire, emergency cooling with water spray should be available.

Storage

Technical measures/Storage conditions

Keep tightly closed in a dry, cool and well-ventilated place. Handle and open container with care.

8. Exposure controls / personal protection

ACGIH Exposure Limits

Components	TWA
Ethyl acetate	400 PPM

Engineering measures

General or dilution ventilation is frequently insufficient as the sole means of controlling employee exposure. Local ventilation is usually preferred. Explosion-proof equipment (for example fans, switches, and grounded ducts) should be used in mechanical ventilation systems.

Personal protective equipment

General advice

Avoid contact with skin and eyes. Do not breathe vapors or spray mist. Use only in an area equipped with a safety shower. Hold eye wash fountain available.

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Hygiene measures	When using, do not eat, drink or smoke. Take off all contaminated clothing immediately. Wash hands before breaks and immediately after handling the product.
Eye protection	tightly fitting safety goggles. In addition to goggles, wear a face shield if there is a reasonable chance for splash to the face. Equipment should conform to EN 166.
skin protection	impervious clothing
Hand protection	Chemicals resistant gloves
Suitable material	butyl-rubber
Type	Butylplus (Company COMASEC) or comparable article; or refer to glove manufacturer's recommendation
Evaluation	according to EN 374: level 4
Material thickness	approx 0.3 mm
Break through time	approx 120 min

9. Physical and chemical properties

Appearance	
Form	liquid
Colour	colourless
Odor	fruity
Molecular Weight	88.11
Flash point	-4°C
Method	closed cup
Ignition temperature	427°C
Lower explosion limit	2 Vol. %
Upper explosion limit	12.8 Vol. %
Melting point/range	-83°C
Boiling point/range	77°C @ 1013 hPa
Density	0.90 g/ml @ 20°C
Viscosity	0.44 mPa*s @ 25°C
vapor pressure	98 hPa @ 20°C
vapor density	3.04 (Air=1)
Evaporation Rate	4.5 (n-Butyl acetate = 1)
Water solubility	80 g/l @ 25°C
Partition coefficient	0.73 (measured)
(n-octanol/water)	

10. Stability and reactivity

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10. Stability and reactivity

Stability	Stable under normal conditions of handling, use and transportation.
Conditions to avoid	Avoid any source of ignition. Avoid contact with heat, sparks, open flame, and static discharge.
Materials to avoid	Keep away from:., peroxides, oxidizing agents, strong acids, amines.
Thermal decomposition	No decomposition if used as directed. If heated to thermal decomposition the following decomposition products may occur depending on the conditions. carbon oxides.
Hazardous reactions	Hazardous polymerization does not occur.

11. Toxicological information

Ethyl acetate

Oral	LD50: 5.6 - 10 mg/kg, rat
Dermal	LD50: >18 g/kg, rabbit
Inhalation	LC50: 4000 ppm, rat, 4h
Skin irritation	Prolonged or repeated exposure may cause: Mild skin irritation
Species	rabbit
Eye Irritation	Mild eye irritation
Species	rabbit eye
in vitro Mutagenicity	Ames test - negative CHO cell chromosome aberration - negative Aneuploidy (change chromosome number) in yeast - positive
in vivo Mutagenicity	Mouse micronucleus - negative
Routes of exposure	oral drinking water
Species	rat
Routes of exposure	Inhalation
Species	rat
Repeated exposure	NOAEL: 200 ppm 90 day study resulted in weight gain, and feed consumption at a dose level of 750 and 1500 ppm. Degeneration of the olfactory mucosa was observed at all dose levels.
Routes of exposure	Inhalation
Species	rats
Neurotoxicity	LOAEL: 350 ppm 90-day neurotoxicity screen motor activity test in a rat - positive 90-day neurotoxicity screen functional observational battery in a rat - positive
Routes of exposure	inhalation

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NOAEL: 750 ppm

12. Ecological information

Ethyl acetate

Toxicity to fish

Species

LC50: 230 mg/l (96h)

Pimephales promelas (Fathead minnow)

LC50: 1500 mg/l (48h)

Species

Oryzias Latipes (Medaka)

Toxicity to daphnia

Species

EC50: 2310 mg/l (24h)

Daphnia magna

Toxicity to algae

Species

EC50: 1800 - 3200 mg/l (72h)

Species

Selenastrum capricornutum (green algae)

Pseudomonas putida

Biodegradation

77 % (28d)

Bioconcentration factor (BCF)

3.2

Bioaccumulation

Bioaccumulative potential - low

13. Disposal considerations

Product information

Disposal required in compliance with all waste management related state and local regulations. The choice of the appropriate method of disposal depends on the product composition by the time of disposal as well as the local statutes and possibilities for disposal.

Uncleaned empty packaging

Contaminated packaging should be emptied as far as possible and after appropriate cleansing may be taken for reuse.

14. Transport information

US Department of Transportation

UN/NA Number:	UN 1173
Proper Shipping Name	Ethyl acetate
Hazard class	3
Packing Group	II
Reportable Quantity (RQ)	5000lb/2270kg

ADR/RID

UN/ID No.	UN 1173
Proper Shipping Name	Ethyl acetate
Hazard Class	3
Packing group	II

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14. Transport information

Hazard Number 33

ADNR ADNR: Container and Tanker
UN/ID No. UN 1173
Proper Shipping Name Ethyl acetate
Hazard Class 3
Packing group II

ICAO/IATA

UN-No. UN 1173
Proper Shipping Name Ethyl acetate
Hazard Class 3
Packing group II

IMDG

UN/ID No. UN 1173
Proper Shipping Name Ethyl acetate
Hazard Class 3
Packing group II
EmS Code F-E, S-D

15. Regulatory information

Labelling in accordance with EC directives

EC label

Contains Ethyl acetate

Symbol(s) F - Highly flammable.
Xi - Irritant.

R-phrases(s)

R11 - Highly flammable.
R36 - Irritating to eyes.
R66 - Repeated exposure may cause skin dryness or cracking.
R67 - Vapors may cause drowsiness and dizziness.

S-phrases(s)

S16 - Keep away from sources of ignition - No smoking.
S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S33 - Take precautionary measures against static discharges.

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International Chemical Inventory

Listed on the chemical inventories of the following countries or qualifies for an exemption:
AUSTRALIA, CHINA, CANADA, EUROPE, KOREA, PHILIPPINES, JAPAN

16. Other information

HMIS: Health: 1

Flammability: 3

Physical hazard: 0

Prepared By

Product Stewardship Department
Celanese

For further information, see:

For more information, other material safety data sheets or technical data sheets please consult the Celanese homepage (www.celanese.com).

Other Information:

Observe national and local legal requirements.

Changes against the previous version are marked by ***

Sources of key data used to compile the datasheet

Information contained in this safety data sheet is based on Celanese owned data and public sources deemed valid or acceptable. The absence of data elements required by ANSI or 2001/58/EC indicates, that no data meeting these requirements is available.

Further information

This information is based on our present state of knowledge. It shall describe our products regarding safety requirements and shall not be construed as a guarantee or statement of condition and/or quality