



Ethylene

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

Trade name: Ethylene
Intended use: Raw material in chemical industry.
Manufacturer: Borealis AB
 S-444 86 Stenungsund, Sweden
 Telephone: +46 303 86000
 Emergency telephone number:
 +46 303 87280 / +46 303 771643 Production leader, Cracker (24h)
 +46 8 33 70 43 Chemical Emergency Service, Sweden (24h)

Borealis Polymers Oy
 P.O.Box 330, FIN-06101 Porvoo, Finland
 Telephone: +358 9 394900
 Emergency telephone number:
 +358 9 39493416 Shift supervisor, Olefins (24h)
 +358 10 4582267 Fire department, Kilpilahti industrial area (24h)
 +358 9 471977 & +358 9 4711 Poison Information Center, Finland (24h)

Single Sales Company:

Borealis Polymers N.V.
 Industrieweg 148, 3583 Beringen, Belgium
 Telephone: +32 11 45 90 11
 E-mail address: SDS@borealisgroup.com

2. Hazards identification

Health: R67; Vapours may cause drowsiness and dizziness.
 Rapid evaporation of the liquid may cause frostbite. Vapours can cause suffocation by reducing oxygen available for breathing.
Fire: F+; Extremely flammable R12; Extremely flammable.
 Risk of explosion if heated under confinement. Vapours may form explosive mixtures with air. High risk of fire in case of leakage.
Environment: Not classified as dangerous. The product evaporates readily. Biological effects on: terrestrial plants.

3. Composition/information on ingredients

Components to be indicated according to EC directives:

Components:	EC No	CAS No	Concentration (w/w %)	Classification/R-phrases
Ethylene	200-815-3	74-85-1	>98,0	extremely flammable (F+); R12 ; R67
	200-815-3	74-85-1		Occupational exposure limits

Occupational exposure limits, see chapters 8 and 11.
R phrases, see chapter 16.



Ethylene

4. First-aid measures

Inhalation: Remove from exposure. Keep warm and at rest and provide fresh air. In case of breathing difficulties, apply mouth to mouth respiration. Seek medical advice immediately.

Skin contact: Wash frost-bitten areas with plenty of water. Do not remove clothing. Seek medical advice.

Eye contact: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Ingestion: Not probable: The product evaporates readily.

5. Fire-fighting measures

Suitable extinguishing media: Dry powder, carbon dioxide, foam and water mist.

Special exposure hazards: Vapours may form explosive mixtures with air.

Protective equipment for fire-fighting: Wear self-contained breathing apparatus and protective suit.

Fire-fighting further advice: Attempt to stop leakage without personal risk. If conditions permit, let fire burn itself out. Cool tanks with water spray.

6. Accidental release measures

Personal precautions: Use personal protective equipment. See chapter 8.

Environmental precautions: Prevent product from entering environment and drains. If major spillage occurs, contact the proper local authorities.

Methods for cleaning up: Evaporates. Ensure adequate ventilation, especially in confined areas.

Further Information: Vapours can cause suffocation by reducing oxygen available for breathing. Keep people away from and upwind of spill/leak. Attempt to stop leakage without personal risk. Keep away from sources of ignition - No smoking.

7. Handling and storage

General advice: Ensure adequate ventilation. Keep away from sources of ignition. - No smoking. Take precautionary measures against static discharges. To avoid ignition of vapours by static electricity discharge, all metal parts of the equipment must be grounded. Risk of explosion if heated under confinement. Vapours may form explosive mixtures with air. High risk of fire in case of leakage.

Handling: Refill and handle product only in closed system. Prevent leaks by checking valves, pipelines and joints regularly.

Storage: Keep container in a well-ventilated place. Keep product and empty container away from heat and sources of ignition. Keep away from incompatible materials. See chapter 10. Liquid: Keep at temperature not exceeding -100° C.

8. Exposure controls/personal protection

Exposure Limits:

CAS-No.: 74-85-1			
NL_OEL	STEL, 15min.	1.200 mg/m ³	2005
NL_OEL	TWA	330 mg/m ³	2005
SE_OEL	STEL, 15min.	1.000 ppm	2005
		1.200 mg/m ³	
SE_OEL	TWA	250 ppm	2005
		330 mg/m ³	

Other information

Borealis AG | Wagramerstrasse 17-19 | 1220 Vienna | Austria
 Telephone +43 1 224 00 0 | Fax +43 1 22 400 333
 FN 269858a | CCC Commercial Court of Vienna | Website www.borealisgroup.com



Ethylene

Respiratory protection: In case of insufficient ventilation: Self-contained breathing apparatus. Vapours can cause suffocation by reducing oxygen available for breathing.

Hand protection:

Cold-insulating gloves (e.g. nitrile rubber).

Eye protection: Safety goggles or face-shield.

Skin and body protection: Wear suitable protective clothing and rubber boots.

9. Physical and chemical properties

Appearance: gaseous compressed liquefied gas, clear

Odour: mild, aromatic

Boiling point/range: -104 °C

Flash point: -136 °C

Lower explosion limit: 2,7 %(V)

Relative vapour density: 0,98

Melting point/range: -169 °C

Autoignition temperature: 490 °C

Upper explosion limit: 36 %(V)

Vapour pressure: 81.000 hPa (15 °C) 49.000 hPa (8 °C)

Relative density: 0,577

water solubility: 0,2 g/l (15 °C)

Partition coefficient (n-octanol/water):

log Pow: 1,13

10. Stability and reactivity

Conditions to avoid: Keep away from heat and sources of ignition. Air: Observe the risk of explosion.

Materials to avoid: strong oxidizing agents.

Hazardous decomposition products: None.

11. Toxicological information

Acute inhalation toxicity:

Vapours can cause suffocation by reducing oxygen available for breathing. Vapours may cause drowsiness and dizziness.

Acute dermal toxicity:

Rapid evaporation of the liquid may cause frostbite.

Acute toxicity: low.

Repeated dose toxicity: Health injuries are not known or expected under normal use. IARC evaluation: Group 3; Unclassifiable as to carcinogenicity to humans (because of inadequate or limited evidence).

Other information: Absorbs into the body by inhalation.

12. Ecological information

Ecotoxicity effects: Biological effects on: terrestrial plants. Symptoms: inhibition of growth, yield reduction, curling of leaves, ripening of fruits.

Toxicity to fish:

Ethylene: LC50 / sunfish (Lepomis sp.) / 1 h = 22 mg/l

Mobility: The product evaporates readily to air.

Persistence and degradability: Prone to photochemical degradation.

Estimated atmospheric lifetime: 1 - 4 days.

Bioaccumulative potential: Bioaccumulation not expected.

Partition coefficient (n-octanol/water):



Ethylene

log Pow = 1,13

13. Disposal considerations

Where possible recycling is preferred to disposal or incineration.

14. Transport information

Dangerous goods regulations

Regulation ADR:

Proper shipping name: ETHYLENE, REFRIGERATED LIQUID

UN: 1038 Class: 2 Label: 2.1

Regulation IMDG:

Proper shipping name: ETHYLENE, REFRIGERATED LIQUID

UN: 1038 Class: 2.1 Label: 2.1

EmS: F-D S-U Marine pollutant: No

15. Regulatory information

Classification and labelling according to Annex I, Directive 67/548/EEC.

EC Label:



Extremely
flammable

Trade name : **Ethylene**

Contains:

Ethylene (EC No 200-815-3)

R12: Extremely flammable.

R67: Vapours may cause drowsiness and dizziness.

S 9 : Keep container in a well-ventilated place.

S16 : Keep away from sources of ignition. - No smoking.

S33 : Take precautionary measures against static discharges.

S45 : In case of accident or if you feel unwell, seek medical advice immediately (show label where possible).

Manufacturer:

Borealis AB

S-444 86 Stenungsund, Sweden

Telephone: +46 303 86000

Borealis Polymers Oy

P.O.Box 330, FIN-06101 Porvoo, Finland

Telephone: +358 9 394900

16. Other information

Issued according to Regulation (EC) No 1907/2006, Annex II, and its corrigenda.

Text of R phrases mentioned in Section 2 and 3:

R12: Extremely flammable.



Ethylene

R67: Vapours may cause drowsiness and dizziness.

Source:

International Chemical Safety Card, Ethylene, 2005
(<http://www.inchem.org/documents/icsc/icsc/eics0475.htm>)
Environment Guide 71; Environmental properties of chemicals, Finnish Environment Institute, Helsinki 2000.
International Agency for Research on Cancer (IARC) - Summaries & Evaluations 1994
(<http://www.inchem.org/documents/iarc/vol60/m60-01.html>)
SIDS (<http://www.inchem.org/documents/sids/sids/74851.pdf>)

Revised: 26.09.2008.

This data sheet contains changes from the previous version in section(s): 1, 2, 3, 8, 9, 10, 11, 14, 15, 16.

Issuer: Borealis Group Product Stewardship / Mikaela Eriksson & Arvo Kulo.

Disclaimer

To the best of our knowledge, the information contained herein is accurate and reliable as of the date of publication, however we do not assume any liability whatsoever for the accuracy and completeness of such information.

Borealis makes no warranties which extend beyond the description contained herein. Nothing herein shall constitute any warranty of merchantability or fitness for a particular purpose.

It is the customer's responsibility to inspect and test our products in order to satisfy itself as to the suitability of the products for the customer's particular purpose. The customer is responsible for the appropriate, safe and legal use, processing and handling of our products.

No liability can be accepted in respect of the use of Borealis' products in conjunction with other materials. The information contained herein relates exclusively to our products when not used in conjunction with any third party materials.