



Version 1: October 2019

Date 30.10.2019

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

### 1.1. Product Identifier

Mixture identification: MONOETHYLENE GLYCOL  
Trade name: THUNDER EG

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

Recommended use:  
Antifreeze / Coolant.

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

Company:  
GAS-SERVEI, SA.  
C/ Motores, 151-155 nave nº 9  
08038 Barcelona  
ESPAÑA  
Tel: +34 (93) 2231377  
Fax: +34 (93) 2231479  
[www.gas-servei.com](http://www.gas-servei.com)

#### Competent person responsible for the safety data sheet:

gas-servei@gas-servei.com

### 1.4. Emergency telephone number

Gas- servei: + 34 619373605  
National Institute of Toxicology (Spain) : + 34 (91) 5620420

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

#### EC regulation No. 1272/2008 (CLP):

Acute Tox. 4: Toxicity, oral, Category 4, H302 - Harmful if swallowed.

STOT RE 2: Specific target organ toxicity (repeated exposure), Category 2 (kidney), H373 - May cause damage to organs (kidney) through prolonged or repeated exposure.

Repr. 2: Reproductive toxicity (the unborn child). Category 2, H361d - Suspected of damaging the unborn child.

### 2.2. Label elements

Symbols:



Warning

Hazar

Hazard statements:

H302 Harmful if swallowed.

H361d Suspected of damaging the unborn child.

H373 May cause damage to organs (kidney) through prolonged or repeated exposure.

Precautionary statements:

P102 Keep out of reach of children.

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

P264: Wash thoroughly after handling.  
 P301 + P310 IF SWALLOWED: Immediately call a POISON CENTRE/doctor.  
 P314: Get medical advice/attention if you feel unwell.

### 2.3. Other hazards


Not a PBT or vPvB substance or mixture.

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

N.A.

### 3.2. Mixtures

Components	Concentration (% w/w)	CAS No.	EC No.	REACH No.	Classification
					Regulation CE N°1272/2008
Ethylene glycol	92-96%	107-21-1	203-473-3	01-2119456816-28-XXXX	 Acute Tox. 4/H302; SOT RE 2/H373
Sodium 2 ethylhexanoate	4-8%	19766-89-3	243-283-8	-	RrRepr. 2/H361d

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

IF exposed or concerned: Get medical advice/attention. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.



#### In case of skin contact:

Wash off with soap and water. Get medical attention if irritation develops and persists.

#### In case of eyes contact:

Rinse with water. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.

#### In case of Ingestion:

Rinse mouth. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Get medical advice/attention if you feel unwell.

#### In case of Inhalation:

Move to fresh air. Call a physician if symptoms develop or persist.

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

Convulsions. Dizziness. Nausea, vomiting. Abdominal pain. Oedema. Prolonged exposure may cause chronic effects.

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

Provide general supportive measures and treat symptomatically. Keep victim warm. Keep victim under observation. Symptoms may be delayed.

## SECTION 5: Firefighting measures

### Generally

No unusual fire or explosion hazards noted.

### 5.1. Extinguishing media

Suitable extinguishing media:

Alcohol resistant foam. Powder. Carbon dioxide (CO<sub>2</sub>).

Extinguishing media which must not be used for safety reasons:

Do not use water jet as an extinguisher, as this will spread the fire.

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

Thermal decomposition may produce smoke, oxides of carbon and lower molecular weight organic compounds whose composition have not been characterised.

### 5.3. Advice for fire-fighters

Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Move containers from fire area if you can do so without risk. Evacuate area.

## SECTION 6: Accidental release measures

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

Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist or vapour.

Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained.

See protective measures under point 7 and 8.

### 6.2. Environmental precautions

Avoid discharge into drains, water courses or onto the ground.

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

Use water spray to reduce vapours or divert vapour cloud drift.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

### 6.4. Reference to other sections

See also section 8 and 13

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood.

Do not breathe mist or vapour. Do not taste or swallow. Avoid prolonged exposure. When using, do not eat, drink or smoke. Should be handled in closed systems, if possible. Provide adequate ventilation. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Respect the rules for the correct handling of chemical products.

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

Store locked up. Store in original tightly closed container. Store away from incompatible materials (see section 10 of the SDS).

### 7.3. Specific end use(s)

Antifreeze / Coolant.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

Substances whose occupational exposure limit values have to be controlled in the workplace

Identification	Occupational limit values		
Ethylene glycol CAS: 107-21-1 CE: 203-473-3	TWA	20 ppm	52 mg/m <sup>3</sup>
	STEL	40 ppm	104 mg/m <sup>3</sup>
	Year	2016	

#### DNEL (Workers):

Identification		Short exposure		Long exposure	
		Systemic	Local	Systemic	Local
Ethylene glycol CAS: 107-21-1 CE: 203-473-3	Oral	Not relevant	Not relevant	Not relevant	Not relevant
	Dermal	Not relevant	Not relevant	106 mg/kg	Not relevant
	Inhalation	Not relevant	Not relevant	Not relevant	35 mg/m <sup>3</sup>

#### DNEL (Population):

Identification		Short exposure		Long exposure	
		Systemic	Local	Systemic	Local
Ethylene glycol CAS: 107-21-1 CE: 203-473-3	Oral	Not relevant	Not relevant	Not relevant	Not relevant
	Dermal	Not relevant	Not relevant	53 mg/kg	Not relevant
	Inhalation	Not relevant	Not relevant	Not relevant	7 mg/m <sup>3</sup>

#### PNEC:

Identification				
Ethylene glycol CAS: 107-21-1 CE: 203-473-3	STP	199,5 mg/L	Freshwater	10 mg/L
	Soil	1,53 mg/kg	Marine water	1 mg/L
	Intermittent	10 mg/L	Sediment (freshwater)	37 mg/kg
	Oral	Not relevant	Sediment (marine water)	3,7 mg/kg

### 8.2. Exposure controls

#### Appropriate technical controls

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

#### Individual protection measures, such as personal protective equipment

##### General information

Personal protection equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment.

##### Eye protection:

Chemical respirator with organic vapour cartridge and full facepiece.

##### Protection for hands:

Wear appropriate chemical resistant gloves. Wear suitable gloves tested to EN374. Full contact: Use gloves classified protection index 6 with breakthrough time of 480 minutes. Minimum glove thickness 0.38 mm. Neoprene, butyl rubber, nitrile or Viton gloves are recommended. Suitable gloves can be recommended by the glove supplier.

**Other**

Wash hands thoroughly after handling. Use of an impervious apron is recommended.

**Respiratory protection:**

Chemical respirator with organic vapour cartridge and full facepiece.

**Thermal Hazards:**

Wear appropriate thermal protective clothing, when necessary.

**Hygiene measures:**

Observe any medical surveillance requirements. Keep away from food and drink. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

**Environmental exposure controls:**

Environmental manager must be informed of all major releases.

**SECTION 9: Physical and chemical properties**

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

**Physical appearance:**

Physical state at 20 °C:	Liquid.
Appearance:	Not determined
Colour:	Colorless
Odour:	Odorless

**Volatility:**

Initial boiling point and boiling range:	197 °C
Vapour pressure at 20 °C:	6 Pa
Vapour pressure at 50 °C:	64 Pa (0 kPa)
Evaporation rate at 20 °C:	Not applicable

**Product characterization:**

Density at 20 °C:	1113 kg/m <sup>3</sup>
Relative density at 20 °C:	1,113
Dynamic viscosity at 20 °C:	21,26 cP
Kinematic viscosity at 20 °C:	19,1 cSt
Kinematic viscosity at 40 °C:	Not applicable
Concentration:	Not applicable
pH:	Not applicable
Vapour density at 20 °C at 20 °C:	Not applicable
Partition coefficient (n-octanol/water at 20 °C):	Not applicable
Solubility in water at 20 °C:	Not applicable
Solubility Property:	Not applicable
Decomposition temperature:	Not applicable
Melting point / freezing point:	-13 °C
Explosive properties:	Not applicable
Oxidizing properties:	Not applicable

**Flammability:**

Flash point:	111 °C
Auto-ignition temperature:	400 °C
Flammability limit – lower:	1,8 % Volume
Flammability limit – upper:	12,8 % Volume

**9.2. Other information**

Surface tension at 20 °C: Not applicable  
 Refractive index: Not applicable

**SECTION 10: Stability and reactivity**

**10.1. Reactivity**

The product is stable and non-reactive under normal conditions of use, storage and transport.

**10.2. Chemical stability**

Material is stable under normal conditions.

**10.3. Possibility of hazardous reactions**

No dangerous reaction known under conditions of normal use.

**10.4. Conditions to avoid**

Applicable for handling and storage at room temperature:

Shock and friction	Air contact	Heating	Sunlight	Humidity
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable

**10.5. Incompatible materials**

Acids	Water	Oxidizing materials	combustible material	Others
Avoid strong acids	Not applicable	Not applicable	Not applicable	Avoid alkalis or strong bases

**10.6. Hazardous decomposition products**

Depending on the decomposition conditions, complex mixtures of chemical substances can be released as a result: carbon dioxide (CO<sub>2</sub>), carbon monoxide and other organic compounds.

**SECTION 11: Toxicological information**

**11.1. Information on toxicological effects**

There are no experimental data on the product itself related to toxicological properties.

Contains glycols, possibility of dangerous health effects, so it is recommended not to breathe their vapors, prolonged.

**Dangerous effects for health:**

In case of repeated exposure, prolonged or at concentrations higher than those established by workplace exposure limits, adverse effects may occur to health depending on the route of exposure:

**a) Ingestion (acute effect):**

Acute toxicity:

Intake considerable dose can cause sore throat, abdominal pain, nausea and vomiting.

Corrosivity / Irritability: Based on the available data, the classification criteria are not met, not presenting substances classified as dangerous for this effect. For more information see section 3.

**b) Inhalation (acute effect):**

Acute toxicity:

Based on the available data, the classification criteria are not met, not presenting substances classified as dangerous for this effect. For more information see section 3.

Corrosivity / Irritability: Based on the available data, the classification criteria are not met, not presenting substances classified as dangerous for this effect. For more information see section 3.

**c) Contact with skin and eyes (acute effect):**

Skin contact: Based on the available data, the classification criteria are not met, not presenting substances classified as dangerous for this effect. For more information see section 3.

Eye contact: Based on the available data, the classification criteria are not met, not presenting substances classified as dangerous for this effect. For more information see section 3.

**d) CMR effects (carcinogenicity, mutagenicity and reproduction toxicity):**

Carcinogenicity: Based on the available data, the classification criteria are not met, not presenting substances classified as dangerous for this effect. For more information see section 3.

Germ cell mutagenicity: Based on the available data, the classification criteria are not met, not presenting substances classified as dangerous for this effect. For more information see section 3.

Reproductive toxicity: Suspected of damaging the unborn child.

**e) Sensitisation effects:**

Respiratory: Based on the available data, the classification criteria are not met, not presenting substances classified as dangerous with sensitizing effects above the limits set out in section 3.2 of Regulation (EC) 2015/830. For more information see section 3.

Skin: Based on the available data, the classification criteria are not met, not presenting substances classified as dangerous for this effect. For more information see section 3.

**f) Specific target organ toxicity (STOT) - single exposure:**

Based on the available data, the classification criteria are not met, not presenting substances classified as dangerous for this effect. For more information see section 3.

**g) Specific target organ toxicity (STOT) - repeated exposure:**

Harmful health effects in case of ingestion repetitively, causing depression of the central nervous system causing headache, dizziness, nausea, vomiting, confusion and in case of serious condition, loss of consciousness. May cause damage to organs (kidney) through prolonged or repeated exposure.

Skin: Based on the available data, the classification criteria are not met, not presenting substances classified as dangerous for this effect. For more information see section 3.

**h) Aspiration hazard:**

Based on the available data, the classification criteria are not met, not presenting substances classified as dangerous for this effect. For more information see section 3.

**Additional Information:**

Not relevant

**Specific toxicological information of the substances:**

Identification	Acute toxicity		Species
	Ethylene glycol CAS: 107-21-1 CE: 203-473-3	LD50 Oral	
	LD50 Skin	> 3500 mg/kg	Mouse
	CL50 Inhalation	> 2,5 mg/l, 6 Hours	Rat

**SECTION 12: Ecological information**

**12.1. Toxicity**

Identification	Acute toxicity		Species	Aquatic
	Ethylene glycol CAS: 107-21-1 CE: 203-473-3	LC50		
	EC50	51000 mg/l, 48 Hours	Daphnia magna	Crustacea
	EC50	24000 mg/L (168 h)	Selenastrum capricornutum	Alga

**12.2. Persistence and degradability**

Identification	Degradability		Biodegradability	
	Ethylene glycol CAS: 107-21-1 CE: 203-473-3	BOD5	0.47 g O2/g	Concentration
	COD	1.29 g O2/g	Time frame	14 days
	BOD5/COD	0.36	% Biodegraded	90%

**12.3. Bioaccumulative potential**

Identification	Bioaccumulative potential	
	Ethylene glycol CAS: 107-21-1 CE: 203-473-3	BCF
	Log POW	-1,36
	Potential	Low

**12.4. Mobility in soil**

Identification	Absorption / Desorption		Volatility	
	Ethylene glycol CAS: 107-21-1 CE: 203-473-3	Koc	0	Henry
	Conclusion	Very high	Dry soil	No
	Surface tension	4,989E-2 N/m (25 °C)	Wet soil	No

**12.5. Results of PBT and vPvB assessment**

vPvB Substances: None - PBT Substances: None

**12.6. Other adverse effects**

No data available.

**SECTION 13: Disposal considerations**

**13.1. Waste treatment methods**

Code	Description	Type of waste (Regulation (EU) No. 1357/2014)
	It is not possible to assign a specific code, since it depends on the use to which the user allocates	Dangerous

**Residual waste:**

Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

**Contaminated packaging:**

Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

**Disposal methods/information:**

Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.

**SECTION 14: Transport information**

**14.1. to 14.6. (ADR / RID / IMDG / IATA).**

This product is not regulated for transport

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

Not applicable for product as supplied.



## SECTION 15: Regulatory information

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

Regulation EC n.1272/2008 (CLP) and Regulation (EU) n. 2015/830 which replaces Annex II of the Regulation 1907/2006.

This Safety Data Sheet has been prepared in accordance with the current European Directives.

Regulation (EC) No. 1907/2006, REACH Article 59(10) Candidate List as currently published by ECHA: Not listed.  
Substances included in Annex XIV of REACH (authorization list) and expiration date: Not listed.

Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, Annex I and II, as amended: Not listed.

Active substances which have been included in Article 95 of Regulation (EU) No. 528/2012: Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals: Not listed.

#### Restrictions on the marketing and use of certain hazardous substances and mixtures (Annex XVII of the REACH regulation, etc ...):

Not listed.

#### Special provisions regarding the protection of people or the environment:

It is recommended to use the information collected in this safety data sheet as input data in a risk assessment of local circumstances in order to establish the necessary risk prevention measures for the handling, use, storage and disposal of this product

### 15.2. Chemical Safety Assessment

A chemical safety assessment has not been conducted for this product.

## SECTION 16: Other information

This safety data sheet has been prepared in accordance with Regulation (EC) n ° 2015/830 which replaces Annex II of Regulation 1907/2006

The information contained herein is based on our state of knowledge at the above-specified date. It refers solely to the product indicated and constitutes no guarantee of particular quality.

It is the duty of the user to ensure that this information is appropriate and complete with respect to the specific use intended.

This MSDS cancels and replaces any preceding release.

#### Text of phrases referred to under heading 2 and 3:

H302 Harmful if swallowed.

H361d Suspected of damaging the unborn child.

H373 May cause damage to organs (kidney) through prolonged or repeated exposure.

The enumeration of the risks, legal, regulation and administrative texts they are not exhaustive, since responsible only one will correspond (fit) to the addressee or user of the product to be sent to the official regulations of storage, manipulation and utilization of these products.

#### GLOSSARY:

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

BCF: Bioconcentration Factor

BOD5: Biological oxygen demand at 5 days

CAS: Chemical Abstracts Service

CLP: Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008

COD: Chemical oxygen demand

GHS: Globally Harmonized System.

LC50: Lethal Concentration to 50 % of a test population



## SAFETY DATA SHEET -THUNDER EG-

- LD50: Lethal Dose to 50% of a test population (Median Lethal Dose)
- IATA: International Air Transport Association
- IMDG: International Maritime Dangerous Goods
- TWA: Time weighted average.
- STEL: Short term exposure limit.