

Safety Data Sheet

ETHYLENE

Revision date : 2021/01/22
Version: 3.0

Page: 1/10
(30052901/SDS_GEN_US/EN)

1. Identification

Product identifier used on the label

ETHYLENE

Recommended use of the chemical and restriction on use

Recommended use*: Chemical
Recommended use*: Chemical

* The "Recommended use" identified for this product is provided solely to comply with a Federal requirement and is not part of the seller's published specification. The terms of this Safety Data Sheet (SDS) do not create or infer any warranty, express or implied, including by incorporation into or reference in the seller's sales agreement.

Details of the supplier of the safety data sheet

Company:
BASF CORPORATION
100 Park Avenue
Florham Park, NJ 07932, USA

Telephone: +1 973 245-6000

Emergency telephone number

24 Hour Emergency Response Information
CHEMTREC: 1-800-424-9300
BASF HOTLINE: 1-800-832-HELP (4357)

Other means of identification

2. Hazards Identification

According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

Classification of the product

Press. Gas STOT SE	Compr. Gas 3 (Vapours may cause drowsiness and dizziness.)	Gases under pressure Specific target organ toxicity — single exposure
Aquatic Acute Flam. Gas	3 1	Hazardous to the aquatic environment - acute Flammable gases

Safety Data Sheet

ETHYLENE

Revision date : 2021/01/22

Version: 3.0

Page: 2/10

(30052901/SDS_GEN_US/EN)

Label elements

Pictogram:



Signal Word:

Danger

Hazard Statement:

H280	Contains gas under pressure; may explode if heated.
H220	Extremely flammable gas.
H336	May cause drowsiness or dizziness.
H402	Harmful to aquatic life.

Precautionary Statements (Prevention):

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P271	Use only outdoors or in a well-ventilated area.
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P273	Avoid release to the environment.

Precautionary Statements (Response):

P312	Call a POISON CENTER or physician if you feel unwell.
P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P377	Leaking gas fire: Do not extinguish, unless leak can be stopped safely.
P381	In case of leakage, eliminate all ignition sources.

Precautionary Statements (Storage):

P410 + P403	Protect from sunlight. Store in a well-ventilated place.
P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.

Precautionary Statements (Disposal):

P501	Dispose of contents and container to hazardous or special waste collection point.
------	---

Hazards not otherwise classified

If applicable information is provided in this section on other hazards which do not result in classification but which may contribute to the overall hazards of the substance or mixture.

3. Composition / Information on Ingredients

According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

ethene

CAS Number: 74-85-1
Content (W/W): >= 99.9 - <= 100.0%
Synonym: Ethylene

Safety Data Sheet

ETHYLENE

Revision date : 2021/01/22

Version: 3.0

Page: 3/10

(30052901/SDS_GEN_US/EN)

4. First-Aid Measures

Description of first aid measures

General advice:

Immediately remove contaminated clothing. If the patient is likely to become unconscious, place and transport in stable sideways position (recovery position). If not breathing, give artificial respiration. First aid personnel should pay attention to their own safety.

If inhaled:

Keep patient calm, remove to fresh air.

If on skin:

Wash thoroughly with soap and water. Thaw out frostbites under cold liquid or water, do not rub affected parts of the body, apply sterile dressings, consult a skin specialist.

If in eyes:

Immediately wash affected eyes for at least 15 minutes under running water with eyelids held open, consult an eye specialist.

If swallowed:

Immediately rinse mouth and then drink 200-300 ml of water, seek medical attention.

Most important symptoms and effects, both acute and delayed

Symptoms: Information, i.e. additional information on symptoms and effects may be included in the GHS labeling phrases available in Section 2 and in the Toxicological assessments available in Section 11.

Indication of any immediate medical attention and special treatment needed

5. Fire-Fighting Measures

Extinguishing media

Suitable extinguishing media:
water spray, dry powder, foam, carbon dioxide

Special hazards arising from the substance or mixture

Advice for fire-fighters

Protective equipment for fire-fighting:
Wear a self-contained breathing apparatus.

Further information:

Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Avoid inhalation. Avoid contact with the skin, eyes and clothing.

Safety Data Sheet

ETHYLENE

Revision date : 2021/01/22

Version: 3.0

Page: 4/10

(30052901/SDS_GEN_US/EN)

Environmental precautions

Discharge into the environment must be avoided.

Methods and material for containment and cleaning up

For small amounts: Allow to evaporate.

For large amounts: Allow to evaporate.

Swirl gases/vapours/mists with water spray jet.

7. Handling and Storage

Precautions for safe handling

Ensure thorough ventilation of stores and work areas. Closed containers should only be opened in well-ventilated areas.

Protection against fire and explosion:

Prevent electrostatic charge - sources of ignition should be kept well clear - fire extinguishers should be kept handy. Vapours may form explosive mixture with air.

Conditions for safe storage, including any incompatibilities

Suitable materials for containers: Carbon steel (Iron)

Further information on storage conditions: Keep container tightly closed in a cool, well-ventilated place.

8. Exposure Controls/Personal Protection

Components with occupational exposure limits

ethene

ACGIH TLV TWA value 200 ppm ;

Personal protective equipment

Respiratory protection:

Self-contained breathing apparatus.

Hand protection:

Use cold-protection gloves (EN 511).

Eye protection:

Safety glasses

Body protection:

Body protection must be chosen depending on activity and possible exposure, e.g. apron, protecting boots, chemical-protection suit (according to EN 14605 in case of splashes or EN ISO 13982 in case of dust).

General safety and hygiene measures:

Avoid contact with the skin, eyes and clothing. Avoid inhalation of vapour. Wearing of closed work clothing is required additionally to the stated personal protection equipment.

Safety Data Sheet

ETHYLENE

Revision date : 2021/01/22

Version: 3.0

Page: 5/10

(30052901/SDS_GEN_US/EN)

9. Physical and Chemical Properties

Form:	compressed gas pressurised liquified gas	
Odour:	sweetish, faint odour	
Colour:	colourless	
pH value:	not applicable	
Melting point:	-169 °C (1,013.25 hPa) Literature data.	
Boiling point:	-103.77 °C (1,013 hPa) Literature data.	
Flash point:	not applicable	
Flammability:	Extremely flammable.	(Directive 92/69/EEC, A.11)
Lower explosion limit:	2.7 %(V) Literature data.	(air)
Upper explosion limit:	36 %(V) Literature data.	(air)
Autoignition:	450 °C Literature data.	
Vapour pressure:	2124 hPa (-90 °C)	
Density:	0.57 kg/m ³ (-104 °C) Literature data.	
Relative density:	0.57 (-104 °C) Literature data.	
Vapour density:	0.9754 Literature data.	
Partitioning coefficient n-octanol/water (log Pow):	1.13 (25 °C) Literature data.	
Self-ignition temperature:	Study scientifically not justified.	
Viscosity, dynamic:	Study scientifically not justified.	
Particle size:	The substance / product is marketed or used in a non solid or granular form.	
Solubility in water:	131 mg/l (25 °C, 1,013 hPa)	
Molar mass:	28.05 g/mol	

10. Stability and Reactivity

Reactivity

Corrosion to metals:
No corrosive effect on metal.

Oxidizing properties:
Based on its structural properties the product is not classified as oxidizing.

Formation of flammable gases:	Remarks:	Study scientifically not justified.
-------------------------------	----------	-------------------------------------

Safety Data Sheet

ETHYLENE

Revision date : 2021/01/22

Version: 3.0

Page: 6/10

(30052901/SDS_GEN_US/EN)

Chemical stability

Possibility of hazardous reactions

Formation of explosive gas/air mixtures. Possibility of peroxide formation.

Conditions to avoid

Incompatible materials

hydrogen fluoride, Hydrogen chloride, hydrogen bromide, hydrogen iodide, fluorine, bromine, chlorine, iodine, nitrogen dioxide, dinitrogen oxide, oxidizing agents

Hazardous decomposition products

11. Toxicological information

Primary routes of exposure

Routes of entry for solids and liquids are ingestion and inhalation, but may include eye or skin contact. Routes of entry for gases include inhalation and eye contact. Skin contact may be a route of entry for liquefied gases.

Acute Toxicity/Effects

Acute toxicity

Assessment of acute toxicity: Virtually nontoxic by inhalation.

Oral

Study technically not feasible.

Inhalation

Type of value: LC50

Species: rat

Value: > 65.4 mg/l

Exposure time: 4 h

Dermal

Study technically not feasible.

Assessment other acute effects

Assessment of STOT single:

Possible narcotic effects (drowsiness or dizziness).

Irritation / corrosion

Assessment of irritating effects: Contact with liquid may cause frostbite. The substance is gaseous at room temperature and pressure. Testing for this particular endpoint is technically not feasible and/or this endpoint does not represent a relevant exposure scenario.

Skin

Study technically not feasible.

Sensitization

Assessment of sensitization: There is no evidence of a skin-sensitizing potential. The substance is gaseous at room temperature and pressure. Testing for this particular endpoint is technically not feasible and/or this endpoint does not represent a relevant exposure scenario.

Safety Data Sheet

ETHYLENE

Revision date : 2021/01/22

Version: 3.0

Page: 7/10

(30052901/SDS_GEN_US/EN)

Aspiration Hazard

No aspiration hazard expected.

Chronic Toxicity/Effects

Repeated dose toxicity

Assessment of repeated dose toxicity: No substance-specific organotoxicity was observed after repeated administration to animals.

Genetic toxicity

Assessment of mutagenicity: The substance was not mutagenic in bacteria. The substance was not mutagenic in mammalian cell culture. The substance was not mutagenic in a test with mammals.

Carcinogenicity

Assessment of carcinogenicity: In long-term animal studies in which the substance was given by inhalation, a carcinogenic effect was not observed. IARC Group 3 (not classifiable as to human carcinogenicity).

Reproductive toxicity

Assessment of reproduction toxicity: The results of animal studies gave no indication of a fertility impairing effect. The results were determined in a Screening test (OECD 421/422).

Teratogenicity

Assessment of teratogenicity: No indications of a developmental toxic / teratogenic effect were seen in animal studies. The product has not been fully tested. The statements have been derived in parts from products of a similar structure or composition.

12. Ecological Information

Toxicity

Aquatic toxicity

Assessment of aquatic toxicity:
Acutely harmful for aquatic organisms.

Toxicity to fish

LC50 (1 h) 22 mg/l, Fish (other)

LC50 (4 d) 50 - 120 mg/l, Fish (calculated)

Aquatic invertebrates

EC50 (48 h) 53 - 153 mg/l, Daphnia magna (calculated)

Aquatic plants

EC50 (72 h) 72 mg/l (growth rate), Selastrum capricornutum (OECD Guideline 201, static)

EC50 (48 h) 30.3 mg/l (growth rate), Selastrum capricornutum (calculated)

The product has not been tested. The statement has been derived from the structure of the product.

Chronic toxicity to fish

other (30 d) 12.385 mg/l, Fish (other)

The product has not been tested. The statement has been derived from the structure of the product.

Chronic toxicity to aquatic invertebrates

other 6.3 mg/l, Daphnia magna (other)

The product has not been tested. The statement has been derived from the structure of the product.

Safety Data Sheet

ETHYLENE

Revision date : 2021/01/22
Version: 3.0

Page: 8/10
(30052901/SDS_GEN_US/EN)

Toxicity to terrestrial plants

No observed effect concentration (0.3 a) < 10 ppm, terrestrial plants
Literature data.

Microorganisms/Effect on activated sludge

Toxicity to microorganisms

Study not necessary due to exposure considerations.

Persistence and degradability

Assessment biodegradation and elimination (H₂O)

Product is expected to be readily biodegradable. Due to the product characteristics the test is impossible. The volatility might play an important part as an elimination route. The product has not been tested. The statement has been derived from the structure of the product.

Elimination information

50 % (2.9 d) (calculated)

Assessment of stability in water

According to structural properties, hydrolysis is not expected/probable.

Bioaccumulative potential

Assessment bioaccumulation potential

Significant accumulation in organisms is not to be expected.

Mobility in soil

Assessment transport between environmental compartments

The substance will rapidly evaporate into the atmosphere from the water surface.
Adsorption to solid soil phase is not expected.

13. Disposal considerations

Waste disposal of substance:

Dispose of in accordance with national, state and local regulations.

Container disposal:

Uncleaned empties should be disposed of in the same manner as the contents. WARNING: Empty containers may still contain hazardous residue.

14. Transport Information

Land transport

USDOT

Hazard class:	2.1
ID number:	UN 1038
Hazard label:	2.1
Proper shipping name:	ETHYLENE, REFRIGERATED, LIQUID

Safety Data Sheet

ETHYLENE

Revision date : 2021/01/22
Version: 3.0

Page: 9/10
(30052901/SDS_GEN_US/EN)

Sea transport

IMDG

Hazard class: 2.1
ID number: UN 1038
Hazard label: 2.1
Marine pollutant: NO
Proper shipping name: ETHYLENE, REFRIGERATED, LIQUID

Air transport

IATA/ICAO

Hazard class: 2.1
ID number: UN 1038
Hazard label: 2.1
Proper shipping name: ETHYLENE, REFRIGERATED, LIQUID

15. Regulatory Information

Federal Regulations

Registration status:

Chemical TSCA, US released / listed

EPCRA 311/312 (Hazard categories): Refer to SDS section 2 for GHS hazard classes applicable for this product.

EPCRA 313:

<u>CAS Number</u>	<u>Chemical name</u>
74-85-1	ethene

<u>CERCLA RQ</u>	<u>CAS Number</u>	<u>Chemical name</u>
100 LBS	74-85-1	ethene

State regulations

<u>State RTK</u>	<u>CAS Number</u>	<u>Chemical name</u>
PA	74-85-1	ethene
MA	74-85-1	ethene
NJ	74-85-1	ethene

NFPA Hazard codes:

Health: 1 Fire: 4 Reactivity: 2 Special:

HMIS III rating

Health: 1 Flammability: 4 Physical hazard: 2

Assessment of the hazard classes according to UN GHS criteria (most recent version):

STOT SE	3 (Vapours may cause drowsiness and dizziness.)	Specific target organ toxicity — single exposure
Aquatic Acute	3	Hazardous to the aquatic environment - acute
Flam. gases (incl. chem. unstable gases)	1	Flammable gases (including chemically unstable gases)
Press. Gas	Compr. Gas	Gases under pressure

Safety Data Sheet

ETHYLENE

Revision date : 2021/01/22

Version: 3.0

Page: 10/10

(30052901/SDS_GEN_US/EN)

16. Other Information

SDS Prepared by:

BASF NA Product Regulations

SDS Prepared on: 2021/01/22

We support worldwide Responsible Care® initiatives. We value the health and safety of our employees, customers, suppliers and neighbors, and the protection of the environment. Our commitment to Responsible Care is integral to conducting our business and operating our facilities in a safe and environmentally responsible fashion, supporting our customers and suppliers in ensuring the safe and environmentally sound handling of our products, and minimizing the impact of our operations on society and the environment during production, storage, transport, use and disposal of our products.

IMPORTANT: WHILE THE DESCRIPTIONS, DESIGNS, DATA AND INFORMATION CONTAINED HEREIN ARE PRESENTED IN GOOD FAITH AND BELIEVED TO BE ACCURATE , IT IS PROVIDED FOR YOUR GUIDANCE ONLY. BECAUSE MANY FACTORS MAY AFFECT PROCESSING OR APPLICATION/USE, WE RECOMMEND THAT YOU MAKE TESTS TO DETERMINE THE SUITABILITY OF A PRODUCT FOR YOUR PARTICULAR PURPOSE PRIOR TO USE. NO WARRANTIES OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE MADE REGARDING PRODUCTS DESCRIBED OR DESIGNS, DATA OR INFORMATION SET FORTH, OR THAT THE PRODUCTS, DESIGNS, DATA OR INFORMATION MAY BE USED WITHOUT INFRINGING THE INTELLECTUAL PROPERTY RIGHTS OF OTHERS. IN NO CASE SHALL THE DESCRIPTIONS, INFORMATION, DATA OR DESIGNS PROVIDED BE CONSIDERED A PART OF OUR TERMS AND CONDITIONS OF SALE. FURTHER, YOU EXPRESSLY UNDERSTAND AND AGREE THAT THE DESCRIPTIONS, DESIGNS, DATA, AND INFORMATION FURNISHED BY OUR COMPANY HEREUNDER ARE GIVEN GRATIS AND WE ASSUME NO OBLIGATION OR LIABILITY FOR THE DESCRIPTION, DESIGNS, DATA AND INFORMATION GIVEN OR RESULTS OBTAINED, ALL SUCH BEING GIVEN AND ACCEPTED AT YOUR RISK.
END OF DATA SHEET