Safety Data Sheet
PETRONAS HYDRAULIC 46

Revision Date: 3/9/2025
version 4

SECTION 1: IDENTIFICATION OF THE HAZARDOUS CHEMICAL AND OF THE SUPPLIER

1.1. PRODUCT IDENTIFIER

MIXTURE IDENTIFICATION:
TRADE NAME: **PETRONAS HYDRAULIC 46**
Trade code: 77569

1.2. RECOMMENDED USE OF THE CHEMICAL AND RESTRICTIONS ON USE

RECOMMENDED USE:
Lubricant for hydraulic system.
USES ADVISED AGAINST:
This product should not be used for other purposes than those specified without the advice of an expert.

1.3. DETAILS OF THE SUPPLIER

COMPANY:
PETRONAS Lubricants International Sdn. Bhd. (485509-D)
Tower 1, PETRONAS Twin Towers
Kuala Lumpur City Centre
50088 Kuala Lumpur - MALAYSIA
Tel : +603 23014245 / 4253 / 4252
-
-
COMPETENT PERSON RESPONSIBLE FOR SAFETY DATA OF PRODUCT:
Information on the legislation compliance info-regulation.eu@pli-petronas.com (English)

1.4. EMERGENCY PHONE NUMBER

Emergency Answer Service (24h/7d):
+60 3 6207 4347

SECTION 2: HAZARD IDENTIFICATION

2.1. CLASSIFICATION OF THE SUBSTANCE OR MIXTURE

Classification of the chemical
The product is not hazardous according to P.U. (A)310/2013.
ADVERSE PHYSICOCHEMICAL, HUMAN HEALTH AND ENVIRONMENTAL EFFECTS:
No other hazards

2.2. LABEL ELEMENTS

The product is not hazardous according to P.U. (A)310/2013.

2.3. OTHER HAZARDS WHICH DO NOT RESULT IN A CLASSIFICATION

No other hazards

SECTION 3: COMPOSITION & INFORMATION OF THE INGREDIENTS OF THE HAZARDOUS CHEMICAL

3.1. SUBSTANCES

3.2. MIXTURES

Severely refined mineral and/or synthetic oils, additives.

Hazardous components within the meaning of the GHS regulation and related classification:

Distillates (petroleum), hydrotreated heavy paraffinic **70.0-<90.0 %**
CAS: 64742-54-7
Classification: Not classified as hazardous

Distillates (petroleum), hydrotreated light paraffinic **20.0-<30.0 %**
CAS: 64742-55-8
Classification: Asp. Tox. 1, H304

2,6-di-tert-butylphenol **0.1-<0.25 %**
CAS: 128-39-2
Classification: Skin Irrit. 2, H315; Aquatic Acute 1, H400; Aquatic Chronic 1, H410

H-phrases and list of abbreviations: see heading 16.

SECTION 4: FIRST-AID MEASURES

4.1. DESCRIPTION OF NECESSARY FIRST-AID MEASURES

IN CASE OF INGESTION:

Do not induce vomiting to avoid aspiration into the respiratory tracts. Wash out thoroughly the mouth with water. Obtain immediate medical attention.

IN CASE OF EYES CONTACT:

Rinse thoroughly with plenty of water for at least 10 minutes keeping eyelids open. Remove contact lenses if this can be done easily. Obtain medical attention in case of development and persistence of pain and redness. In case of contact with hot product, rinse thoroughly with plenty of water to dissipate heat. Obtain immediate medical attention to assess eye conditions and the correct treatment to be practiced.

IN CASE OF SKIN CONTACT:

Remove contaminated clothes and shoes and rinse thoroughly with plenty of water and soap.

IN CASE OF INHALATION:

Expose affected person to fresh air and obtain medical attention if necessary.

4.2. MOST IMPORTANT SYMPTOMS/EFFECTS, ACUTE AND DELAYED

Refer to section 11.

4.3. INDICATION OF IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED, IF NECESSARY

Refer to section 4.1.

SECTION 5: FIRE-FIGHTING MEASURES

5.1. EXTINGUISHING MEDIA

This product has no special fire risk. In case of fire use foam, carbon dioxide, dry chemical powder and water mist.
Cool down with water the containers don't get involved in fire to avoid their possible explosion.
Avoid high pressure water jet. Use water jet only to cool down surfaces exposed to fire.
SUITABLE EXTINGUISHING MEDIA:
Water.
Carbon dioxide (CO2).
UNSUITABLE EXTINGUISHING MEDIA:
None in particular.

5.2. SPECIAL HAZARDS ARISING FROM THE CHEMICAL

Don't breathe combustion fumes: fire can form harmful compounds.
Do not inhale explosion and combustion gases.
Burning produces heavy smoke.
HAZARDOUS COMBUSTION PRODUCTS: Oxides of carbon, compounds of sulphur, phosphorus, nitrogen and products of incomplete combustion.

5.3. SPECIAL PROTECTIVE ACTIONS FOR FIRE-FIGHTERS

Use suitable breathing apparatus .
Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
Move undamaged containers from immediate hazard area if it can be done safely.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

Avoid ingestion of product. Avoid contact with skin and eyes by wearing appropriate protective clothing. Avoid to breathe fumes and aereosols.
Surfaces on which the product has been spilled may become slippery.
Wear personal protection equipment.
See protective measures under point 7 and 8.

6.2. ENVIRONMENTAL PRECAUTIONS

Do not allow to enter into soil/subsoil. Do not allow to enter into surface water or drains.
Retain contaminated washing water and dispose it.
In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.

6.3. METHODS AND MATERIAL FOR CONTAINMENT AND CLEANING UP

Avoid flame and/or spark near leak and produced waste. Do not smoke. In case of large spills dike, absorb and shovel up into suitable containers for disposal. Contain small spills with absorbent material. Put dirty material in suitable container. Dispose of dirty material in accordance with local or national regulations.

SECTION 7: HANDLING AND STORAGE

7.1. PRECAUTIONS FOR SAFE HANDLING

Avoid ingestion. Avoid frequent and prolonged skin contact and contact with eyes. Provide adequate ventilation to avoid mist or aereosol. Don't smoke or use spare flames; avoid contact with spark or other sources of ignition. Don't work near open container to avoid high concentration of vapours. Don't eat or drink during use.

7.2. CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES

Store under cover in the original container securely closed away from heat and sources of ignition. Do not store in the open air. Assure a correct ventilation of premises and the control of possible leak. Keep out of flame or spark and avoid the accumulation of electrostatic charges. Keep out of reach of children and away from food and drink.

Storage class (TRGS 510, Germany): 10

7.3. SPECIFIC END USE(S)

Refer to the uses listed in Section 1.2.

SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

8.1. CONTROL PARAMETERS

OEL: oil mists - TLV/TWA (8 h) : 5 mg/m3 - TLV/STEL: 10 mg/m3

Predicted No Effect Concentration (PNEC) values

2,6-di-tert-butylphenol

CAS: 128-39-2 Exposure Route: Fresh Water; PNEC Limit: 0.001 mg/l
Exposure Route: Soil (agricultural); PNEC Limit: 0.063 mg/kg
Exposure Route: Freshwater sediments; PNEC Limit: 0.317 mg/kg
Exposure Route: Marine water sediments; PNEC Limit: 0.032 mg/kg

Derived No Effect Level (DNEL) values

2,6-di-tert-butylphenol

CAS: 128-39-2 Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects
Worker Industry: 20.9 mg/m3

Exposure Route: Human Dermal; Exposure Frequency: Long Term, systemic effects
Worker Industry: 11.25 mg/kg

Exposure Route: Human Oral; Exposure Frequency: Long Term, systemic effects
Worker Industry: 6.75 mg/kg

8.2. INDIVIDUAL PROTECTION MEASURES, SUCH AS PERSONAL PROTECTIVE EQUIPMENT (PPE)

APPROPRIATE ENGINEERING CONTROLS:

Avoid production and diffusion of mist and aerosol with utilization of localized ventilation/aspiration or other required precautions. Adopt all required precaution to avoid product immission in environment (e.g., blasting systems, catch basins, ...).

EYE PROTECTION:

Chemical goggles and face shield in case of oil splashes.

PROTECTION FOR SKIN:

Wear suitable protective clothing (for further information, refer to CEN-EN 14605); change it immediately in case of large contamination and wash it before subsequent use.

Practice reasonable personal cleanliness.

PROTECTION FOR HANDS:

Wear suitable gloves (i.e. neoprene, nitrile). Gloves should be changed when they show wear. The kind of gloves and the term of use must be decided from employer with regard to processing and to allow for DPI legislation and glove producer's indications. Wear gloves only with clean hands.

RESPIRATORY PROTECTION:

None required under normal conditions of use. Use approved full face respirator with organic vapour filter cartridge if the recommended exposure limits are exceeded.

ENVIRONMENTAL EXPOSURE CONTROLS:

Refer to technical precautions and also to sections 6.2, 6.3, 7.2, 12 and 13.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

CHEMICAL-PHYSICAL PROPERTY	VALUE	METHOD
PHYSICAL STATE	LIQUID	
APPEARANCE AND COLOUR:	VISCOUS AMBER	
ODOUR:	NOT RELEVANT	
ODOUR THRESHOLD:	NOT RELEVANT	
PH:	N.A.	
MELTING POINT / FREEZING POINT:	N.A.	
INITIAL BOILING POINT AND BOILING RANGE:	>300 °C (572 °F)	(ASTM D2887)
FLASH POINT:	228 °C (442 °F)	(ASTM D92)
EVAPORATION RATE:	N.A.	
UPPER/LOWER FLAMMABILITY OR EXPLOSIVE LIMITS:	N.A.	
VAPOUR DENSITY:	N.A.	
VAPOUR PRESSURE:	N.A.	
DENSITY	0.8464 g/cm3	(ASTM D4052)
SOLUBILITY IN WATER:	IMMISCIBLE	
SOLUBILITY IN OIL:	N.A.	
PARTITION COEFFICIENT (N-OCTANOL/WATER):	N.A.	
AUTO-IGNITION TEMPERATURE:	N.A.	
DECOMPOSITION TEMPERATURE:	N.A.	
KINEMATIC VISCOSITY AT 100°C	7.415 cSt	(ASTM D445)
KINEMATIC VISCOSITY AT 40°C	45.71 cSt	(ASTM D445)
EXPLOSIVE PROPERTIES	N.A.	
OXIDIZING PROPERTIES	N.A.	
FLAMMABILITY (SOLID, GAS)	N.A.	
MOLECULAR WEIGHT (G/MOL)	N.A.	

SECTION 10: STABILITY AND REACTIVITY

10.1. REACTIVITY

Read carefully all information provided in other sections of heading 10.

10.2. CHEMICAL STABILITY

The product is stable under normal conditions of use.

10.3. POSSIBILITY OF HAZARDOUS REACTIONS

Not expected under normal conditions of use.

10.4. CONDITIONS TO AVOID

This product must be kept far from heat sources. In any case, avoid exposing product to temperatures above the flash point.

10.5. INCOMPATIBLE MATERIALS

Strong oxidizing agents, hard acids and bases.

10.6. HAZARDOUS DECOMPOSITION PRODUCTS

Oxides of carbon, compounds of sulphur, phosphorus, nitrogen and hydrogen sulfide.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. INFORMATION ON TOXICOLOGICAL EFFECTS

ACUTE TOXICITY:
This product is not classified in this hazard class.
Unlike to cause harm if accidentally swallowed in small doses, though ingestion of large quantities may cause gastro-intestinal effects.

SKIN CORROSION OR IRRITATION:
This product is not classified in this hazard class, but prolonged or repeated skin contact sometimes may cause irritations and dermatitis.

SERIOUS EYE DAMAGE OR EYE IRRITATION:
This product is not classified in this hazard class, but direct contact may cause slight irritations.

RESPIRATORY SENSITIZATION:
This product is not classified in this hazard class.

SKIN SENSITIZATION:
This product is not classified in this hazard class.

GERM CELL MUTAGENICITY:
Based on the available data, the product is not classified under this hazard class.

CARCINOGENICITY:
Based on the available data, the product is not classified under this hazard class.

REPRODUCTIVE TOXICITY:

Based on the available data, the product is not classified under this hazard class.

SPECIFIC TARGET ORGAN TOXICITY (STOT) – SINGLE EXPOSURE:
This product is not classified in this hazard class, but inhalation of mists and vapours generated at elevated temperatures sometimes may cause respiratory irritation.

SPECIFIC TARGET ORGAN TOXICITY (STOT) – REPEATED EXPOSURE:
This product is not classified in this hazard class.

ASPIRATION HAZARD:
This product is not classified in this hazard class.

Toxicological Information of the Preparation

There is no toxicological data available on the mixture. Consider the individual concentration of each component to assess toxicological effects resulting from exposure to the mixture.

Toxicological information on main components of the mixture:

Distillates (petroleum), hydrotreated heavy paraffinic

CAS: 64742-54-7	a) acute toxicity	LD50 Oral Rat > 5000 mg/kg
		LD50 Skin Rabbit > 2000 mg/kg
		LC50 Inhalation Rat > 5.53 mg/l
	b) skin corrosion/irritation	Skin Irritant Rabbit - Based on available data, the classification criteria are not met
	c) serious eye damage/irritation	Eye Irritant Rabbit - Based on available data, the classification criteria are not met
	d) respiratory or skin sensitisation	Skin Sensitization Rabbit - No data available for the product

Distillates (petroleum), hydrotreated light paraffinic

CAS: 64742-55-8	a) acute toxicity	LD50 Oral Rat > 5000 mg/kg
		LD50 Skin Rabbit > 2000 mg/kg
		LC50 Inhalation Rat > 5.53 mg/l
	b) skin corrosion/irritation	Skin Irritant Rabbit - Based on available data, the classification criteria are not met
	c) serious eye damage/irritation	Eye Irritant Rabbit - Based on available data, the classification criteria are not met
	d) respiratory or skin sensitisation	Skin Sensitization Rabbit - No data available for the product

2,6-di-tert-butylphenol

CAS: 128-39-2	a) acute toxicity	LD50 Oral Rat > 5000 mg/kg
		LD50 Skin Rabbit > 10000 mg/kg

SECTION 12: ECOLOGICAL INFORMATION

12.1. TOXICITY

Eco-Toxicological Information:
This product is not classified dangerous for the environment.

List of Eco-Toxicological properties of the components

Distillates (petroleum), hydrotreated heavy paraffinic
CAS: 64742-54-7
a) Aquatic acute toxicity: LC50 Fish Pimephales promelas > 100 mg/L 96h
b) Aquatic chronic toxicity: NOELR Oncorhynchus mykiss >= 1000 mg/L

Distillates (petroleum), hydrotreated light paraffinic
CAS: 64742-55-8
a) Aquatic acute toxicity: LC50 Fish Pimephales promelas > 100 mg/L 96h
b) Aquatic chronic toxicity: NOELR Oncorhynchus mykiss >= 1000 mg/L
b) Aquatic chronic toxicity: NOEC Fish > 1 mg/L
b) Aquatic chronic toxicity: NOEC Daphnia > 1 mg/L - water flea

12.2. PERSISTENCE AND DEGRADABILITY

Data on biodegradability of product are not available.

12.3. BIOACCUMULATIVE POTENTIAL

Not available.

12.4. MOBILITY IN SOIL

As the dispersion in the environment may result in contamination of environmental matrix (soil, subsoil, surface water and groundwater), do not release in the environment.

12.5. OTHER ADVERSE EFFECTS

No effect known.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. DISPOSAL METHODS

Prevent contamination of soil, drains and surface waters. Do not discharge in sewers, tunnels or water courses. Dispose in accordance with local or national regulations via authorised person/licensed waste disposal contractor.
The used product has to be considered a special waste to be classified in accordance to Directive 2008/98/EC on waste and related legislation.
Recover if possible. In so doing, comply with the local and national regulations currently in force.

SECTION 14: TRANSPORT INFORMATION

Not classified as dangerous in the meaning of transport regulations.

14.1. UN NUMBER

N/A

14.2. UN PROPER SHIPPING NAME

ADR-Shipping Name: N/A
IATA-Shipping Name: N/A
IMDG-Shipping Name: N/A

14.3. TRANSPORT HAZARD CLASS(ES)

ADR-Class: N/A
IATA-Class: N/A
IMDG-Class: N/A

14.4. PACKING GROUP, IF APPLICABLE

ADR-Packing Group: N/A
IATA-Packing group: N/A
IMDG-Packing group: N/A

14.5. ENVIRONMENTAL HAZARDS

Toxic ingredients quantity: 0.00
Very toxic ingredients quantity: 0.00
Marine pollutant: No
Environmental Pollutant: N.A.

14.6. TRANSPORT IN BULK ACCORDING TO ANNEX II OF MARPOL73/78 AND THE IBC CODE

N.A.

14.7. SPECIAL PRECAUTIONS FOR USER

Road and Rail (ADR-RID):
ADR-Label: N/A
ADR - Hazard identification number: N/A
ADR-Transport category (Tunnel restriction code): N/A
Air (IATA):
IATA-Passenger Aircraft: N/A
IATA-Cargo Aircraft: N/A
IATA-Label: N/A
IATA-Subsidiary hazards: N/A
IATA-Erg: N/A
IATA-Special Provisions: N/A
Sea (IMDG):
IMDG-Stowage and handling: N/A
IMDG-Segregation: N/A

IMDG-Subsidiary hazards: N/A
IMDG-Special Provisions: N/A
IMDG-EMS: N/A

SECTION 15: REGULATORY INFORMATION

15.1. SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS SPECIFIC FOR THE PRODUCT IN QUESTION

P.U. (A) 310/2013 Occupational Safety and Health (Classification, Labelling and Safety Data Sheets of Hazardous Chemicals)
ACT 514 Occupational Safety and Health Act 1994, Factories and Machinery Act 1974 and all following updates
P.U. (A) 131/2000 Occupational Safety and Health (Use and Standards of Exposure of Chemicals Hazardous to Health)
P.U. (A) 294/2005 Regulation of the Environmental Quality (Scheduled Wastes) and all following updates
ACT 127 of the Environmental Quality Act 1974
P.U. (A) 39/1996 of the Occupational Safety and Health (Control of Industrial Major Accident Hazards)

SECTION 16: OTHER INFORMATION

The mineral base oils contained in this product are severely refined and are therefore not to be considered as carcinogen. They contain less than 3% DMSO extract according to IP 346 method ("Determination of polycyclic aromatics in unused lubricating base oils and asphaltene free petroleum fractions – Dimethyl sulphoxide extraction refractive index method", Institute of Petroleum, London).
Sheet complies with the criteria of P.U. (A) 310/2013 (CLASS Regulation).
This document was prepared by a competent person who has received appropriate training.
This product must not be used in applications other than recommended without first seeking the advice of the Technical Department.
Date of first edition: 05/02/2018
Revision Date:: 03/09/2025 - version 4
This SDS cancels and replaces any preceding release.

This product must be stored, handled and used according to correct industrial hygienic practices and in compliance with laws in force.
The information contained herein is based on the present state of our knowledge and is intended to describe our products from the point of view of safety requirements. It should not therefore be considered as any guarantee of specific properties.

Key literature references and sources:
None

Caption about heading 3 and H–statements:

CODE	DESCRIPTION
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H400	Very toxic to aquatic life.

H410	Very toxic to aquatic life with long lasting effects.

CODE	HAZARD CLASS AND HAZARD CATEGORY	DESCRIPTION
3.10/1	Asp. Tox. 1	Aspiration hazard, Category 1
3.2/2	Skin Irrit. 2	Skin irritation, Category 2
4.1/A1	Aquatic Acute 1	Acute aquatic hazard, category 1
4.1/C1	Aquatic Chronic 1	Chronic (long term) aquatic hazard, category 1

Legend to abbreviations and acronyms used in the safety data sheet:

ACGIH: American Conference of Governmental Industrial Hygienists
ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.
AND: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ATE: Acute Toxicity Estimate
ATEmix: Acute toxicity Estimate (Mixtures)
BCF: Biological Concentration Factor
BEI: Biological Exposure Index
BOD: Biochemical Oxygen Demand
CAS: Chemical Abstracts Service (division of the American Chemical Society).
CAV: Poison Center
CE: European Community
CLP: Classification, Labeling, Packaging.
CMR: Carcinogenic, Mutagenic and Reprotoxic
COD: Chemical Oxygen Demand
COV: Volatile Organic Compound
CSA: Chemical Safety Assessment
CSR: Chemical Safety Report
DMEL: Derived Minimal Effect Level
DNEL: Derived No Effect Level.
DPD: Dangerous Preparations Directive
DSD: Dangerous Substances Directive
EC50: Half Maximal Effective Concentration
ECHA: European Chemicals Agency
EINECS: European Inventory of Existing Commercial Chemical Substances.
ES: Exposure Scenario
GefStoffVO: Ordinance on Hazardous Substances, Germany.
GHS: Globally Harmonized System of Classification and Labeling of Chemicals.
IARC: International Agency for Research on Cancer
IATA: International Air Transport Association.
IATA-DGR: Dangerous Goods Regulation by the "International Air Transport Association" (IATA).
IC50: half maximal inhibitory concentration
ICAO: International Civil Aviation Organization.
ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO).
IMDG: International Maritime Code for Dangerous Goods.
INCI: International Nomenclature of Cosmetic Ingredients.
IRCCS: Scientific Institute for Research, Hospitalization and Health Care

KAFH: Keep away from heat
KSt: Explosion coefficient.
LC50: Lethal concentration, for 50 percent of test population.
LD50: Lethal dose, for 50 percent of test population.
LDLo: Leathal Dose Low
N.A.: Not Applicable
N/A: Not Applicable
N/D: Not defined/ Not available
NA: Not available
NIOSH: National Institute for Occupational Safety and Health
NOAEL: No Observed Adverse Effect Level
OSHA: Occupational Safety and Health Administration
PBT: Persistent, Bioaccumulative and Toxic
PGK: Packaging Instruction
PNEC: Predicted No Effect Concentration.
PSG: Passengers
RID: Regulation Concerning the International Transport of Dangerous Goods by Rail.
STEL: Short Term Exposure limit.
STOT: Specific Target Organ Toxicity.
TLV: Threshold Limiting Value.
TWATLV: Threshold Limit Value for the Time Weighted Average 8 hour day. (ACGIH Standard).
vPvB: Very Persistent, Very Bioaccumulative.
WGK: German Water Hazard Class.