



MATERIAL SAFETY DATA SHEET

(According to GHS rev. 4)

POLISOL

1.IDENTIFICATION

Company: YPF S.A. Address: Av. Macacha Güemes n° 515 CP C1106BKK Buenos Aires - ARGENTINA Tel# (+ 5411) 5441-2000 Fax# (+ 5411) 5441-5796	Commercial name: POLISOL. Chemical name: Polymer mixture of butenes.
	Synonyms:
	Emergency Telephone: Argentina: 0800-222-2933 Other countries: (+5411) 4613-1100

2.HAZARD IDENTIFICATION

2.1 LABEL ELEMENTS

Pictograms	{Sección 2 - Símbolos Imágenes 1}	{Sección 2 - Símbolos Imágenes 2}	{Sección 2 - Símbolos Imágenes 3}
Warning word			
Hazard statement			
Classification criteria			
Other regulations			
OTHER HAZARDS			

3.COMPOSITION/INFORMATION ON INGREDIENTS

General composition: Dimmers and trimmers mixture of butenes.

Main components	Range %	Classification	S Phrases
NP			

4. FIRST-AID MEASURES

Inhalation: Move the affected person to fresh air. If breathing is difficult, apply artificial respiration or administer oxygen. Call for medical attention.

Ingestion/Aspiration: If conscious, give the affected person some water. Call for medical attention.

Contact skin/eyes: Remove contaminated clothing and shoes. Wash the affected area thoroughly with soap and water. In case of burns by contact with heated product, cool quickly with plenty of water. Do not remove the solidified product without medical assistance. Call for medical attention . Flush with copious amounts of water for up to 15 minutes. Call for medical attention.

General measures: Call for medical attention.

5. FIRE-FIGHTING MEASURES

Extinguishing agents: CO₂, dry chemical powder and foam AFFF.

Non suitable extinguishing agents: WATER SHOULD NEVER BE USED DIRECTLY.

Combustion products: CO₂, H₂O and CO (in case of incomplete combustion).

Special measures: Move container from fire area if it can be done without risk. Apply cooling water to the containers sides exposed to flames until well after fire is out. Stay away from tank. In case of massive fire in cargo area, use unmanned hose holder or monitor nozzles; if fire goes out of control, withdraw from area and let fire burn. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tank wall due to fire. Consult and follow existing emergency standard procedures.

Special hazards: Flammable liquid. Vapours or fumes may travel long distances to sources of ignition and flash-back.

Protective equipment: Fire fighters' protective clothing. Self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

Environmental precautions: Spillages form a film over water surface, which avoid oxygen transfer.

Cleanup methods: Small spillages: Take up with non-combustible absorbent materials. Transfer to sealed containers for later disposal.

Large spillages: Avoid product dispersion with mechanical barriers. Dike far ahead of liquid spill and aspirate liquid into closed containers for later disposal.

Personal precautions: Avoid contact with the product or contaminated clothing and inhalation of vapours or fumes from heated product.

Personal protection: Suitable protective clothing. Gloves, safety goggle and complete face-shield. Self-contained breathing apparatus.

7. HANDLING AND STORAGE

Handling:

General precautions: Use protective clothing including respiratory protection to avoid contact with the product and inhalation of vapours or fumes from heated product. In the areas where the product is stored, handled or used, keep all ignition sources away and do not smoke, eat or drink. Product transfer must be done in earthed, airtight conducts. Electrically ground all equipment when handling this product and use only non-sparking tools.

Specific conditions: Good local exhaust ventilation.

Specific Use: Emulsion.

Storage:

Temperature and decomposition products: NP.

Dangerous reactions: Risk of depolymerization and low boiling point vapours or fumes generation above 280°C.

Storage conditions: Keep the product in properly sealed and labelled containers in cool and well-ventilated place. Keep them away from ignition sources and incompatible materials.

Incompatible materials: Oxidizers.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Personal protection:

Eye protection: Safety goggles. Face-shield complete.

Respiratory protection: Respiratory protection to avoid inhalation of vapours or fumes from heated product.

Skin protection: Gloves (PVC or hydrocarbons resistant) and suitable protective clothing.

Other protective equipment: Showers and eye-washers in working area.

General precautions: Good local exhaust ventilation. Avoid direct contact with the product and vapour or fumes inhalation from heated product.

Specific hygiene measures: Contaminated clothing should be removed. Good work practices and the adoption of good personal hygiene measures reduce unnecessary exposures. Care should be taken to ensure proper skin cleaning by washing thoroughly with soap and water, followed by the application of a skin re-conditioning cream. Use skin reconditioning cream after work.

Exposure controls: NP

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Oil transparent liquid.

pH: NP

Colour: Yellowish.

Odour: Characteristic.

Boiling point: NP

Melting/Freezing point: NP

Flash point: 25 °C (ASTM D-92)

Autoignition temperature: NP.

Explosive properties: NP

Oxidizing properties: NP

Vapour pressure: NP

Density: 0.79 g/m³ at 15°C (ASTM D-1298)

Surface tension: NP

Viscosity: (at 37.8°C) 2.5 cSt (ASTM D-445)

Vapour density:

Partition coefficient (n-octanol/water): NP

Water solubility: Insoluble.

Solubility:

Other data: Molecular weight: 160-190

Chloride: 100 ppm. (ASTM D-2522)

Sulphur: 6 ppm. (PLP AN-0100)

Nitrogen: 2 ppm. (PLP AN-0100)

10. STABILITY AND REACTIVITY

Stability: Flammable.

Conditions to avoid: Exposure to flames, heat, sparks and static electricity.

Materials to avoid: Oxidizers.

Hazardous decomposition/combustion products: CO₂, H₂O and CO (in case of incomplete combustion).

Polymerizations risk: NP

Conditions to avoid: NP

11. TOXICOLOGICAL INFORMATION

Routes of exposure: Inhalation. Skin and eyes contact. Ingestion is easy to avoid

Acute and chronic effects: Vapours from heated product may cause respiratory system, skin and eyes irritation. Slightly irritant in contact with skin or eyes. Contact with heated product may cause burns.

Carcinogenicity: NP

Reproductive toxicity: No data available.

Medical conditions which increase hazard to exposure: Respiratory deficiencies and dermatological problems.

12. ECOLOGICAL INFORMATION

Pollutant potential:

Persistence and degradability: The product has long hydrocarbon insoluble chains that make biodegradation process difficult. It is not readily removed from water or soil and it has high persistence in the environment.

Mobility/bioaccumulative potential: No data available on this product bioaccumulative problem.

Ecotoxicological effects: No data available.

13. DISPOSAL CONSIDERATIONS

Disposal methods (surplus): Recycling when possible.

Waste: Liquids from industrial processes.

Disposal: Consult with authorized environmental regulatory agencies for guidance on acceptable disposal practices.

Handling: Contaminated materials should be regarded as toxic and dangerous waste and have the same risk and need the same precautions as the product. Do not run off the product to sewers.

Provisions: Companies that recover, dispose, store, transport or handle waste should comply with local and/or national provisions in force on waste management.

14. TRANSPORT INFORMATION

Special precautions: Stable at room temperature and during transport. Transport in properly sealed and labelled containers.

Additional Information:

LAND TRANSPORT:

Proper shipping name :	FLAMMABLE LIQUID, N.O.S.
UN Number :	1993
Hazard class :	Class 3. Classification code: FI. Packing group: III.
Hazard identification number :	30
Packing group :	
Exempt amount :	

AIR TRANSPORT (ICAO/IATA) :

Proper shipping name :	FLAMMABLE LIQUID, N.O.S.
UN Number :	1993
Hazard class :	Class 3. Classification code: FI. Packing group: III.
Packing group :	
CRE :	
Passenger and cargo aircraft :	
Cargo aircraft only :	

MARITIME TRANSPORT (IMDG/IMO) :

Proper shipping name :	FLAMMABLE LIQUID, N.O.S.
UN Number :	1993
Hazard class :	Class 3. Classification code: FI. Packing group: III.
Packing group :	
Marine pollutant :	
Stowage and segregation :	
Ems :	

15. REGULATORY INFORMATION

CLASIFICACION: LABELLING

Symbols: NP

Phrases R: R10: Flammable.

R10 **Phrases S:** S16: Keep away from sources of ignition – No smoking.
S23: Do not breathe vapours.
S33: Take precautionary measures against static discharges.

Other regulations: Butylene is listed in TSCA Inventory (EPA).

16. OTHER INFORMATION

Data Bases consulted

EINECS: European Inventory of Existing Commercial Substances.
HSDB: US National Library of Medicine
RTECS: US Dept. of Health & Human Services.

R phrases show in the document:

Legislation consulted:

Regulation (EC) No 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH).
Dir. 67/548/EEC about classification, labelling and packaging of dangerous substances (including amendments and adaptations in force).
Dir. 1999/45/EC about classification, labelling and packaging of dangerous preparations (including amendments and adaptations in force).
Dir. 91/689/EEC dangerous waste; Dir. 91/156/EEC waste management.
Royal Decree 363/95: Regulation about notification of new substances and classification, packaging and labelling of dangerous substances.
Royal Decree 255/2003: Regulation about classification, packaging and labelling of dangerous preparations.
European Agreement concerning the international carriage of dangerous goods by road (ADR).
Regulation on the international transport of dangerous goods on the railway. (RID)
International maritime code of dangerous goods. (IMDG)
International Air Transport Association (IATA) regulation pertaining to air shipment.

Glossary:

CAS: Chemical Abstract Service

IARC: International Agency for Research on Cancer

TLV: Threshold Limit Value

TWA: Time Weighted Average

STEL: Short-Term Exposure Level

REL: Recommendable Exposure Limit

PEL: Permissible Exposure Limit

VLA: Valor Límite Ambiental

LD₅₀: Lethal Dose Medium

LC₅₀: Lethal Concentration Medium

EC₅₀: Effective Concentration Medium

IC₅₀: Inhibitory Concentration Medium

BOD: Biological Oxygen Demand

NP: Not Pertinent

| : Changes from the last revision.

The information given in this document has been compiled based on the best existing information sources, latest available knowledge and according to the current requirements on classification, packaging and labelling of hazardous substances. It does not imply the information is exhaustive or accurate in all cases. It is the user's responsibility to determine the validity of the information contained in this Material Safety Data Sheet to apply depending on the case.