

## SECTION 1 - IDENTIFICATION

### 1.1 Product identifier

Product name: **METHANOL**

Product Identifier: 05085

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

Relevant identified uses: Solvent.

### 1.3 Details of the supplier of the Safety Data Sheet

#### **YPF S.A.**

Macacha Güemes n° 515, (C1106BKK) Puerto Madero, Ciudad Autónoma de Buenos Aires, Argentina.  
P: +54 11 5441 2000. F: +54 11 5441 5796.

### 1.4 Emergency telephone number

**Emergency phone (24 hours):** CIQUIME 0800 222 2933 (from Argentina)  
+54 11 4552 8747 (other countries)

## SECTION 2 – HAZARD IDENTIFICATION

### 2.1 Classification of the substance or mixture

#### **Classification according to the Globally Harmonized System**

Flammable liquids (Category 2)

Acute toxicity, oral (Category 3)

Acute toxicity, inhalation (Category 3)

Acute toxicity, dermal (Category 3)

Specific target organ toxicity – single exposure (Category 1)

### 2.2 Label elements

#### **Pictogram:**



DANGER

#### **Signal word:**

#### **Hazard statements:**

H225 - Highly flammable liquid and vapour.

H301 - Toxic if swallowed.

H311 - Toxic in contact with skin.

H331 - Toxic if inhaled.

H370 - Causes damage to organs.

#### **Precautionary statements:**

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

P370 + P378 - IN CASE OF FIRE: Use water spray, foam, dry chemical or carbon dioxide to extinguish.

P403 + P235 - Store in a well-ventilated place. Keep cool.

P501 - Dispose of contents and/or container in accordance with national and international regulations.

P301 + P330 + P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.

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.

P260 - Do not breathe fume, mist, vapours or spray.

P280 - Wear protective gloves.

P271 - Use only outdoors or in a well-ventilated area.

P362 + P364 - Take off contaminated clothing and wash it before reuse.

P405 - Store locked up.

P501 - Dispose of contents and/or container in accordance with national and international regulations.

P321 - Specific treatment for methanol.

### 2.3 Other hazards

## SECTION 3 - COMPOSITION / INFORMATION ON INGREDIENTS

### 3.1 Substance

Methanol (CAS 67-56-1): 100% - Flam. Liquid 2; Acute Tox. 3; STOT Single Exp. 1 (optic nerve, central nervous system)

## SECTION 4 – FIRST-AID MEASURES

### 4.1 Description of first aid measures

General advice:	Avoid exposure to the product and take appropriate protective measures. Consult your doctor with the safety data sheet.
Inhalation:	Move victim to an area with clean air. Keep her at rest. If not breathing, apply artificial respiration. Call the doctor.
Skin contact:	Immediately wash skin with plenty of soap and water for at least 15 minutes.
Eye contact:	Immediately flush eyes with water for at least 15 minutes, keeping eyelids open. If you have contact lenses, remove them after 5 minutes and continue rinsing eyes. Consult the doctor.
Ingestion:	DO NOT INDUCE VOMITING. Rinse mouth with water. If the victim is unconscious, call a doctor immediately, and turn her on her side to reduce the risk of aspiration. Do not give the victim anything to drink or eat.

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

Toxic by inhalation, by ingestion and in contact with the skin. It can cause headache, dizziness, nausea, weakness, blurred vision, blindness, unconsciousness, and even death.

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

Medical advice: Evaluate carrying out the specific treatment for products with methanol. For more information, consult a Poison Center.

## SECTION 5 – FIRE-FIGHTING MEASURES

### 5.1 Extinguishing media

Use dry chemical, foam (may be required AR-foam), water spray or carbon dioxide (CO<sub>2</sub>). DO NOT USE water jets as it may spread fire.

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

FLAMMABLE. Container and/or tank subjected to heat may unexpectedly explode and project dangerous fragments. Vapors are heavier than air and may spread along floors.

### 5.3 Advice for firefighters

#### 5.3.1 Firefighting instructions

Spray containers and/or tanks with water to keep them cool.

Continue cooling with water after fire is out.

Prevent water used for fire control from entering watercourses, drains or springs.

Hot material can cause violent boiling when in contact with water, being able to project and cause serious burns.

#### 5.3.2 Protective clothing

Use SCBA and structural protection clothing for firefighters.

#### 5.3.3 Hazardous combustion products

In case of fire, it may release irritating and/or toxic fumes and gases, such as carbon monoxide, and other substances derived from incomplete combustion.

## SECTION 6 – ACCIDENTAL RELEASE MEASURES

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

#### 6.1.1 For non-emergency personnel

Evacuate personnel to a ventilated area.

#### 6.1.2 For emergency responders

In case of spill with fire, avoid contact with the product. If contact is likely, wear a fully chemical resistant firefighting suit and self-contained breathing apparatus. If firefighting gear is not available, wear chemical-resistant clothing and self-contained breathing apparatus and fight fire from a remote location.

In the event of a non-fire spill, or in the post-fire cleanup phase, wear chemical resistant clothing that is specifically recommended by the manufacturer.

Eliminate all sources of ignition (no smoking, flares, sparks or open flames in danger area). Ground all equipment used to handle the product. Stop leak if you can do it without risk. Do not touch contaminated objects or areas or walk on the spilled material. You can use foam to reduce the emission of vapors. Do not allow reuse of spilled product.

### 6.2 Environmental precautions

Contain spilled liquid with a dam or barrier. Prevent entry into navigable waterways, sewers, basements or uncontrolled confined areas.

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

Contain and recover the liquid when possible. Collect the liquid product with sand, vermiculite, earth, or inert absorbent material and then completely clean the affected area. Dispose of the waste properly. Dispose of the water and collected waste in marked containers for disposal as waste.

### 6.4 Reference to other sections

See Section 8 - Exposure Controls and Personal Protection, and Section 13 – Disposal considerations.

## SECTION 7 – HANDLING AND STORAGE

### 7.1 Precautions for safe handling

Do not eat, drink or smoke during handling. Avoid contact with eyes, skin and clothing. Wash arms, hands, and nails after handling. Facilitate access to safety showers and eyewash emergency.

Use equipment and clothing that prevents the accumulation of electrostatic charges. Monitor and avoid explosive atmosphere formation.

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

Store in a clean, dry, well-ventilated area. Protect from sunlight. Containers, even those that have been emptied, may contain vapors. Do not cut, drill, grind, weld or perform similar operations on or near empty containers.

Packaging materials: Supplied by the manufacturer.

Incompatibilities: Keep away from Strong oxidizing agents, acids and bases, acetaldehyde, ethylene oxide, isocyanates and active metals.

### 7.3 Specific end use(s)

Solvent.

## SECTION 8 – EXPOSURE CONTROLS / PERSONAL PROTECTION

### 8.1 Control parameters

TLV-TWA (ACGIH):	200 ppm [2009]
TLV-STEL (ACGIH):	250 ppm [2009]
PEL (OSHA):	200 ppm
	REL: 200 ppm; Methanol REL-STEL: 250 ppm
IDLH (NIOSH):	6000 ppm

## 8.2 Exposure controls

### 8.2.1 Appropriate engineering controls

Keep workplace ventilated. The normal routine ventilation is usually adequate. Local hoods should be used for operations that produce or release large amounts of product. In low or confined areas should be provided mechanical ventilation. Provide showers and eyewash stations.

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

Eye and face protection:	When necessary, wear safety glasses complying with EN 166.
Skin protection:	When necessary, wear impermeable protective PVC, nitrile or butyl gloves (complying with standards EN 374), clothes and safety footwear resistant to chemicals.
Respiratory protection:	When necessary, wear an organic gas or steam (A) respirator. Special attention to oxygen levels in the air should be paid.

## SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

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

Appearance:	Liquid.
Colour:	Colorless
Odour:	Alcoholic.
Odour threshold:	N/D
pH:	7
Melting point:	-98°C (-144°F)
Boiling point:	63,9°C (147°F)
Evaporation rate:	N/D
Flammability:	The product is flammable.
Flash point:	11,1°C (52°F)
Explosive limits:	6,0% - 36%
Auto-ignition temperature:	464°C (867,2°F)
Decomposition temperature:	N/D
Vapour pressure (20°C):	129 hPa
Vapour density (air=1):	1,1
Relative density (20°C):	0,79 g/cm <sup>3</sup>
Solubility (20°C):	soluble
Partition coefficient (logKo/w):	-0,74
Viscosity (20°C):	N/D
Henry constant (20°C):	N/D

Explosive properties:	Not explosive. According to column 2 of REACH Annex VII, this study is not necessary because: in the molecule there are no chemical groups associated with explosive properties.
Oxidizing properties:	According to column 2 of REACH Annex VII, this study is not necessary because: the substance, due to its chemical structure, cannot react exothermically with combustible materials.

## 9.2 Other information

Other properties:	Heat of vaporization: 39.2 KJ/mol Surface tension (20°C): 22.61 mN/m
-------------------	---

# SECTION 10 – STABILITY AND REACTIVITY

## 10.1. Reactivity

Reactions or decompositions of the product are not expected to occur under normal conditions of storage. Does not contain organic peroxides. Methanol can be corrosive to lead and aluminum and attack some plastics and rubbers. It does not react with water.

## 10.2. Chemical stability

Does not cause dangerous reactions if handled and stored according to regulations. Stored at normal room temperatures (-40°C to +40°C), the product is stable and does not require stabilizers.

## 10.3. Possibility of hazardous reactions

Material will not develop hazardous polymerization

## 10.4. Conditions to avoid

Avoid high temperatures. Methanol can be corrosive to lead and aluminum and will attack some plastics and rubbers.

## 10.5. Incompatible materials

Keep away from Strong oxidizing agents, acids and bases, acetaldehyde, ethylene oxide, isocyanates and active metals.

## 10.6. Hazardous decomposition products

When heated, it may release toxic and irritating vapors. In case of fire, see section 5.

## SECTION 11 – TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

#### Acute toxicity:

There is no information on the toxicity of the product, but estimates of acute toxicity are presented.

ETA-LD50 oral (calc.): 50 - 300 mg/kg

ETA-LD50 skin (calc.): 200 - 1000 mg/kg

ETA-LD50 inh. (4 hs., calc.): 0,05 - 0,5 mg/l

Skin irr. (rabbit, estim.): not irritant

Eye irr. (rabbit, estim.): not irritant

Skin sens (Guinea pig, estim.): not sensitising

Resp. sens (Guinea pig, estim.): not sensitizing

#### **Carcinogenicity, mutagenicity, reproductive toxicity and other effects:**

Carcinogenicity: No information is available on any component of this product, present at levels greater than or equal to 0.1%, that is classified as probable, possible or confirmed human carcinogen by IARC (International Agency for Research on Cancer).

Mutagenicity: There are no components of this product, present at a concentration greater than or equal to 0.1%, that classify as mutagens according to the GHS.

Tox. Repr.: There are no components of this product, present at a concentration greater than or equal to 0.1%, that classify as hazardous for reproduction according to the GHS.

Teratogenicity: There are no components of this product, present at a concentration greater than or equal to 0.1%, that classify as a teratogen.

STOT-SE: Causes effects in specific organs after exposure to the product.

STOT-RE: There are no components of this product, present at a concentration greater than or equal to 1%, that they classify as toxic to target organs according to the GHS.

Aspiration: There are no components of this product, present at a concentration greater than or equal to 10%, that classify as toxic by aspiration according to the GHS.

#### **Acute and delayed effects:**

Routes of exposure: Inhalation, skin and eye contact.

Toxic by inhalation, by ingestion and in contact with the skin. It can cause headache, dizziness, nausea, weakness, blurred vision, blindness, unconsciousness, and even death.

## SECTION 12 – ECOLOGICAL INFORMATION

### 12.1. Toxicity

There is no information about the ecotoxicity of the product, but acute toxicity estimations are presented. ATE-

EC50 (fish, calc., 96 h): > 100 mg/l

ATE-EC50 (inv., calc., 48 h): > 100 mg/l

ATE-EC50 (algas, calc., 72 h): > 100 mg/l

ATE-NOEC (fish, calc., 14 d): > 1 mg/l

ATE-NOEC (inv., calc., 14 d): > 1 mg/l

PNEC (water): N/D

PNEC (sea): N/D

PNEC-STP: N/D

### 12.2. Persistence and degradability

BIODEGRADABILITY: The product is readily biodegradable.

### 12.3. Bioaccumulative potential

Log  $K_{ow}$ : -0,74

BIOCONCENTRATION FACTOR - BCF (OCDE 305): N/D

### 12.4. Mobility in soil

HENRY CONSTANT (20°C): N/D

LogKoc: N/D .

### 12.5. Results of PBT and vPvB assessment

This product does not meet the PBT criteria of Annex XIII of REACH. This product does not meet the vPvB criteria in Annex XIII of REACH.

### 12.6. Other adverse effects

AOX and metal containing: Does not contain organic halogens nor metals.

## SECTION 13 – DISPOSAL CONSIDERATIONS

Dispose of excess product and empty containers according to current legislation for the protection of the environment and hazardous waste. Disposal procedure: incineration.

## SECTION 14 – TRANSPORT INFORMATION

### 14.1 Transport by land

Proper Shipping Name:	METHANOL
UN/ID Number:	1230
Hazard class:	3 (6.1)
Packing group:	II
Hazard identification number:	336
Excepted and limited quantity:	333 / 1 L
Special provisions:	279





## 14.2 Air transport (ICAO/IATA)

Proper Shipping Name: METHANOL  
UN/ID Number: 1230  
Hazard class: 3 (6.1)  
Packing group: II  
PAX and Cargo Packing instructions: Y341; 1L / 352; 1L  
Cargo Packing instructions: 364; 60L  
ERC: 3L  
Special provisions: A104; A113



## 14.3 Sea transport (IMO)

### IMDG Code

Proper Shipping Name: METHANOL  
UN/ID N°: 1230  
Hazard class: 3 (6.1)  
Packing group: II  
EMS: F-E, S-D  
Stowage and manipulation: Category B; SW2  
Segregation: —  
Marine pollutant: NO  
Proper Shipping Name: UN1230; METHANOL; Class 3 (6.1); PG II



## SECTION 15 – REGULATORY INFORMATION

Not dangerous for the ozone layer.  
Volatile organic compounds (VOC's): N/D  
NFPA: 2 3 0 - EPP: G

### Regulation

Globally Harmonized System of Classification and Labelling of Chemicals, fifth revised edition, 2013 (GHS 2013 - 'ST / SG / AC 10/30 / Rev.5'). The fifth edition is taken into consideration because it is the one valid for Argentina according to Resolution 801/2015 of the SRT. In any case, the information is contrasted with Revision 7 ('ST / SG / AC 10/30 / Rev.7') and clarification is made if required.

Agreement on Transport of Dangerous Products within the MERCOSUR, MERCOSUR\CMC\DEC N° 2/94.

European Agreement on the International Carriage of Dangerous Goods by Road (ADR 2021) and amendments.

Regulations concerning the International Carriage of Dangerous Goods by Rail (RID 2021) and amendments.

International Maritime Dangerous Goods Code (IMDG 2020 - Amendment 40-20), International Maritime Organization (IMO).

Regulations of the International Air Transport Association (IATA 63 ed., 2022) on the transport of dangerous goods by air.

## SECTION 16 – OTHER INFORMATION

### 16.1 Abbreviations and acronyms

N/A: not applicable.

N/D: no data available.

CAS: Chemical Abstracts Service

IARC: International Agency for Research on Cancer

ACGIH: American Conference of Governmental Industrial Hygienists.

TLV: Threshold Limit Value

TWA: Time Weighted Average

STEL: Short Term Exposure

REL: Recommended Exposure Limit.

PEL: Permissible Exposure Limit.

INSHT: National Institute for Safety and Health at Work.

ATE: Acute toxicity estimate.

LD50: Lethal Dose.

LC50: Lethal Concentration.

EC50: Average Effective Concentration.

IC50: Inhibitory Concentration Medium.

#### DENOMINATION OF GHS CLASSES

Aer.: aerosols

Oxid. Gas: oxidizing gas

Compressed gas: compressed gas

Dissolved gas: dissolved gas

Flam. Gas: flammable gas

Liquefied Refr. Gas: refrigerated liquefied gas

Liquefied gas: liquefied gas

Oxid. Liquid: oxidizing liquid

Flam. Liquid: flammable liquid

Pyr. Liq.: pyrophoric liquid

Met. Corr.: corrosive for metals

Org. Perox.: organic peroxide

Water React. Flam. Gas: substance reactive with water, which emits flammable gases

Oxid. Solid: oxidizing solid

Flam. Solid: flammable solid

Asp Tox.: aspiration toxicity

Carc.: carcinogenicity

Skin Corr. / Irrit.: Corrosion / skin irritation

Eye Damage / Irrit.: Serious eye damage / eye irritation

Lac.: toxic for reproduction - lactation

Muta.: mutagenicity

Repr.: toxic for reproduction

Skin Sens.: skin sensitizer

Resp. Sens.: respiratory sensitizer

STOT Rep. Exp.: Specific target organ toxicity - repeated exposure

STOT Single Exp.: Specific target organ toxicity - single exposure

Acute Tox.: Acute toxicity

Aquatic Acute: Hazardous to the aquatic environment - acute danger

Aquatic Chronic: Dangerous for the aquatic environment - chronic danger

Ozo.: Dangerous for the ozone layer.

### 16.2 Key literature references and sources for data

International Agency for Research on Cancer (IARC), carcinogen classification.

European Regulation 1272/2008, Classification, labeling and packing (CLP)

### 16.3 Classification and procedure used to derive the classification for mixtures

The classification was performed based on chemical analogues and product information compiled by CIQUIME.

SECTION 2: classification by analogy with other products, and based on product data in CIQUIME database.

SECTION 9: product data.

SECTION 11 and 12: calculation of acute toxicity estimation according to GHS, product data and bibliographic data.

Change's control: v.17 - Adaptation to the GHS.

#### 16.4 Disclaimer

This information only concerns the above-mentioned product and is not to be valid for other (s) product (s) or in any process. This safety data sheet provides health and safety information. The information is to our best knowledge, correct and complete. It is given in good faith but without warranty. The product should be used in applications consistent with our product literature. Individuals handling this product should be in-formed of the recommended safety precautions and should have access to this information. For any other use, exposure should be evaluated so that they can implement appropriate handling practices and training programs to ensure safe operations in the workplace.

It remains the user's own responsibility that this information is appropriate and complete for the special use of this product.