

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form	: Substance
Trade name	: ETHYLENE
Chemical name	: Ethylene
EC Index no	: 601-010-00-3
EC No	: 200-815-3
CAS No	: 74-85-1
REACH No	: 01-2119462827-27-0097
Formula	: C ₂ H ₄
Synonyms	: Propene / 1-Propene / 1-Propylene / Methylethene / Methylethylene
Product group	: Trade product

1.2. Relevant identified uses of the substance or mixture and uses advised against

1.2.1. Relevant identified uses

Main use category	: Industrial/Professional use
Use of the substance	: The raw material for the chemical and petrochemical manufacturing, for the production of polyethylene, ethylene copolymers.

1.2.2. Uses advised against

No additional information available.

1.3. Details of the supplier of the safety data sheet

1.3.1. Manufacturer/Supplier

HIP-Petrohemija a.d. Pancevo
Spoljnostarcevacka 82
26000 Pancevo
Republic of Serbia
www.hip-petrohemija.com

Customer service

Tel: + 381 (0) 13 307 000
Fax: + 381 (0) 13 310 207
E-mail (person responsible for the SDS):
ivana.kosovic@hip-petrohemija.rs

1.3.2. Only Representative

REACH Law Ltd.
Polaris Business Park
Vänrikinkuja 3 / 02600 Espoo
Finland
E-mail: SDS@reachlaw.fi
www.reachlaw.fi

1.4. Emergency telephone number

Poisoning Control Centre	: + 381 (0) 11 266 11 22 (00-24h)
	+ 381 (0) 11 266 27 55 (00-24h)
	+ 381 (0) 11 360 84 40 (00-24h)
HIP-Petrohemija (available during office hours: Monday to Friday)	: + 381 (0) 13 30 74 40 (08-16h)

See SECTION 16. for the list of telephone numbers of poison centers in the European Economic Area

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 [CLP]

Physical hazards:	Flam. Gas 1	H220
	Press. Gas (Liq.)	H280
	STOT SE 3	H336

Full text of hazard classes and H-statements: see section 16

2.2. Label elements

Labelling according to Regulation (EC) No 1272/2008 [CLP]

Hazard pictograms (CLP):



GHS02

GHS04

GHS07

Signal word (CLP):

Danger

Hazard statements (CLP):

H220 - Extremely flammable gas.

H280 - Contains gas under pressure; may explode if heated.

H336 - May cause drowsiness or dizziness.

Precautionary statements (CLP):

- **Prevention:**

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P261 - Avoid breathing dust, fume, gas, mist, vapours, spray.

- **Response:**

P377 - Leaking gas fire: Do not extinguish, unless leak can be stopped safely.

P381 - Eliminate all ignition sources if safe to do so.

P304+P340+P315 – IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get immediate medical advice/attention.

- **Storage:**

P410+P403 - Protect from sunlight. Store in a well-ventilated place.

2.3. Other hazards

PBT/vPvB

: Substance does not meet the criteria for PBT or vPvB in accordance with REGULATION (EC) No 1907/2006, Annex XIII.

Other information

: May displace oxygen and cause rapid suffocation. Contact with liquid may cause cold burns/frostbite.

SECTION 3: Composition/information on ingredients

3.1. Substance

Substance name	Product identifier	%	Classification according to Regulation (EC) No 1272/2008 [CLP]	Notes
Ethylene	(Cas No) 74-85-1 (EC No) 200-815-3 (EC Index No) 601-010-00-3 (REACH No) 01-2119462827-27-0097	>= 99,9	Flam. Gas 1, H220 Press. Gas (Liq.), H280 STOT SE 3, H336	U

Note: Gas concentrations are in percent by volume. Contains no other components or impurities which will influence the classification of the product. Note U - When put on the market gases have to be classified as "Gases under pressure", in one of the groups compressed gas, liquefied gas, refrigerated liquefied gas or dissolved gas. The group depends on the physical state in which the gas is packaged and therefore has to be assigned case by case.

Full text of hazard classes and H-statements: see section 16

3.2. Mixture

Not applicable.

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general

:Extremely flammable liquefied gas. An asphyxiant at high concentrations oxygen depletion can be fatal. May cause frostbite. May cause anesthetic effects. May cause dizziness and drowsiness. Take care to self-protect by avoiding becoming contaminated - use the recommended PPE and air supplied breathing apparatus where high concentrations are possible.

First-aid measures after inhalation	:Exposure to high concentrations may cause asphyxiation and the victim may be unaware. Remove victim to uncontaminated area. Keep victim warm and at rest. Do not leave the victim unattended. Seek immediate medical attention. If not breathing, give artificial respiration. If breathing is difficult, qualified personnel may give oxygen or assisted ventilation. If unconscious, place in recovery position. In the event of cardiac arrest, no pulse, apply cardiopulmonary resuscitation.
First-aid measures after skin contact	:Liquid contact may cause frostbite. Do not remove clothing that adheres due to freezing. Immediately warm frostbite area with warm water not to exceed 41°C-46°C, continue for at least 15 minutes. Water temperature should be tolerable to normal skin. DO NOT USE HOT WATER. Maintain skin warming for at least 15 minutes or until normal coloring and sensation have returned to the affected area. If warm water is not available, gently wrap affected parts in blankets. In case of massive exposure, remove clothing while showering with warm water. If there are signs of frostbite, blanching or redness of skin or burning or tingling sensation, seek medical attention.
First-aid measures after eye contact	:Remove contact lenses, if any. Flush eyes with water thoroughly and continuously for at least 15 minutes. Keep eye wide open while rinsing. If there are signs of irritation, pain, swelling, lachrimation or other symptoms consult an ophthalmologist and seek for advice on further treatment.
First-aid measures after ingestion	:Ingestion is not considered a likely route of exposure - frostbite to the lips and mouth may occur if in contact with the liquid.
Advice for a doctor	:Provide oxygen. Treat symptomatically.

4.2. Most important symptoms and effects, both acute and delayed

In high concentrations may cause asphyxiation. Symptoms may include loss of mobility/consciousness. In low concentrations may cause narcotic effects. Symptoms may include dizziness, headache, nausea and loss of co-ordination. Can cause allergic reaction on skin. Additional symptoms and effects are described in *section 11, Toxicological information.*

4.3. Indication of any immediate medical attention and special treatment needed

Do not effect a mouth-to-mouth resuscitation. Do not rub the skin and eyes after direct contact with the product. In case of any unwanted reaction or inconvenience, call Poison Control Centre or a doctor and seek medical attention - show the safety data sheet if possible. *See subsection 1.4, Emergency telephone number.*

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	: LARGE FIRE: Use water spray or fog to control fire fumes. DO NOT EXTINGUISH A LEAKING GAS FIRE UNLESS LEAK CAN BE STOPPED. : SMALL FIRE: Dry powder. Carbon dioxide. Dry sand or fire fighting foam.
Unsuitable extinguishing media	: DO NOT use direct water jet. Simultaneous use of foam and water on the same surface is to be avoided as water destroys the foam.

5.2. Special hazards arising from the substance or mixture

Fire hazard	: If possible, stop the flow of gas. If the flow cannot be stopped allow the fire to burn out, whilst cooling containers and surroundings with a water spray. Vapors from liquified gas are initially heavier than air and spread along ground. May accumulate in confined areas (basement, tanks). May travel to source of ignition and flash back. Do not extinguish the fire until supply is shut off as otherwise an explosive-ignition may occur. If the fire is extinguished and the flow of gas continues, use increased ventilation to prevent build-up of explosive atmosphere. Ventilation fans must be explosion proof. Isolate spill or leak area for at least 100 meters in all directions. Use water spray to cool surrounding containers. As in any fire, wear self-contained breathing apparatus pressure-demand and full protective gear.
Explosion hazard	: Cylinders or other containment vessels may explode under fire conditions - use water spray to cool unopened containers. Do not allow run-off from fire fighting to enter drains or water courses - may cause explosion hazard in drains and may reignite.
Hazardous combustion products	: Carbon monoxide, carbon dioxide and unburned hydrocarbons (smoke).

5.3. Advice for firefighters

Special protective equipment for fire-fighters	: Wear an approved positive pressure self-contained breathing apparatus in addition to standard fire fighting gear. <i>See section 6, Accidental release measures.</i>
---	--

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions

: Avoid breathing vapours. Ensure adequate ventilation and absence of sources of ignition. Beware of accumulation of vapours in low areas or contained areas, where explosive concentrations may occur.

Flammable gas may spread from leak. Before entering area, especially confined areas, check atmosphere with an appropriate device. Wear personal protective equipment, including self contained breathing apparatus, unless the atmosphere is proved to be safe.

Immediately evacuate all personnel from danger area. Remove all sources of ignition if without risk. Reduce vapors with fog or fine water spray. Shut off flow if without risk. Ventilate area or move cylinder to a well-ventilated area.

6.2. Environmental precautions

Prevent waste from contaminating the surrounding environment. Keep personnel away. Discard any product, residue, disposable container, or liner in an environmentally acceptable manner, in full compliance with federal, state, and local regulations. Do not discharge into drains/surface waters/groundwater.

LAND SPILLAGE: Prevent further leakage or spillage if safe to do so. Prevent spillage from entering drains or any place where accumulation may occur.

SPILLAGES IN WATER OR AT SEA: Prevent further leakage or spillage if safe to do so. If the spillage contaminates rivers, lakes or drains inform respective authorities.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up

: Contain spillage - ventilate area and allow to evaporate.

Spillages of liquid product will create a fire hazard and form an explosive atmosphere. Avoid direct contact with released material. Stay upwind. Keep area evacuated and free from ignition sources until any spilled liquid has evaporated. Ensure adequate ventilation, especially in confined areas.

6.4. Reference to other sections

See section 7, Handling and storage. See subsection 8.2, Exposure controls. See section 13, Disposal considerations.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed

: Handle uncleaned empty containers with care as full ones. Vapour residue may be flammable.

Precautions for safe handling

: Only experienced and properly instructed persons should handle gases under pressure. The substance must be handled in accordance with good industrial hygiene and safety procedures. Ensure that all relevant regulations regarding explosive atmospheres, handling and storage facilities of flammable products are followed. Handle and open container with care in a well-ventilated area. Avoid overfilling. Use only properly specified equipment which is suitable for this product, its supply pressure and temperature. Do NOT use compressed air for filling, discharging or handling operations. Electrostatic charges may be generated during pumping. Electrostatic discharge may cause fire. Restrict line velocity during pumping in order to avoid generation of electrostatic discharge. If positive displacement pumps are used, these must be fitted with a non-integral pressure relief valve. Use explosion-proof electrical/ventilating/lighting and other equipment. Consider the use of only non-sparking tools. Ensure equipment is adequately earthed. Purge air from system before introducing gas. Keep away from all sources of ignition (spark or flame), oxidising agents, chlorine and hydrogen chloride or hydrogen fluoride. Smoking, eating and drinking should be prohibited. Assess the risk of a potentially explosive atmosphere and the need for explosion-proof equipment. Ensure the complete gas system has been (or is regularly) checked for leaks before use. Use piping and equipment designed to withstand the pressures to be encountered. Use a check valve or other protective device to prevent reverse flow. Cleaning, inspection and maintenance of the internal structure of storage tanks must be done only by properly equipped and qualified personnel as defined by national, local or company regulations. Do not pressurise, cut, weld, braze, solder, drill or grind on containers. Dispose of rinse water in accordance with local and national regulations. The vapour is heavier than air, spreads along the ground

Hygiene measures

and distant ignition is possible.

:Wear appropriate personal protective equipment. Avoid prolonged exposure. Avoid inhalation. Avoid all sources of ignition: heat, sparks, open flame. Avoid contact with the skin, eyes and clothing. Wash your hands and exposed parts of body thoroughly with soap and water after work. Take off contaminated clothing. Do not wear contaminated clothing, shoes or protective equipment in the catering area.

7.2. Conditions for safe storage, including any incompatibilities

To stored only in a dike (bunded), supplied cylinders or approved vessels. Store in a designated cool, well-ventilated place away from incompatible materials (flames, direct sunlight, ignition sources and other sources of heat). Keep container tightly closed. Take precautionary measures against static discharges. No smoking. Cylinders should be secured vertical - and only transported in a secure position in a well ventilated vehicle or hand truck. Cylinders which have been opened must be carefully resealed and kept upright. Vapour space above stored liquid may be flammable/explosive unless blanketed with inert gas. Storage installations should be designed with adequate bunds so as to prevent ground and water pollution in case of leaks or spills. Storage Temperature: Ambient

7.3. Specific end use(s)

None. See subsection 7.1, Precautions for safe handling.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Ethylene (74-85-1)		
Belgium	Limit value (mg/m ³)	233 mg/m ³
Belgium	Limit value (ppm)	200 ppm
Italy – Portugal - USA ACGIH	ACGIH TWA (ppm)	200 ppm
Spain	VLA-ED (ppm)	200 ppm
Switzerland	VME (mg/m ³)	11500 mg/m ³
Switzerland	VME (ppm)	10000 ppm
Lithuania	IPRV (mg/m ³)	100 mg/m ³

Ethylene (74-85-1)	
DNEL (Workers)	
Acute - local effects, inhalation	230 mg/m ³
Acute - systemic effects, inhalation	230 mg/m ³
PNEC (Water)	
Aqua (fresh water)	1,67 mg/l
Aqua (marine water)	1,67 mg/l

8.2. Exposure controls

Appropriate engineering controls	:Ensure adequate ventilation. Follow the exposure limits given on this safety data sheet.
Personal protective equipment	:Wear recommended personal protective equipment. Avoid all unnecessary exposure.
Hand protection	:Wear protective gloves made of PVC.
Eye protection	:Chemical goggles or safety glasses.
Skin and body protection	:Wear suitable protective clothing.
Respiratory protection	:In case of insufficient ventilation, wear suitable respiratory equipment.
Thermal hazard protection	:Wear thermal protective clothing, when necessary.
Environmental exposure controls	:Contain spills. Prevent releases. Observe national regulations on emissions. Ensure all national/local regulations are observed.
Other information	:Do not eat, drink or smoke when using this product.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance

Physical state	: Gas
Form	: Compressed liquefied gas.
Colour	: Colourless
Odour	: Sweetish scent
Odour threshold	: Odor threshold is subjective and inadequate to warn for overexposure.
PH	: Not applicable.
Molecular weight	: 28 g/mol
Melting point	: No data available.
Freezing point	: -169,15°C
Boiling point	: -103,77°C
Flash point	: -136,6°C
Evaporation rate	: Not applicable for gases.
Flammability (solid, gas)	: Extremely flammable.
Flammability range	
Flammability limit- lower	: 2,7 vol %
Flammability limit - upper	: 36 vol %
Critical temperature	: 9,5°C
Auto-ignition temperature	: 490°C
Critical pressure	: No data available.
Relative density, gas (Air=1):	: 0,975
Relative density, liquid (Water=1)	: 0,57
Solubility in water	: 130 mg/l
Vapour pressure at -90°C	: 2124 hPa
Partition coefficient (n-octanol/water)	: 1,13
Viscosity, kinematic	: No data available.
Viscosity, dynamic	: No data available.
Explosive properties	: No data available.
Oxidising properties	: No data available.

9.2. Other information

Gas group	: Liquefied gas.
Additional information	: Gas/vapor heavier than air. May accumulate in confined spaces, particularly at or below ground level.

SECTION 10: Stability and reactivity

10.1. Reactivity

Extremely flammable liquefied gas. Contains gas under pressure. May explode if heated. Unreactive under normal conditions of storage and use. See further information in subsections below.

10.2. Chemical stability

Stable under normal conditions of storage and use. See section 7, *Handling and storage*.

10.3. Possibility of hazardous reactions

No hazardous reactions if stored and handled as prescribed/indicated. Can form explosive mixture with air. May react violently with oxidants.

10.4. Conditions to avoid

Avoid exposure to air. Keep away from heat, sparks, open flames. No smoking. See section 7, *Handling and storage*.

10.5. Incompatible materials

Avoid contact with strong oxidizing agents (chlorine dioxide, nitrates, permanganates and peroxides), strong acids (hydrobromic, nitric, sulphuric acids). See section 7, *Handling and storage*.

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced. Incomplete combustion may form carbon monoxide, carbon dioxide and unburned hydrocarbons (smoke). See section 5.2, *Special hazards arising from the substance or mixture.*

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity

:Not classified.

Based on available data, the classification criteria are not met.

Ethylene (74-85-1)	
LC50 inhalation rat (mg/l)	>65400
LC50 inhalation rat (ppm)	>57000 ppm/4h

Skin corrosion/irritation

:Not classified.

Based on available data, the classification criteria are not met.

pH: Not applicable.

Serious eye damage/irritation

:Not classified.

Based on available data, the classification criteria are not met.

pH: Not applicable.

Respiratory or skin sensitisation

:Not classified.

Based on available data, the classification criteria are not met.

Germ cell mutagenicity

:Not classified.

Based on available data, the classification criteria are not met.

Carcinogenicity

: Not classified.

Based on available data, the classification criteria are not met.

Reproductive toxicity

:Not classified.

Based on available data, the classification criteria are not met.

Specific target organ toxicity (single exposure)

:May cause drowsiness or dizziness.

Specific target organ toxicity (repeated exposure)

:Not classified.

Based on available data, the classification criteria are not met.

Ethylene (74-85-1)	
LOAEL (inhalation, rat, gas, 90 days)	300 ppmV/6h/day
NOAEL (inhalation, rat, gas, 90 days)	10000 ppmV/6h/day

Aspiration hazard

:Not classified.

Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general

:Classification concerning the environment: not applicable.

Ethylene (74-85-1)	
LC50 fish 1	126,012 mg/l (96h)
EC50 Daphnia 1	62,482 mg/l (48h)
ErC50 (algae)	30,327 mg/l
NOEC (acute)	13,9 mg/l

12.2. Persistence and degradability

Ethylene (74-85-1)	
Persistence and degradability	The substance is biodegradable. Unlikely to persist.

12.3. Bioaccumulative potential

Ethylene (74-85-1)	
BCF fishes 1	>2000
Partition coefficient n-octanol/water	1,13

12.4. Mobility in soil

Ethylene (74-85-1)	
Mobility in soil	No data available.
Ecology - soil	Because of its high volatility, the product is unlikely to cause ground or water pollution.

12.5. Results of PBT and vPvB assessment

Ethylene (74-85-1)	
Results of PBT assessment	The product does not meet the PBT and vPvB classification criteria

12.6. Other adverse effects

Ethylene (74-85-1)	
Effect on ozone layer	None
Effect on the global warming	No known effects from this product

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste disposal recommendations

:Do not discharge into areas where there is a risk of forming an explosive mixture with air. Waste gas should be flared through a suitable burner with flash back arrestor. Do not discharge into any place where its accumulation could be dangerous. Collect and dispose of waste product at an authorised disposal facility. Dispose of contaminated materials in accordance with current regulations.

Additional information

:Never use pressure to empty container. Do not burn, or use a cutting torch on, the empty drum. Do not puncture or incinerate. Delivery to an approved waste disposal company. Dispose of contaminated materials in accordance with current regulations.

List of proposed waste codes/waste designations in accordance with EWC (2001/573/EC, 75/442/EEC, 91/689/EEC)

:Classified as hazardous waste according to European Union regulations Waste codes should be assigned by the user, preferably in discussion with the waste disposal authorities.

SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / ADN / RID:

14.1. UN number

UN-No. (ADR)	: 1038
UN-No. (IMDG)	: 1038
UN-No. (IATA)	: 1038
UN-No. (ADN)	: 1038
UN-No. (RID)	: 1038

14.2. UN proper shipping name

Proper Shipping Name (ADR)	: ETHYLENE, REFRIGERATED LIQUID
Proper Shipping Name (IMDG)	: ETHYLENE, REFRIGERATED LIQUID
Proper Shipping Name (IATA)	: Ethylene, refrigerated liquid
Proper Shipping Name (ADN)	: ETHYLENE, REFRIGERATED LIQUID
Proper Shipping Name (RID)	: ETHYLENE, REFRIGERATED LIQUID
Transport document description (ADR)	: UN 1038 ETHYLENE, REFRIGERATED LIQUID, 2.1 (B/D)
Transport document description (IMDG)	: UN 1038 ETHYLENE, REFRIGERATED LIQUID, 2.1

Transport document description (IATA) : UN 1038 Ethylene, refrigerated liquid, 2.1
 Transport document description (ADN) : UN 1038 ETHYLENE, REFRIGERATED LIQUID, 2.1
 Transport document description (RID) : UN 1038 ETHYLENE, REFRIGERATED LIQUID, 2.1

14.3. Transport hazard class(es)

ADR

Transport hazard class(es) (ADR) : 2
 Danger labels (ADR) : 2.1 (Flammable gas)
 :



IMDG

Transport hazard class(es) (IMDG) : 2
 Danger labels (IMDG) : 2.1 (Flammable gas)
 :



IATA

Transport hazard class(es) (IATA) : 2
 Danger labels (IATA) : 2.1 (Flammable gas)
 :



ADN

Transport hazard class(es) (ADN) : 2
 Danger labels (ADN) : 2.1 (Flammable gas)
 :



RID

Transport hazard class(es) (RID) : 2
 Danger labels (RID) : 2.1 (Flammable gas)
 :



14.4. Packing group

Packing group (ADR) : Not applicable.
 Packing group (IMDG) : Not applicable.
 Packing group (IATA) : Not applicable.

Packing group (ADN) : Not applicable.
 Packing group (RID) : Not applicable.

14.5. Environmental hazards

Dangerous for the environment : No
 Marine pollutant : No
 Other information : No supplementary information available

14.6. Special precautions for user

Special precautions for user : No data available

Overland transport

Classification code (ADR) : 3F
 Limited quantities (ADR) : 0
 Excepted quantities (ADR) : E0
 Packing instructions (ADR) : P203
 Mixed packing provisions (ADR) : MP9
 Portable tank and bulk container instructions (ADR) : T75
 Tank code (ADR) : RxBN
 Tank special provisions (ADR) : TU18 TA4 TT9
 Vehicle for tank carriage : FL
 Transport category (ADR) : 2
 Special provisions for carriage - Loading,
 unloading and handling (ADR) : CV9, CV11, CV36
 Special provisions for carriage - Operation (ADR) : S2, S17
 Hazard identification number (Kemler No.) : 223
 Orange



plates :

Tunnel restriction code : B/D

Transport by sea

Limited quantities (IMDG) : 0
 Excepted quantities (IMDG) : E0
 Packing instructions (IMDG) : P203
 Tank instructions (IMDG) : T57
 EmS-No. (Fire) : F-S
 EmS-No. (Spillage) : S-U
 Properties and observations (IMDG) : Flammable hydrocarbon gas. Explosive limits: 2,7 % to 36%. Heavier than air.

Air transport

PCA Excepted quantities (IATA) : E0
 PCA Limited quantities (IATA) : Forbidden
 PCA limited quantity max net quantity (IATA) : Forbidden
 PCA packing instructions (IATA) : Forbidden
 PCA max net quantity (IATA) : Forbidden

Inland waterway transport

Classification code (ADN) : 3F
 Limited quantities (ADN) : 0
 Excepted quantities (ADN) : E0

Rail transport

Special provisions (RID) : 662

Limited quantities (RID)	: 0
Excepted quantities (RID)	: E0
Packing instructions (RID)	: P203
Mixed packing provisions (RID)	: MP9
Portable tank and bulk container instructions (RID)	: T75
Tank codes for RID tanks (RID)	: RxBN
Transport category (RID)	: 2
Hazard identification number (RID)	: 223

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable.

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

EU-Regulations

The following restrictions are applicable according to Annex XVII of the REACH Regulation (EC) No 1907/2006:

40. Substances classified as flammable gases category 1 or 2, flammable liquids categories 1, 2 or 3, flammable solids category 1 or 2, substances and mixtures which, in contact with water, emit flammable gases, category 1, 2 or 3, pyrophoric liquids category 1 or pyrophoric solids category 1, regardless of whether they appear in Part 3 of Annex VI to Regulation (EC) No 1272/2008 or not.	ETHYLENE
--	----------

ETHYLENE is not on the REACH Candidate List

ETHYLENE is not on the REACH Annex XIV List

- REGULATION (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.
- REGULATION (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, including amendments.
- COMMISSION REGULATION (EU) No 2015/830 of 28 May 2015 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)

15.2. Chemical safety assessment

Chemical safety assessment has been carried out. In accordance with the Chemical Safety Report exposure scenario is not required.

SECTION 16: Other information

Indication of changes	: Revised safety data sheet according to Regulation (EC) No 1907/2006 (REACH), Annex II, as amended by Regulation (EU) No 2015/830
Data sources	: REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006 ECHA Guidance on the compilation of safety data sheets (Version 3.1 - November 2015) Guidance for identification and naming of substances under REACH and CLP (Version 2.1 - May 2017)
Training advice	: THE PRODUCT IS RESTRICTED TO PROFESSIONAL USAGE ONLY and must be handled in accordance with good industrial hygiene and safety procedures. Ensure that all relevant regulations regarding explosive atmospheres, handling and storage facilities of flammable products are followed. Before using this product in any new process or experiment, a thorough material compatibility and safety study should be carried out.

Full text of hazard classes and H-statements	
H220	Extremely flammable gas.
H280	Contains gas under pressure; may explode if heated.
H336	May cause drowsiness or dizziness.

Flam. Gas 1	Flammable gases, Category 1
Press. Gas (Liq.)	Gases under pressure (Liquefied gas)
STOT SE 3	Specific target organ toxicity (single exposure) Category 3

Abbreviations and acronyms:

SDS	: Safety Data Sheet
UN	: United Nations
EU	: European Union
EC	: European Community
EEC	: European Economic Community
CAS No	: Chemical Abstract Service number
EC No (EINECS)	: European Inventory of Existing Commercial Chemical Substances (European Chemical number: EINECS, ELINCS or NLP)
ELINCS	: European List of Notified Chemical Substances
NLP	: No-Longer Polymer
CLP	: Regulation (EC) No 1272/2008 on classification, labelling and packaging of substance and mixtures
ECHA	: European Chemicals Agency
REACH	: Registration, Evaluation, Authorisation and Restriction of Chemicals
PBT	: Persisten, Bioaccumulative and Toxic substance/mixture
vPvB	: Very Persisten and very Bioaccumulative substance/mixture
LC50	: Lethal concentration, 50 percent
LD50	: Lethal dose, 50 percent
EC50	: Effective concentration, 50 percent
ErC50	: EC50 in terms of reduction of growth rate
NOEC	: No observed effect concentration
DNEL	: Derived No Effect Level
PNEC	: Predicted No Effect Concentration
ADR	: European Agreement concerning the International Carriage of Dangerous Goods by Road
RID	: European Agreement concerning the International Rule for Transport of Dangerous Goods by Rail
ADN	: European Agreement concerning the International Carriage of Dangerous Goods by inland Waterways
IMDG	: International Maritime Dangerous Goods
IATA	: International Air Transport Association
MARPOL	: International Convention for the Prevention of Marine Pollution from Ships
IBC	: International Bulk Chemical Code
ACGIH	: American Conference of Governmental Industrial Hygienists

LIST OF TELEPHONE NUMBERS OF POISON CENTRES IN THE EUROPEAN ECONOMIC AREA	
AUSTRIA (Vienna Wien)	+43 1 40 400 2222
BELGIUM (Brussels Bruxelles)	+32 70 245 245
BULGARIA (Sofia)	+359 2 9154 409 / +359 887 435 325
CZECH REPUBLIC (Prague Praha)	+42 2 2491 9293 or +42 2 2491 5402
CROATIA (Zagreb)	+385 12 348 342
DENMARK (Copenhagen)	+45 35 31 54 04
FINLAND (Helsinki)	+358 9 471 977
FRANCE (Paris)	+33 1 40 05 48 48
GERMANY (Berlin)	+49 30 450 653565
GREECE (Athens Athinai)	+30 10 779 3777
HUNGARY (Budapest)	+36 80 20 11 99
ICELAND (Reykjavik)	+354 525 111, +354 543 2222
IRELAND (Dublin)	+353 1 8379964
ITALY (Rome)	+39 06 305 4343



ETHYLENE

Safety Data Sheet

according to Regulation (EU) No 2015/830

Revision date: 19.02.2020

Supersedes: 26.03.2018

Version: 5.1

LATVIA (Riga)	+371 704 2468
LITHUANIA (Vilnius)	+370 2 36 20 52, +370 2 36 20 92
NETHERLANDS (Bilthoven)	+31 30 274 88 88
NORWAY (Oslo)	+47 22 591300
POLAND (Gdansk)	+48 58 301 65 16 or +48 58 349 2831
PORTUGAL (Lisbon Lisboa)	808 250 143 (for use only in Portugal), +351 21 330 3284
ROMANIA (Bucharest)	+40 21 230 8000;
SLOVAKIA (Bratislava)	+421 2 54 77 4 166
SLOVENIA (Ljubljana)	+ 386 41 650 500
SPAIN (Barcelona)	+34 93 227 98 33 or +34 93 227 54 00 bleep 190
SWEDEN (Stockholm)	+46 8 33 12 31 (International) 112 (National)
UNITED KINGDOM (London)	0870 243 2241

The information and recommendations provide in this document are based on our current knowledge, information and experience at the date of its publication, and their purpose is to present prevention and safety measures in relation to this product. The information given is designed only as a guidance for safe handling, use, processing, storage, transport and disposal. All given information refer only to the product in the form it is supplied. It is the user's responsibility to satisfy itself that the product is suitable for the intended use.

Users are obliged to have their activities harmonized with national, regional and local regulations, which are subject to modifications, and may differ depending on location/state. Users are responsible for handling, storage and manipulation in accordance with effective laws and regulations as required to provide health and safety at work and environmental protection. Since the use of this information and the conditions of use are not within the control of HIP Petrohemija, it is the user's obligation to determine the conditions of safe use of the product.

This version supersedes and replaces all previous versions.