

SIGMA-ALDRICH**Material Safety Data Sheet**

Version 3.0
Revision Date 08/21/2009
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1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Ethylene

Product Number : 536164
Brand : Aldrich

Company : Sigma-Aldrich
3050 Spruce Street
SAINT LOUIS MO 63103
USA

Telephone : +18003255832
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2. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms : Ethene

Formula : C₂H₄
Molecular Weight : 28.05 g/mol

| CAS-No. | EC-No. | Index-No. | Concentration |
|-----------------|-----------|--------------|---------------|
| Ethylene | | | |
| 74-85-1 | 200-815-3 | 601-010-00-3 | - |

3. HAZARDS IDENTIFICATION**Emergency Overview****OSHA Hazards**

Flammable Gas, Compressed Gas, Target Organ Effect

Target Organs

Central nervous system

HMIS Classification

Health Hazard: 0
Chronic Health Hazard: *
Flammability: 4
Physical hazards: 3

NFPA Rating

Health Hazard: 0
Fire: 4
Reactivity Hazard: 0

Potential Health Effects

| | |
|-------------------|--|
| Inhalation | May be harmful if inhaled. May cause respiratory tract irritation. Vapours may cause drowsiness and dizziness. |
| Skin | May be harmful if absorbed through skin. May cause skin irritation. |
| Eyes | May cause eye irritation. |
| Ingestion | May be harmful if swallowed. |

4. FIRST AID MEASURES

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

If inhaled

If breathed in, move person into fresh air. If not breathing give artificial respiration. Consult a physician.

In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

In case of eye contact

Flush eyes with water as a precaution.

If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5. FIRE-FIGHTING MEASURES

Flammable properties

Flash point -100 °C (-148 °F) - closed cup

Ignition temperature 450 °C (842 °F)

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special protective equipment for fire-fighters

Wear self contained breathing apparatus for fire fighting if necessary.

Further information

Use water spray to cool unopened containers.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

Methods for cleaning up

Wipe up with absorbent material (e.g. cloth, fleece).

7. HANDLING AND STORAGE

Handling

Avoid inhalation of vapour or mist.

Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge. Use explosion-proof equipment.

Storage

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

Contents under pressure.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

| Components | CAS-No. | Value | Control parameters | Update | Basis |
|------------|---|-------|--------------------|------------|---|
| Ethylene | 74-85-1 | TWA | 200 ppm | 2005-01-01 | USA. ACGIH Threshold Limit Values (TLV) |
| Remarks | Not classifiable as a human carcinogen: Agents which cause concern that they could be carcinogenic for humans but which cannot be assessed conclusively because of a lack of data. In vitro or animal studies do not provide indications of carcinogenicity which are sufficient to classify the agent into one of the other categories. ACGIH 2005 Adoption Refers to Appendix A -- Carcinogens. | | | | |

Personal protective equipment

Respiratory protection

Respiratory protection is not required. Where protection is desired, use multi-purpose combination (US) or type AXBEK (EN 14387) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection

For prolonged or repeated contact use protective gloves.

Eye protection

Face shield and safety glasses

Skin and body protection

Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Hygiene measures

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Form Compressed gas

Safety data

pH no data available
Melting point -169 °C (-272 °F) - lit.
Boiling point -104 °C (-155 °F) - lit.

Flash point -100 °C (-148 °F) - closed cup
Ignition temperature 450 °C (842 °F)
Lower explosion limit 2.7 %(V)
Upper explosion limit 36 %(V)
Vapour pressure 35,504.3 hPa (26,630.4 mmHg) at 20 °C (68 °F)
Water solubility no data available
Relative vapour 0.97

density

- (Air = 1.0)

10. STABILITY AND REACTIVITY

Storage stability

Stable under recommended storage conditions.

Conditions to avoid

Heat, flames and sparks.

Materials to avoid

Strong oxidizing agents, Carbon tetrachloride, Chlorine, Copper, Vinyl compounds

Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides

11. TOXICOLOGICAL INFORMATION

Acute toxicity

no data available

Irritation and corrosion

no data available

Sensitisation

no data available

Chronic exposure

This product is or contains a component that is not classifiable as to its carcinogenicity based on its IARC, ACGIH, NTP, or EPA classification.

IARC: 3 - Group 3: Not classifiable as to its carcinogenicity to humans (Ethylene)

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Signs and Symptoms of Exposure

Nausea, Dizziness, Headache, narcosis, To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Potential Health Effects

| | |
|----------------------|--|
| Inhalation | May be harmful if inhaled. May cause respiratory tract irritation. Vapours may cause drowsiness and dizziness. |
| Skin | May be harmful if absorbed through skin. May cause skin irritation. |
| Eyes | May cause eye irritation. |
| Ingestion | May be harmful if swallowed. |
| Target Organs | Central nervous system, |

Additional Information

RTECS: KU5340000

12. ECOLOGICAL INFORMATION

Elimination information (persistence and degradability)

no data available

Ecotoxicity effects

no data available

Further information on ecology

no data available

13. DISPOSAL CONSIDERATIONS

Product

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Observe all federal, state, and local environmental regulations. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging

Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT (US)

UN-Number: 1962 Class: 2.1
Proper shipping name: Ethylene
Marine pollutant: No
Poison Inhalation Hazard: No

IMDG

UN-Number: 1962 Class: 2.1
Proper shipping name: ETHYLENE
Marine pollutant: No

EMS-No: F-D, S-U

IATA

UN-Number: 1962 Class: 2.1
Proper shipping name: Ethylene
IATA Passenger: Not permitted for transport

15. REGULATORY INFORMATION

OSHA Hazards

Flammable Gas, Compressed Gas, Target Organ Effect

DSL Status

All components of this product are on the Canadian DSL list.

SARA 302 Components

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components

Ethylene

CAS-No.
74-85-1

Revision Date
1991-07-01

SARA 311/312 Hazards

Fire Hazard, Sudden Release of Pressure Hazard, Chronic Health Hazard

Massachusetts Right To Know Components

Ethylene

CAS-No.
74-85-1

Revision Date
1991-07-01

Pennsylvania Right To Know Components

Ethylene

CAS-No.
74-85-1Revision Date
1991-07-01**New Jersey Right To Know Components**

Ethylene

CAS-No.
74-85-1Revision Date
1991-07-01**California Prop. 65 Components**

This product does not contain any chemicals known to State of California to cause cancer, birth, or any other reproductive defects.

16. OTHER INFORMATION**Further information**

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