

MATERIAL SAFETY DATA SHEET

(According to Regulation EC No 1907/2006 - REACH and Regulation EC No 1272/2008 - CLP)

REPSOL COMANDER EHC 46

1. PRODUCT IDENTIFICATION		
Company: REPSOL YPF Lubricantes y Especialidades, S.A. Address: Glorieta del Mar Caribe N°1. 28043 Madrid Tel# 34 913489400 Fax# +34 913483610 e-mail address: FDSRCP@repsol.com	Commercial name: REPSOL COMANDER EHC 46 Chemical name: Trixylyl-phosphate.	
	Synonyms: Fire-proof fluid for vapour turbines regulation.	
	Molecular formula: NP	CAS #: 25155-23-1
	EC (EINECS)#: 246-677-8	Annex I (Dir. 67/548/EEC)#: NP

2. HAZARDS IDENTIFICATION	
PHYSICAL / CHEMICAL	TOXICITY (SYMPTOMS)
Non flammable. Combustible if it is exposed to flames.	Inhalation: Long-term exposures to mists and fumes or vapours from high temperature liquid may cause irritation of the respiratory tract. Ingestion/Aspiration: Accidental intake of large amounts causes irritation of the gastrointestinal tract, nausea , vomiting and diarrhoea. LD ₅₀ : 11800 mg/Kg (oral-mouse); LD ₅₀ : 50-5000 mg/Kg (oral-rat). Contact skin/eyes: Long-term exposures may produce irritation. Repeated exposure to fumes or vapours or liquid causes irritation.
There is not danger of explosion.	
	General toxic effects: Irritation by contact with the liquid, vapours o fumes.

REPSOL COMANDER EHC 46

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1 de 7

3. COMPOSITION

General composition: Trixylyl-phosphate 100%.

Dangerous components	Range %	Classification	S Phrases
NP			

4. FIRST-AID MEASURES

Inhalation: In case of inhalation, remove the affected person to fresh air. Administer oxygen if necessary. Call for medical attention immediately.

Ingestion/Aspiration: Do not induce vomiting. If the affected person is conscious rinse the mouth with plenty of water and call for medical attention immediately.

Contact skin/eyes: Remove contaminated clothing. Flush affected area with plenty of water and soap. Obtain medical attention. Flush immediately with plenty of water during at least 15 minutes and call for medical aid immediately.

General measures: Call for medical attention immediately.

5. FIRE-FIGHTING MEASURES

Extinguishing agents: Foams, dry chemicals, CO₂.

Non suitable extinguishing agents: Water jets may be ineffective because they may disperse the material.

Combustion products: CO₂, H₂O, CO (in defect of air) and harmful gases containing phosphorus oxides.

Special measures: Not required.

Special hazards: NP

Protective equipment: Heat-resistant suit and gloves. Self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

Environmental precautions: The material is not soluble in water. Keep away from sewer and water courses.

Personal precautions: Avoid prolonged contact with contaminated clothes or product and inhalation of fumes or vapours from hot product.

Cleanup methods: Small spillages: Use absorbents such as sand, earth, etc. Large spillages: Dike and pump into containers for later disposal

Personal protection: Gloves, goggles and protective mask to avoid contact or inhalation of vapours from hot product.

7. HANDLING AND STORAGE

Handling:

General precautions: Avoid prolonged contact and inhalation of fumes or vapours from heated liquids. Do not eat, drink or smoke in handling area.

Specific conditions: Protective clothing, safety goggles and gloves are recommended. Keep containers closed when not in use. Local exhaust ventilation in working area.

Storage:

Temperature and decomposition products: When the product burn or by thermal decomposition produces harmful gases containing carbon and phosphorus oxides.

Dangerous reactions: Hydrolysis causes phenols.

Storage conditions: Storage in original containers properly labelled and sealed, placed in cool, dry and well ventilated areas.

Incompatible materials: Do not store in plastic containers based in vinyl resins or containers with rubber or neoprene seals.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Personal protection:

Eye protection: Safety goggles to avoid splashes.

Respiratory protection: In presence of fumes or vapours from heated oils, wear protective masks to avoid inhalation.

Skin protection: Protective clothing and gloves.

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

General precautions: Avoid prolonged contact and inhalation of fumes or vapours from heated oils.

Specific hygiene measures: Do not smoke, eat or drink in working areas. Good personal hygiene measures minimize exposure. Remove and launder contaminated clothing before reuse.

Exposure controls: TLV/TWA (ACGIH): 5mg/m³ [Oil mist]
UK: OEL-TWA (COSHH): 5mg/m³; OEL-STEL: 10mg/m³ [Oil mist]
TLV/STEL (ACGIH): 10 mg/m³ (Oil mist)

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Liquid.

pH: NP

Colour: Colourless.

Odour: None.

Boiling point: >300 °C

Melting/Freezing point: -20°C

Flash point: >220 °C

Autoignition temperature: 575 °C

Explosive properties: NP

Oxidizing properties: NP

Vapour pressure: <0.1 mm Hg at 25°C

Density: 1.1 g/cm³ at 25 °C

Surface tension: NP

Viscosity: (at 25 °C) 100 mm²/sec

Vapour density: NP

Partition coefficient (n-octanol/water): NP

Water solubility: Insoluble.

Solubility: Organic solvents.

Other data: NP

10. STABILITY AND REACTIVITY

Stability: Stable at moderately elevated temperatures and pressures.

Conditions to avoid: NP

Materials to avoid: Do not store in plastic containers based in vinyl resins or containers with rubber or neoprene seals.

Hazardous decomposition/combustion products: NP

Polymerization risk: NP

Conditions to avoid: NP

11. TOXICOLOGICAL INFORMATION

Routes of exposure: Contact with skin and eyes. Inhalation of fumes or vapours from hot product. Ingestion is not frequent.

Acute and chronic effects: Long-term exposures may result in irritation of the skin, eyes or the respiratory tract. Neurotoxic effects, muscular weakness, paralysis and enzymatic disorders have been detected in animal tests (rabbit, rats, guinea-pigs, goat, chicken...) after exposure to synthetic lubricants containing triaryl phosphates (including triphenyl phosphate) at doses over 1g/Kg.

LD₅₀: 50-5000 mg/Kg (oral-rat); LD₅₀: 11800 mg/Kg (oral-mouse)

Carcinogenicity: NP

Reproductive toxicity: No evidences.

Medical conditions which increase hazard to exposure: NP

12. ECOLOGICAL INFORMATION

Pollutant potential:

Persistence and degradability: The material sinks in water; it is insoluble and viscous. Volatilization from water or soil is low. It slightly adsorbs to organic matter or humic materials. It may present physical fouling potential.

Mobility/bioaccumulative potential: The product has slight to none soil mobility. It presents moderate bioaccumulative problems, mainly in aquatic environments. Some microbial populations in water and in activated sludge are able to biodegrade the product.

Ecotoxicological effects: Dangerous for aquatic life in high concentrations.

LC₅₀: 0.27-1.75 mg/l/96h/crustacea (*Nitocra spinipes*). Trouts exposed to low subacute concentrations to the product during 163 days showed affected reproduction.

13. DISPOSAL CONSIDERATIONS

Disposal methods (surplus): Recycling and recovery of synthetic oils when possible.

Waste: Liquids (used oils) and solids from industrial processes; do not attempt to clean containers since residue is difficult to remove; dispose in a safe way.

Disposal: Used oils are collected by the manufacturer. Dispose in incinerators.

Handling: Labelled and sealed containers. Avoid direct contact with waste oils.

Provisions: Companies which recover, dispose, store, transport or handle waste should comply with Dir. 2008/98/EC on waste, or other local, national or community provisions.

14. TRANSPORT INFORMATION

Special precautions: Stable at room temperature and during transport. Store in cool well ventilated areas.

Additional information:

UN Number: 3082

ADR/RID: Class 9. Classification code: M6. Packaging group III

Hazard identification number: 90

IATA-DGR: Class 9. Packaging group III

Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE,
LIQUID .N.O.S

IMDG: Class 9. Packaging/container group III.

15. REGULATORY INFORMATION

CLASSIFICATION

NP

LABELLING

Symbols: NP

Phrases R

NP

Phrases S

NP

Other regulations: NP

16. OTHER INFORMATION

Data Bases consulted

EINECS: European Inventory of Existing Commercial Substances.
TSCA: Toxic Substances Control Act, US Environmental Protection Agency
HSDB: US National Library of Medicine.
RTECS: US Dept. of Health & Human Services

R phrases/Hazard Class-and-Category shown in the document:
NP

Legislation consulted

Globally Harmonized System of Classification and Labelling of Chemicals (GHS).
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 (CLP).
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. 2008/98/EG 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
ACGIH: American Conference of Governmental Industrial Hygienists.
TLV: Threshold Limit Value
TWA: Time Weighted Average
STEL: Short-term Exposure Level
REL: Recommendable Exposure Limit
PEL: Permissible Exposure Limit
INSHT: Instituto Nal. de Seguridad e Higiene en el Trabajo

VLA-ED: Valor Límite Ambiental – Exposición Diaria
VLA-EC: Valor Límite Ambiental – Exposición Corta
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.