



# ETHYLENE OXIDE

## Safety Data Sheet

In accordance with the Regulation on Safety Data Sheets Regarding Hazardous Substances and Mixtures published in the Official Journal numbered 29204 on December 13, 2014

Date of issue: 25/03/2019 Version: 1.0

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

#### 1.1. Product identifier

Product form : Substance  
Substance name : ETHYLENE OXIDE  
EC Index-No. : 603-023-00-X  
EC-No. : 200-849-9  
CAS-No. : 75-21-8  
REACH registration No : 01-2119432402-53  
Product code : EIGA056  
Formula : C<sub>2</sub>H<sub>4</sub>O  
Product group : Trade product

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

Relevant identified uses : Test gas/Calibration gas,Chemical reaction / Synthesis,Laboratory use,Industrial and professional. Perform risk assessment prior to use,Contact supplier for more information on uses.  
Uses advised against : Consumer use.

#### 1.3. Details of the supplier of the safety data sheet

KOYUNCU TİCARET A.Ş.  
GEBZE 5 (KİMYA) İHTİSAS OSB GEBKİM OSB RECEP YAZICI CAD.NO:4  
DİLOVASI  
KOCAELİ - Türkiye  
T +90 262 658 06 05  
[safis@koyuncutas.com](mailto:safis@koyuncutas.com) - [www.koyuncutas.com](http://www.koyuncutas.com)

#### 1.4. Emergency telephone number

Country	Organisation/Company	Address	Emergency number	Comment
Turkey	Ulusal Zehir Merkezi (UZEM) Refik Saydam Hıfzıssıhha Merkezi Başkanlığı	Cemal Gürsel Cd. No: 18 Sıhhiye Çankaya 06590 Ankara	114	Information is provided to public and medical personnel on poisoning incidents via 114.

### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

Classification according to Classification, Labelling and Packaging of Substances and Mixtures (SEA) Regulation published in the Official Journal numbered 28848 on December 11, 2013.

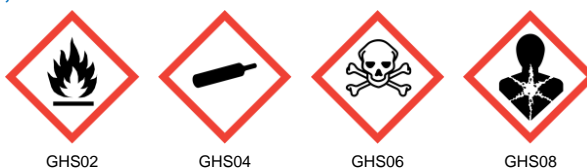
Flammable gases, Category 1 H220  
Gases under pressure : Liquefied gas H280  
Acute toxicity (inhalation:gas) Category 3 H331  
Skin corrosion/irritation, Category 2 H315  
Serious eye damage/eye irritation, Category 2 H319  
Germ cell mutagenicity, Category 1B H340  
Carcinogenicity, Category 1B H350  
Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation H335

Full text of H-statements: see section 16

#### 2.2. Label elements

Classification according to Classification, Labelling and Packaging of Substances and Mixtures (SEA) Regulation published in the Official Journal numbered 28848 on December 11, 2013.

Hazard pictograms (SEA) :



Signal word (SEA) :

Danger

Hazard statements (SEA) :

H220 - Extremely flammable gas.  
H280 - Contains gas under pressure; may explode if heated.



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	H315 - Causes skin irritation. H319 - Causes serious eye irritation. H331 - Toxic if inhaled. H335 - May cause respiratory irritation. H340 - May cause genetic defects. H350 - May cause cancer.
Precautionary statements (SEA)	: P201 - Obtain special instructions before use. P202 - Do not handle until all safety precautions have been read and understood. P261 - Avoid breathing dust/fume/gas/mist/vapours/spray. P264 - Wash hands, forearms and face thoroughly after handling. P271 - Use only outdoors or in a well-ventilated area. P280 - Wear protective gloves/protective clothing/eye protection/face protection. P302+P352 - IF ON SKIN: Wash with plenty of water/... P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P308+P313 - If exposed or concerned, get medical advice and attention. P311 - Dial 114 for the NATIONAL POISON CENTER or call a doctor/physician P321 - Specific treatment (see supplemental first aid instruction on this label). P332+P313 - If skin irritation occurs: Get medical advice/attention. P337+P313 - If eye irritation persists: Get medical advice/attention. P362+P364 - Take off contaminated clothing and wash it before reuse. P377 - Leaking gas fire: Do not extinguish, unless leak can be stopped safely. P381 - Eliminate all ignition sources if safe to do so. P403 - Store in a well-ventilated place. P403+P233 - Store in a well-ventilated place. Keep container tightly closed. P405 - Store locked up. P410+P403 - Protect from sunlight. Store in a well-ventilated place. P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation
Child-resistant fastening	: Not applicable
Tactile warning	: Not applicable

### 2.3. Other hazards

#### Other hazards not contributing to the classification

Other hazards not contributing to the classification : None.

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

Name	Product identifier	%	Classification according to Classification, Labelling and Packaging of Substances and Mixtures (SEA) Regulation published in the Official Journal numbered 28848 on December 11, 2013.
ETHYLENE OXIDE	(CAS-No.) 75-21-8 (EC-No.) 200-849-9 (EC Index-No.) 603-023-00-X (REACH-no) 01-2119432402-53	100	Flam. Gas 1, H220 Press. Gas (Liq.), H280 Acute Tox. 3 (Inhalation:gas), H331 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Muta. 1B, H340 Carc. 1B, H350 STOT SE 3, H335

Full text of H-statements: see section 16

### 3.2. Mixtures

Not applicable

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

First-aid measures after inhalation	: Remove victim to uncontaminated area wearing self contained breathing apparatus. Keep victim warm and rested. Call a doctor. Perform cardiopulmonary resuscitation if breathing stopped.
First-aid measures after skin contact	: Remove contaminated clothing. Drench affected area with water for at least 15 minutes.
First-aid measures after eye contact	: Immediately flush eyes thoroughly with water for at least 15 minutes.



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First-aid measures after ingestion : Ingestion is not considered a potential route of exposure.

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

Most important symptoms and effects, both acute and delayed : May cause irritation to cornea (with temporary disturbance to vision). May cause irritation to skin. May cause irritation to the respiratory tract, sneezing, coughing, burning sensation of throat with constricting sensation of the larynx and difficulty in breathing. Refer to section 11.

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

Obtain medical assistance.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media : Water spray or fog. Dry powder.  
Unsuitable extinguishing media : Carbon dioxide. Do not use water jet to extinguish.

### 5.2. Special hazards arising from the substance or mixture

Reactivity in case of fire : No reactivity hazard other than the effects described in sub-sections below.  
Hazardous combustion products : Carbon monoxide.

### 5.3. Advice for firefighters

Specific methods : Do not extinguish a leaking gas flame unless absolutely necessary. Spontaneous/explosive re-ignition may occur. Extinguish any other fire. Continue water spray from protected position until container stays cool. Use fire control measures appropriate for the surrounding fire. Exposure to fire and heat radiation may cause gas receptacles to rupture. Cool endangered receptacles with water spray jet from a protected position. Prevent water used in emergency cases from entering sewers and drainage systems. If possible, stop flow of product. Use water spray or fog to knock down fire fumes if possible. Move containers away from the fire area if this can be done without risk.

Special protective equipment for fire fighters : Wear gas tight chemically protective clothing in combination with self contained breathing apparatus. Standard EN 943-2: Protective clothing against liquid and gaseous chemicals, aerosols and solid particles. Gas-tight chemical protective suits for emergency teams. Standard EN 137 - Self-contained open-circuit compressed air breathing apparatus with full face mask.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

General measures : Try to stop release. Evacuate area. Monitor concentration of released product. Consider the risk of potentially explosive atmospheres. Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be safe. Eliminate ignition sources. Ensure adequate air ventilation. Prevent from entering sewers, basements and workpits, or any place where its accumulation can be dangerous. Act in accordance with local emergency plan. Stay upwind.

#### 6.1.1. For non-emergency personnel

No additional information available

#### 6.1.2. For emergency responders

No additional information available

### 6.2. Environmental precautions

Try to stop release. Reduce vapour with fog or fine water spray.

### 6.3. Methods and material for containment and cleaning up

Methods and material for containment and cleaning up : Hose down area with water. Wash contaminated equipment or sites of leaks with copious quantities of water. Ventilate area.

### 6.4. Reference to other sections

See also sections 8 and 13.



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### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

- Safe use of the product : Assess the risk of potentially explosive atmospheres and the need for explosion-proof equipment. Purge air from system before introducing gas. Take precautionary measures against static discharge. Keep away from ignition sources (including static discharges). Consider the use of only non-sparking tools. Ensure equipment is adequately earthed. Avoid exposure, obtain special instructions before use. Installation of a cross purge assembly between the cylinder and the regulator is recommended. The product must be handled in accordance with good industrial hygiene and safety procedures. Only experienced and properly instructed persons should handle gases under pressure. Consider pressure relief device(s) in gas installations. Ensure the complete gas system was (or is regularly) checked for leaks before use. Do not smoke while handling product. Use only properly specified equipment which is suitable for this product, its supply pressure and temperature. Contact your gas supplier if in doubt. Avoid suck back of water, acid and alkalis. Do not breathe gas. Avoid release of product into work area.
- Safe handling of the gas receptacle : Refer to supplier's container handling instructions. Do not allow backfeed into the container. Protect cylinders from physical damage; do not drag, roll, slide or drop. When moving cylinders, even for short distances, use a cart (trolley, hand truck, etc.) designed to transport cylinders. Leave valve protection caps in place until the container has been secured against either a wall or bench or placed in a container stand and is ready for use. If user experiences any difficulty operating cylinder valve discontinue use and contact supplier. Never attempt to repair or modify container valves or safety relief devices. Damaged valves should be reported immediately to the supplier. Keep container valve outlets clean and free from contaminants particularly oil and water. Replace valve outlet caps or plugs and container caps where supplied as soon as container is disconnected from equipment. Close container valve after each use and when empty, even if still connected to equipment. Never attempt to transfer gases from one cylinder/container to another. Never use direct flame or electrical heating devices to raise the pressure of a container. Do not remove or deface labels provided by the supplier for the identification of the cylinder contents. Suck back of water into the container must be prevented. Open valve slowly to avoid pressure shock.

#### 7.2. Conditions for safe storage, including any incompatibilities

- Conditions for safe storage, including any incompatibilities : Segregate from oxidant gases and other oxidants in store. All electrical equipment in the storage areas should be compatible with the risk of a potentially explosive atmosphere. Observe all regulations and local requirements regarding storage of containers. Containers should not be stored in conditions likely to encourage corrosion. Container valve guards or caps should be in place. Containers should be stored in the vertical position and properly secured to prevent them from falling over. Stored containers should be periodically checked for general condition and leakage. Keep container below 50°C in a well ventilated place. Store containers in location free from fire risk and away from sources of heat and ignition. Keep away from combustible materials.

#### 7.3. Specific end use(s)

None.

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

ETHYLENE OXIDE (75-21-8)	
EU - Occupational Exposure Limits	
Local name	Ethylene oxide
Notes	Skin. (Year of adoption 2012)
Regulatory reference	SCOEL Recommendations
ETHYLENE OXIDE (75-21-8)	
DNEL/DMEL (Workers)	
Acute - systemic effects, inhalation	10 mg/m <sup>3</sup>
Long-term - systemic effects, inhalation	2 mg/m <sup>3</sup> (DMEL)
PNEC (Water)	
PNEC aqua (freshwater)	0.084 mg/l
PNEC aqua (marine water)	0.0084 mg/l
PNEC (Sediment)	
PNEC sediment (freshwater)	0.178 mg/kg dwt
PNEC sediment (marine water)	0.0178 mg/kg dwt
PNEC (Soil)	
PNEC soil	0.0136 mg/kg dwt
PNEC (STP)	
PNEC sewage treatment plant	13 mg/l



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### 8.2. Exposure controls

Appropriate engineering controls	: Provide adequate general and local exhaust ventilation. Consider the use of a work permit system e.g. for maintenance activities. Gas detectors should be used when toxic gases may be released. Product to be handled in a closed system and under strictly controlled conditions. Preferably use permanent leak-tight installations (e.g. welded pipes). Systems under pressure should be regularly checked for leakages. Ensure exposure is below occupational exposure limits (where available).
Personal protective equipment	: A risk assessment should be conducted and documented in each work area to assess the risks related to the use of the product and to select the PPE that matches the relevant risk. The following recommendations should be considered: PPE compliant to the recommended EN/ISO standards should be selected.
Hand protection	: Wear chemically resistant protective gloves. Standard EN 374 - Protective gloves against chemicals. Consult glove manufacturer's product information on material suitability and material thickness. The breakthrough time of the selected gloves must be greater than the intended use period. Permeation time: minimum >480min long term exposure : material / thickness Butyl rubber (IIR) / 0.7 [mm]. Wear working gloves when handling gas containers. Standard EN 388 - Protective gloves against mechanical risk.
Eye protection	: Wear goggles and a face shield when transfilling or breaking transfer connections. Provide readily accessible eye wash stations and safety showers. Standard EN 166 - Personal eye-protection - specifications
Respiratory protection	: Gas filters may be used if all surrounding conditions e.g. type and concentration of the contaminant(s) and duration of use are known. Use gas filters with full face mask, where exposure limits may be exceeded for a short-term period, e.g. connecting or disconnecting containers. Gas filters do not protect against oxygen deficiency. Standard EN 14387 - Gas filter(s), combined filter(s) and standard EN136, full face masks . Keep self contained breathing apparatus readily available for emergency use. Self contained breathing apparatus is recommended, where unknown exposure may be expected, e.g. during maintenance activities on installation systems. Standard EN 137 - Self-contained open-circuit compressed air breathing apparatus with full face mask. Recommended: Filter AX (brown).
Thermal hazard protection	: None in addition to the above sections.
Environmental exposure controls	: Refer to local regulations for restriction of emissions to the atmosphere. See section 13 for specific methods for waste gas treatment.
Other information	: Consider the use of flame resistant anti-static safety clothing. Standard EN ISO 14116 - Limited flame spread materials. Standard EN 1149-5 - Protective clothing: Electrostatic properties. Keep suitable chemically resistant protective clothing readily available for emergency use. Standard EN943-1 - Full protective suits against liquid, solid and gaseous chemicals. Wear safety shoes while handling containers. Standard EN ISO 20345 - Personal protective equipment - Safety footwear.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state	: Gas
Molecular mass	: 44 g/mol
Colour	: Colourless.
Odour	: Ethereal. Poor warning properties at low concentrations.
Odour threshold	: Odour threshold is subjective and inadequate to warn of overexposure.
pH	: Not applicable for gases and gas mixtures.
Relative evaporation rate (butylacetate=1)	: No data available
Relative evaporation rate (ether=1)	: Not applicable for gases and gas mixtures.
Melting point	: -112 °C
Freezing point	: -112 °C
Boiling point	: 10.4 °C
Flash point	: Not applicable for gases and gas mixtures.
Critical temperature	: 196 °C
Auto-ignition temperature	: 435 °C
Decomposition temperature	: Not applicable.
Flammability (solid, gas)	: Extremely flammable gas.
Vapour pressure	: 1.4 bar(a)
Vapour pressure at 50 °C	: 3.9 bar(a)
Critical pressure	: 7190 kPa



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Relative vapour density at 20 °C	: Not applicable.
Relative density	: 0.89
Relative gas density	: 1.5
Solubility	: Water: No reliable data available.
Log Pow	: -0.3
Log Kow	: Not applicable for gas mixtures.
Viscosity, kinematic	: No reliable data available.
Viscosity, dynamic	: No reliable data available.
Explosive properties	: Not applicable.
Oxidising properties	: Not applicable.
Explosive limits	: 2.6 - 100 vol %

### 9.2. Other information

Gas group	: Press. Gas (Liq.)
Additional information	: Gas/vapour heavier than air. May accumulate in confined spaces, particularly at or below ground level.

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

No reactivity hazard other than the effects described in sub-sections below.

### 10.2. Chemical stability

Containers are commonly pressurised to 5-7 bars with nitrogen. May polymerise. May react explosively even in the absence of air.

### 10.3. Possibility of hazardous reactions

Can form explosive mixture with air. May react violently with oxidants.

### 10.4. Conditions to avoid

Keep away from heat/sparks/open flames/hot surfaces. – No smoking. May decompose violently at high temperature and/or pressure or in the presence of a catalyst. Avoid moisture in installation systems.

### 10.5. Incompatible materials

Air, Oxidisers. For additional information on compatibility refer to ISO 11114.

### 10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity : Toxic if inhaled.

ETHYLENE OXIDE (75-21-8)	
LC50 inhalation rat (ppm)	1450 ppm/4h
ATE (SEA) (Gases)	1450 ppm/4h

Skin corrosion/irritation	: Causes skin irritation. pH: Not applicable for gases and gas mixtures.
Serious eye damage/irritation	: Causes serious eye irritation. pH: Not applicable for gases and gas mixtures.
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: May cause genetic defects.
Carcinogenicity	: May cause cancer.
Reproductive toxicity	: Not classified
STOT-single exposure	: May cause respiratory irritation.
STOT-repeated exposure	: Not classified
Target organ(s)	: nervous system
Aspiration hazard	: Not classified

## SECTION 12: Ecological information

### 12.1. Toxicity



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Ecology - general : Classification criteria are not met.  
Acute aquatic toxicity : Not classified  
Chronic aquatic toxicity : Not classified

ETHYLENE OXIDE (75-21-8)	
LC50 96 h - Fish [mg/l]	84 mg/l
EC50 48h - Daphnia magna [mg/l]	137 - 300 mg/l
EC50 72h - Algae [mg/l]	240 mg/l

### 12.2. Persistence and degradability

ETHYLENE OXIDE (75-21-8)	
Persistence and degradability	The substance is readily biodegradable. Unlikely to persist.

### 12.3. Bioaccumulative potential

ETHYLENE OXIDE (75-21-8)	
Log Pow	-0.3
Log Kow	Not applicable for gas mixtures.
Bioaccumulative potential	Not expected to bioaccumulate due to the low log Kow (log Kow < 4). Refer to section 9.

### 12.4. Mobility in soil

ETHYLENE OXIDE (75-21-8)	
Mobility in soil	No additional information available
Ecology - soil	Because of its high volatility, the product is unlikely to cause ground or water pollution. Partition into soil is unlikely.

### 12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment : Not classified as PBT or vPvB.

### 12.6. Other adverse effects

Ozone : Not classified  
Other adverse effects : May cause pH changes in aqueous ecological systems.  
Effect on the ozone layer : None.  
Effect on global warming : No known effects from this product.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Regional legislation (waste) : Disposal must be done according to official regulations. Regulation on Incineration of Waste Materials published in the Official Journal numbered 27721 on October 6, 2010. Waste Management Regulation published in the Official Journal numbered 29314 on April 2, 2015.

Waste treatment methods : Contact supplier if guidance is required. 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. Ensure that the emission levels from local regulations or operating permits are not exceeded. Refer to the EIGA code of practice Doc.30 "Disposal of Gases", downloadable at <http://www.eiga.eu> for more guidance on suitable disposal methods. Must not be discharged to atmosphere. Return unused product in original cylinder to supplier.

Additional information : External treatment and disposal of waste should comply with applicable local and/or national regulations.

List of hazardous waste codes (from Commission Decision 2000/532/EC as amended) : 16 05 04 \*: Gases in pressure containers (including halons) containing hazardous substances.

## SECTION 14: Transport information

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

ADR	IMDG	IATA	ADN	RID
<b>14.1. UN number</b>				
1040	1040	1040	Not applicable	3161
<b>14.2. UN proper shipping name</b>				
ETHYLENE OXIDE	ETHYLENE OXIDE	Ethylene oxide	Not applicable	Not applicable
<b>Transport document description</b>				
UN 1040 ETHYLENE OXIDE, 2.3 (2.1), (B/D)	UN 1040 ETHYLENE OXIDE, 2.3 (2.1)	UN 1040 Ethylene oxide, 2.3	Not applicable	UN 3161 , 2
<b>14.3. Transport hazard class(es)</b>				
2.3 (2.1)	2.3 (2.1)	2.1	Not applicable	2



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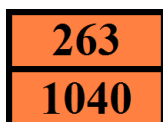
ADR	IMDG	IATA	ADN	RID
			Not applicable	Not applicable
<b>14.4. Packing group</b>				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
<b>14.5. Environmental hazards</b>				
Dangerous for the environment : No	Dangerous for the environment : No Marine pollutant : No	Dangerous for the environment : No	Dangerous for the environment : No	Dangerous for the environment : No
No supplementary information available				

### 14.6. Special precautions for user

Special transport precautions : Avoid transport on vehicles where the load space is not separated from the driver's compartment, Ensure vehicle driver is aware of the potential hazards of the load and knows what to do in the event of an accident or an emergency, Before transporting product containers:  
- Ensure there is adequate ventilation, - Ensure that containers are firmly secured, - Ensure cylinder valve is closed and not leaking, - Ensure valve outlet cap nut or plug (where provided) is correctly fitted, - Ensure valve protection device (where provided) is correctly fitted.

#### - Overland transport

Classification code (ADR) : 2TF  
Special provisions (ADR) : 342, 274  
Limited quantities (ADR) : 0  
Excepted quantities (ADR) : E0  
Packing instructions (ADR) : P200  
Mixed packing provisions (ADR) : MP9  
Portable tank and bulk container instructions (ADR) : (M)  
Vehicle for tank carriage : FL  
Transport category (ADR) : 1  
Special provisions for carriage - Loading, unloading and handling (ADR) : CV9, CV10, CV36  
Special provisions for carriage - Operation (ADR) : S2, S14  
Hazard identification number (Kemler No.) : 263  
Orange plates :



Tunnel restriction code (ADR) : B/D

#### - Transport by sea

Special provisions (IMDG) : 342, 274  
Limited quantities (IMDG) : 0  
Excepted quantities (IMDG) : E0  
Packing instructions (IMDG) : P200  
Tank instructions (IMDG) : T50  
Tank special provisions (IMDG) : TP20, TP90  
EmS-No. (Fire) : F-D  
EmS-No. (Spillage) : S-U  
Stowage category (IMDG) : D  
Stowage and handling (IMDG) : SW2  
Properties and observations (IMDG) : Liquefied, flammable, toxic gases with an ether-like odour. Heavier than air (1.5). Boiling point: 11°C.



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MFAG-No : 119P

### - 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  
CAO packing instructions (IATA) : Forbidden  
CAO max net quantity (IATA) : Forbidden  
Special provisions (IATA) : A2, A131, A1  
ERG code (IATA) : 10P

### - Inland waterway transport

No data available

### - Rail transport

No data available

### 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

#### 15.1.1. National regulations

Local regulations (Turkey) : Regulation on Health and Safety Precautions When Working with Carcinogenic and Mutagenic Substances published in the Official Journal numbered 28730 on August 6, 2013  
Regulation on Health and Safety Precautions When Working with Chemical Substances published in the Official Journal numbered 28733 on August 12, 2013  
Personal Protective Equipment Regulation published in the Official Journal numbered 26361 on November 29, 2006  
Regulation on Use of Personal Protective Equipments in Workplaces published in the Official Journal numbered 28695 on July 2, 2013  
Aerosol Containers Regulation published in the Official Journal numbered 24246 on November 30, 2000  
Regulation on Transportation of Dangerous Goods by Road published in the Official Journal numbered 28801 on October 24, 2013  
Simple Pressurized Containers Regulation published in the Official Journal numbered 29877 on November 3, 2016.

This product doesn't contain any substances that is controlled or prohibited for use according to the Regulation for Reduction of Ozone Depleting Substances published in the Official Journal numbered 27052 on November 12, 2008.

Restrictions on use : Restricted to professional users (Annex XVII REACH).

## SECTION 16: Other information

Abbreviations and acronyms:

	ATE - Acute Toxicity Estimate
	CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
	REACH - Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
	EINECS - European Inventory of Existing Commercial Chemical Substances
	CAS# - Chemical Abstract Service number
	PPE - Personal Protection Equipment
	LC50 - Lethal Concentration to 50 % of a test population
	RMM - Risk Management Measures
	PBT - Persistent, Bioaccumulative and Toxic
	vPvB - Very Persistent and Very Bioaccumulative
	STOT- SE : Specific Target Organ Toxicity - Single Exposure
	CSA - Chemical Safety Assessment
	EN - European Standard
	UN - United Nations
	ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road



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	IATA - International Air Transport Association
	IMDG code - International Maritime Dangerous Goods
	RID - Regulations concerning the International Carriage of Dangerous Goods by Rail
	WGK - Water Hazard Class
	STOT - RE : Specific Target Organ Toxicity - Repeated Exposure

Data sources : Classification according to Classification, Labelling and Packaging of Substances and Mixtures (SEA) Regulation published in the Official Journal numbered 28848 on December 11, 2013.

Training advice : Ensure operators understand the flammability hazard. Users of breathing apparatus must be trained. Ensure operators understand the toxicity hazard.

Other information : Classification using data from databases maintained by the European Industrial Gases Association (EIGA).

### Full text of H-statements

Acute Tox. 3 (Inhalation:gas)	Acute toxicity (inhalation:gas) Category 3
Carc. 1B	Carcinogenicity, Category 1B
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Flam. Gas 1	Flammable gases, Category 1
Muta. 1B	Germ cell mutagenicity, Category 1B
Press. Gas (Liq.)	Gases under pressure : Liquefied gas
Skin Irrit. 2	Skin corrosion/irritation, Category 2
STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation
H220	Extremely flammable gas.
H280	Contains gas under pressure; may explode if heated.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H331	Toxic if inhaled.
H335	May cause respiratory irritation.
H340	May cause genetic defects.
H350	May cause cancer.

### Safety Data Sheet author's

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*This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.*