

SECTION 1: CHEMICAL PRODUCT and COMPANY IDENTIFICATION

Catalog No.
L14421

Product Name: **Ethylene, 99+%**
Synonyms: Ethene

Manufacturer/Supplier Name: Alfa Aesar - A Johnson Matthey Company
Address: 30 Bond St.
Ward Hill, MA 01835

Business Phone: 978-521-6300
Business Fax: 978-521-6350

For information
in North America, call: 978-521-6300

CHEMTREC Numbers:**For emergencies in the US, call CHEMTREC: 800-424-9300****For emergencies outside US, call INTERNATIONAL: (703)527-3887****For Nonemergency, call: (800)262-8200**[To Top of page](#)

SECTION 2 : COMPOSITION, INFORMATION ON INGREDIENTS

Catalog No. L14421

Chemical Name Ethylene
CAS# 74-85-1
% Weight (Typical) 99+

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SECTION 3 : HAZARDS IDENTIFICATION

Catalog No. L14421

Emergency Overview: The toxicological and physiological properties of this material have not been investigated. Use appropriate procedures and precautions to prevent or minimize exposure.

Ethylene:

Route of Exposure: Inhalation.
Potential Health Effects:

Eye Contact: No data
Skin Contact: No data
Inhalation: Simple asphyxiant, possible narcotic at high concentrations.
Ingestion: No data
Target Organs: Respiratory system.

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SECTION 4 : FIRST AID MEASURESCatalog No. L14421

Eye Contact:	Immediately flush eyes with plenty of water for at least 20 minutes. Assure adequate flushing of the eyes by separating the eyelids with fingers. Get immediate medical attention if irritation persists, or symptoms of overexposure become apparent.
Skin Contact:	Immediately wash skin with plenty of water for at least 20 minutes, while removing contaminated clothing and shoes. Get medical attention especially, if irritation develops, persists, or symptoms of overexposure become apparent.
Inhalation:	Remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Keep warm. Get immediate medical attention.
Ingestion:	If swallowed, call a physician or poison control center immediately. Never give anything by mouth to an unconscious person. Do not induce vomiting unless instructed by medical personnel. Get medical attention.

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SECTION 5 : FIRE FIGHTING MEASURESCatalog No. L14421

Fire:	A flammable gas
Flash Point:	No data
Upper Flammable or Explosive Limit:	34 vol % @ 2.7 °C
Auto Ignition Temperature:	425°C (797°F)
Extinguishing Media:	Use dry powder or carbon dioxide when fighting a fire involving this material.
Unsuitable Media:	Water extinguishers are not recommended.
Protective Equipment:	As in any fire, wear self-contained breathing apparatus pressure-demand, NIOSH (approved or equivalent) and full protective gear.

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SECTION 6 : ACCIDENTAL RELEASE MEASURESCatalog No. L14421

Personal Precautions:	Evacuate area until gas has dispersed. Keep upwind of leak. Eliminate all sources of ignition. See also section 8.
Spill Cleanup Measures:	Shut off leak if it is safe to do so. Ventilate spill area and allow to evaporate. Refer to section 13 for disposal or reporting requirements.
Environmental Precautions:	Do not allow material to enter drains or streams.

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SECTION 7 : HANDLING and STORAGECatalog No. L14421

Handling:	This product should be handled only by, or under the close supervision of, those properly qualified in the handling and use of potentially hazardous chemicals, who should take into account the fire, health and chemical hazard data. It should always be handled in an efficient fume hood or equivalent system. The user should consider that the toxicological and physiological properties of many compounds are not yet well determined and that new hazardous products may arise from reactions between chemicals. Care should be taken to prevent any chemical from coming into contact with the skin or eyes and from contaminating personal clothing.
Storage:	Store in a cool, dry, well ventilated area away from sources of heat and incompatible substances. Keep container tightly closed when not in use.
Hygiene Practices:	Wash thoroughly after handling. Avoid contact with eyes and skin. Avoid inhaling vapor or mist.

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SECTION 8 : EXPOSURE CONTROLS, PERSONAL PROTECTIONCatalog No. L14421

Guideline Type: ACGIH TLV-STEL
Guideline Information: simple asphyxiant

Engineering Controls: Use appropriate engineering control such as process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Where such systems are not effective wear suitable personal protective equipment, which performs satisfactorily and meets OSHA or other recognized standards. Consult with local procedures for selection, training, inspection and maintenance of the personal protective equipment.

Skin Protection Description: Wear suitable protective clothing to prevent contact with skin.

Hand Protection Description: Wear appropriate protective gloves. Consult glove manufacturers for glove permeability data.

Eye/Face Protection: Wear appropriate protective glasses or splash goggles as described by 29 CFR 1910.133, OSHA eye and face protection regulation, or the European standard EN 166.

Respiratory Protection: A NIOSH approved air-purifying respirator with an appropriate cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air purifying respirators is limited to airborne concentrations that are typically within 10 times the exposure limit. Use a positive pressure air supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air-purifying respirators may not provide adequate protection. A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator use.

Other Protective: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

Ingredient Guidelines

Ingredient: Ethylene

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SECTION 9 : PHYSICAL and CHEMICAL PROPERTIESCatalog No. L14421

Physical State/Appearance: Liquefied gas
Odor: Sweetish
Flash Point: No data
Auto Ignition Temperature: 425°C (797°F)
Upper Explosive Limit: 34 vol % @ 2.7 °C
Boiling Point: -104°C (-155.2°F)
Freezing Point: -181°C (-293.8°F) (Ref:Sax)
Melting Point: -169°C (-272.2°F)
Solubility in Water: Insoluble
Density: 0.610 @ 0°C (Ref:Sax)
Molecular Formula: C₂H₄
Molecular Weight: 28.05

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SECTION 10 : STABILITY and REACTIVITYCatalog No. L14421

Conditions to Avoid: High temperatures, flames and sparks.

Incompatibilities with Other Materials: Oxidizing agents, halogens. Strong acids. Combustible material.

Possible Decomposition Product: Carbon monoxide.

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SECTION 11 : TOXICOLOGICAL INFORMATIONCatalog No. L14421

Ethylene :

RTECS Number: KU5340000
Eye Effect: No data reported in the cited references as of the revision date.
Skin Effects: No data reported in the cited references as of the revision date.
Ingestion Effects: No data reported in the cited references as of the revision date.
Inhalation Effects: No data reported in the cited references as of the revision date.
Carcinogenicity: IARC-3 Carcinogen - Unclassifiable as to Carcinogenicity in Humans.
ACGIH TLV-A4 - Not Classifiable as a Human Carcinogen.

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SECTION 12 : ECOLOGICAL INFORMATIONCatalog No. L14421

Ecotoxicity: No information provided.
Bioaccumulation: No information provided.
Biodegradation: No information provided.
Environmental Stability: No information provided.

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SECTION 13 : DISPOSAL CONSIDERATIONSCatalog No. L14421

Waste Disposal: Consult with the US EPA Guidelines listed in 40 CFR Part 261.3 for the classifications of hazardous waste prior to disposal. Furthermore, consult with your state and local waste requirements or guidelines, if applicable, to ensure compliance. Arrange disposal in accordance to the EPA and/or state and local guidelines, by a licensed disposal company.

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SECTION 14 : TRANSPORT INFORMATIONCatalog No. L14421

DOT Shipping Name: Ethylene, compressed
DOT Hazard Class: 2.1
DOT Identification Number: UN1962

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SECTION 15 : REGULATORY INFORMATIONCatalog No. L14421

Ethylene :

TSCA 8(b): Inventory Status: Listed on the TSCA inventory.
Risk Phrases: R12 Extremely flammable.
Safety Phrase: S9 Keep container in a well ventilated place.
S16 Keep away from sources of ignition No smoking.
S33 Take precautionary measures against static discharges.

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MSDS Preparation Date: January 1, 2002, Version 1

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MSDS Author: Actio Corporation.

Disclaimer:

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References:

1. American Chemical Society, STN Easy Online Database
2. Brethericks Reactive Chemical Hazards Database. Version 2.
3. Gassarett and Doulls Toxicology, The Basic Science of Poisons.
4. Hawleys Condensed Chemical Dictionary, Thirteenth Edition
5. IARC monographs on the Evaluation of the Carcinogenic Risk of Chemicals to Man, WHO International Research on Cancer.
6. Industrial Hygiene and Toxicology, by F.A. Patty.
7. National Library of Medicine, Department of Health and Human Services, Hazardous Substances Data Bank (HSDB).
8. National Toxicology Program (NTP) Eighth Report on Carcinogens, 1997.
9. NIOSH Registry of Toxic Effects of Chemical Substances (RTECS) and Pocket Guide to Chemical Hazards.
10. OSHA Hazard Communication Standard, 1910.1200 and Z Tables.
11. Sax Dangerous Properties of Industrial Materials. Tenth Edition.
12. The Merck Index: An Encyclopedia of Chemicals and Drugs. Merck and Company. Twelfth Edition 1998.
13. Threshold Limit Values for Chemical Substances and Physical Agents in the Work Environment and Biological Exposure Indices. TLV Booklet, 2001.

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