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

**Product Name**

Ethyl acetate

**Manufacturer or supplier's details**

Celanese (Shanghai) International Trading Co., Ltd.
Room 239, Xinmao Building
South Taizhong Road
Waigaoqiao Free Trade Zone
Shanghai, China

Celanese Pte Ltd
60 Anson Road
Maple Tree Anson #13-02
Singapore 079914

**Product Information**

HazCom@celanese.com

**Emergency telephone number**

(+65) 62656917 (Operations Room direct dial)
or fax request to +(65) 62664696 (Facsimile to Operations Room)
or email to posh.er@paccoffshore.com.sg

In China Emergency Phone Number: +86-532-83889090 (NRCC)

**Identified uses**

Solvent

2. Hazards identification

**GHS Classification**

<table>
<thead>
<tr>
<th>Hazards</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flammable liquid</td>
<td>Category 2</td>
</tr>
<tr>
<td>Acute oral toxicity</td>
<td>Category 5</td>
</tr>
<tr>
<td>Specific target organ systemic toxicity (single exposure)</td>
<td>Category 3</td>
</tr>
</tbody>
</table>

**Labeling**
SAFETY DATA SHEET

Product Name: Ethyl acetate
MSDS number: 80034
Revision Number: 11.01

Signal Word: Danger

Hazard Statements:
- H225 - Highly flammable liquid and vapor
- H303 - May be harmful if swallowed
- H336 - May cause drowsiness and dizziness

Precautionary Statements:
- P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking
- P261 - Avoid breathing dust/fume/gas/mist/vapors/spray
- P280 - Wear protective gloves/protective clothing/eye protection/face protection
- P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
- P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
- P312 - Call a POISON PHYSICIAN/doctor/physician if you feel unwell.

3. Composition/Information on ingredients

Chemical characterization: Acetic acid ethyl ester

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No</th>
<th>Percent %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethyl acetate</td>
<td>141-78-6</td>
<td>min 99.7</td>
</tr>
</tbody>
</table>

4. First aid measures

General Information
Remove contaminated, soaked clothing immediately and dispose of safely. Pay attention to own protection. In any case show the physician the Safety Data Sheet.

Skin
Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. If symptoms persist, call a physician.

Eyes
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Call a physician immediately.

Inhalation
Keep at rest. Move to fresh air. Call a physician immediately.

Ingestion
Rinse with plenty of water. If swallowed, do not induce vomiting - seek medical advice.
5. Fire-fighting measures

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

Other Information
Cool containers / tanks with water spray.

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

Advice on safe handling
Provide sufficient air exchange and/or exhaust in work rooms.

Incompatible products
Keep away from: Peroxides, Strong acids, Oxidizing agents, Amines

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.
Material storage
Store locked up. Keep in a dry, cool and well-ventilated place.

Incompatible products
Keep away from: Peroxides, Strong acids, Oxidizing agents, Amines

Technical measures/Storage conditions
Keep tightly closed in a dry, cool and well-ventilated place. Handle an open container with care.

8. Exposure controls / personal protection

ACGIH Exposure Limits

<table>
<thead>
<tr>
<th>Components</th>
<th>TWA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethyl acetate</td>
<td>400 PPM</td>
</tr>
</tbody>
</table>

OSHA Exposure Limits

<table>
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<tr>
<th>Components</th>
<th>TWA</th>
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<tr>
<td>Ethyl acetate</td>
<td>400 PPM</td>
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</table>

Exposure controls

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.

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.

Respiratory protection
If aerosols or vapors are present, respiratory protection is required (gas filter A).

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
Butoject (Company KCL) or comparable article; or refer to glove manufacturer's recommendation
9. Physical and chemical properties

**Appearance**
- Form: liquid
- Color: colourless
- Odor: fruity

**Odor Threshold**: 0.006 - 0.686 mg/l (gas in air)
**Molecular Weight**: 88.11 g/mol
**Flash point**: -4°C
**Method**: closed cup
**Ignition temperature**: 427°C
**Decomposition**: Not determined
**Temperature**
- **Lower explosion limit**: 2.2 Vol. %
- **Upper explosion limit**: 11.5 Vol. %
- **Flammability (solids)**: not applicable
- **Melting point/range**: -83.8°C
- **Boiling point/range**: 77.1°C @ 1013 hPa
- **Density**: 0.9003 g/ml @ 20°C
- **pH**: Not determined
- **Viscosity**: 0.4508 mPa*s @ 20°C
- **Vapor pressure**: 98.3 hPa @ 20°C
- **Vapor density**: 3.04 (Air=1)
- **Evaporation Rate**: 4.5 (n-Butyl acetate = 1)
- **Water solubility**: 80 g/l @ 25°C
- **Solubility in other solvents**: miscible with Ethanol, Diethyl ether, very soluble in, Acetone, Benzene
- **Partition coefficient (n-octanol/water)**: 0.68 (measured)
- **Explosive Properties**: not applicable based on consideration of the structure
- **Oxidizing Properties**: not applicable based on consideration of the structure
- **Surface Tension**: 24 mN/m @ 20°C
- **Dissociation constant**: not applicable based on consideration of the structure

10. Stability and reactivity

**Reactivity**
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..

**Incompatible Materials**
Keep away from:.; Peroxides, Oxidizing agents, Strong acids, Amines
Hazardous Combustion or Decomposition Products:
Thermal decomposition products may include oxides of carbon.
11. Toxicological information

Potential health effects

Routes of exposure  
Skin, eyes, inhalation.

Immediate effects

Skin  
Prolonged or repeated contact may dry skin and cause irritation.

Eyes  
Essentially non-irritating.

Inhalation  
Inhalation of vapors in high concentration may cause irritation of respiratory system.  
Symptoms of exposure may include: Nausea, headache and/or dizziness.

Ingestion  
Essentially non-toxic.

Target organ effects  
Overexposure (prolonged or repeated exposure) may cause:
Central nervous system depression
Drying of the skin
Local irritation at the site of exposure

Medical conditions which may be aggravated by exposure:  
Respiratory Tract
Skin
Eyes
Central nervous system

Ethyl acetate

Acute oral toxicity  
LD50: 4934 mg/kg

Acute dermal toxicity  
LD50: > 20000 mg/kg

Acute inhalation toxicity  
LC100 (6h): 22.5 ppm

Skin corrosion/irritation  
No skin irritation
Species: rabbit
Method: OECD 404

Skin Sensitization  
Nonsensitizer
Species: guinea pig
Method: OECD 406

Serious eye damage/eye irritation  
No eye irritation
Species: rabbit eye
Method: OECD 405

Carcinogenic effects  
No evidence of carcinogenicity

in vitro Mutagenicity  
12. Ecological Information

**Ethyl acetate**

**Acute fish toxicity**
- **Species:** Pimephales promelas (Fathead minnow)
- **Method:** EPA 003-05
- **LC50:** 230 mg/l (96h)

**Acute daphnia toxicity**
- **Species:** Daphnia magna
- **Method:** DIN 38412, Part 11
- **EC50:** 3090 mg/l (24h)

**Toxicity to aquatic plants**
- **Species:** Desmodesmus subspicatus
- **Method:** OECD 201
- **NOEC (72h):** > 100 mg/l

**Toxicity to bacteria**
- **Species:** Pseudomonas putida
- **Method:** DIN 38412 T.8
- **EC3 (16h):** 650 mg/l

**Biodegradation**
- **Method:** Readily biodegradable

**Other potential hazards**
- The substance does not meet the criteria for PBT / vPvB according to REACH, Annex XIII

13. Disposal considerations
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

<table>
<thead>
<tr>
<th>UN/NA Number:</th>
<th>UN 1173</th>
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<tbody>
<tr>
<td>Proper Shipping Name</td>
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<td>Hazard class</td>
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<tr>
<td>Packing Group</td>
<td>II</td>
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<tr>
<td>Reportable Quantity (RQ)</td>
<td>5000lb/2270kg</td>
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<tr>
<td>Emergency Resp. Guide</td>
<td>129</td>
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ADR/RID

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ADN

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<td>II</td>
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ICAO/IATA

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SAFETY DATA SHEET

Product Name: Ethyl acetate
MSDS number: 80034
Revision Number: 11.01
Revision Date: May.22.2017
Issuing date: Feb.12.2019

14. Transport information

IMDG

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<td>Packing group</td>
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<td>Hazard Labels</td>
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<tr>
<td>EmS Code</td>
<td>F-E, S-D</td>
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</table>

15. Regulatory information

INTERNATIONAL REGULATIONS
This substance is classified as dangerous according to Chinese legislation

International Inventories
Listed on the chemical inventories of the following countries or qualifies for an exemption:
Australia (AICS)
Canada (DSL)
China (IECSC)
Europe (EINECS)
Japan (ENCS)
Japan (ISHL)
Korea (KECI)
New Zealand (NZIoC)
Philippines (PICCS)
United States (TSCA)

16. Other information

HMIS: Health: 1 Flammability: 3 Physical Hazard: 0

Prepared By
Product Stewardship Department
Celanese

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 1907/2006/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 For more information, other material safety data sheets or technical data sheets please consult the Celanese homepage (www.celanese.com)
<table>
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