

**Material Safety Data Sheet**

Version 3.0  
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**1. PRODUCT AND COMPANY IDENTIFICATION**

Product name : Ethylene

Product Number : 295329  
Brand : Aldrich

Company : Sigma-Aldrich Canada, Ltd  
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CANADA

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**2. COMPOSITION/INFORMATION ON INGREDIENTS**

Synonyms : Ethene

Formula :  $C_2H_4$   
Molecular Weight : 28.05 g/mol

CAS-No.	EC-No.	Index-No.	Concentration
<b>Ethylene</b>			
74-85-1	200-815-3	601-010-00-3	-

**3. HAZARDS IDENTIFICATION****Emergency Overview****Target Organs**

Central nervous system

**WHMIS Classification**

A Compressed Gas  
B1

Compressed Gas  
Flammable Gas

**HMIS Classification**

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

**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**  
**Ingestion**

May cause eye irritation.  
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	2005-07-01	Canada. British Columbia OEL
		TWAE V	200 ppm	2005-11-28	Canada. Ontario OELs
Remarks	Simple asphyxiant				

### 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 density                      0.97  
- (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)

### 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

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<b>Eyes</b>	May cause eye irritation.
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<b>Ingestion</b>	May be harmful if swallowed.
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<b>Target Organs</b>	Central nervous system,
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### 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

**DSL Status**

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

**WHMIS Classification**

A Compressed Gas  
B1

Compressed Gas  
Flammable Gas

### 16. OTHER INFORMATION

**Further information**

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