

Safety Data Sheet
PETRONAS HYDRAULIC ESF 46.

Revision Date: 23/4/2024
version 2



GHS PRODUCT IDENTIFIER

MIXTURE IDENTIFICATION:
TRADE NAME:
PETRONAS HYDRAULIC ESF 46.
TRADE CODE: 77908

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.

SUPPLIER'S DETAILS

COMPANY:
PLI AUSTRALIA PTY. LIMITED
Suite 2, Level 6,
85 George Street
Parramatta, NSW 2150
Australia
Telephone: 001139 1800 834 081

COMPETENT PERSON FOR SAFETY DATA OF PRODUCT:
Information on the legislation compliance info-regulation.eu@pli-petronas.com

EMERGENCY PHONE NUMBER

Emergency Answer Service (24h/7d):
+61 2 8014 4558
18000 74234 (access from Australia only)

Section 2: Hazard(s) identification

CLASSIFICATION OF THE HAZARDOUS CHEMICAL

The product is not classified as dangerous according to GHS.
ADVERSE PHYSICOCHEMICAL, HUMAN HEALTH AND ENVIRONMENTAL EFFECTS:
No other hazards

GHS LABEL ELEMENTS, INCLUDING PRECAUTIONARY STATEMENTS

The product is not classified as dangerous according to GHS.

Safety Data Sheet
PETRONAS HYDRAULIC ESF 46.

Revision Date: 23/4/2024
version 2



OTHER HAZARDS WHICH DO NOT RESULT IN A CLASSIFICATION

Other Hazards: No other hazards

Section 3: Composition and information on ingredients

SUBSTANCES

no data available

MIXTURES

Severely refined mineral and/or synthetic oils, additives.

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

Table with 5 columns: QTY, NAME, IDENT. NUMB., CLASSIFICATION, REGISTRATION NUMBER. It lists hazardous components like Distillates, petroleum, hydrotreated heavy paraffinic and 2,6-di-tert-butylphenol.

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

Section 4: First-aid measures

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 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.

Safety Data Sheet

PETRONAS HYDRAULIC ESF 46.

Revision Date: 23/4/2024

version 2



SYMPTOMS CAUSED BY EXPOSURE

Refer to section 11.

MEDICAL ATTENTION AND SPECIAL TREATMENT

Refer to section 4.1.

Section 5: Firefighting 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).

EXTINGUISHING MEDIA WHICH MUST NOT BE USED FOR SAFETY REASONS:

None in particular.

SPECIFIC HAZARDS ARISING FROM THE CHEMICAL

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.

SPECIAL PROTECTIVE EQUIPMENT AND PRECAUTIONS FOR FIRE-FIGHTERS

Use suitable breathing apparatus .

Move undamaged containers from immediate hazard area if it can be done safely.

Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

HAZCHEM CODE/EMERGENCY ACTION CODE

N.A.

Section 6: Accidental release measures

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 aerosols.

Surfaces on which the product has been spilled may become slippery.

Safety Data Sheet

PETRONAS HYDRAULIC ESF 46.

Revision Date: 23/4/2024

version 2



Wear personal protection equipment.
See protective measures under point 7 and 8.

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.

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.

6.4. REFERENCE TO OTHER SECTIONS

See also section 8 and 13

Section 7: Handling and storage

PRECAUTIONS FOR SAFE HANDLING

Avoid ingestion. Avoid frequent and prolonged skin contact and contact with eyes. Provide adequate ventilation to avoid mist or aerosol. Don't smoke or use open 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.

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

Section 8: Exposure controls and personal protection

CONTROL PARAMETERS – EXPOSURE STANDARDS, BIOLOGICAL MONITORING

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

Safety Data Sheet
PETRONAS HYDRAULIC ESF 46.

Revision Date: 23/4/2024
version 2



Predicted No Effect Concentration (PNEC) values

Table with 4 columns: PNEC LIMIT, EXPOSURE ROUTE, EXPOSURE FREQUENCY, and REMARK. It lists PNEC values for 2,6-di-tert-butylphenol in Fresh Water, Soil, Freshwater sediments, and Marine water sediments.

Derived No Effect Level (DNEL) values

Table with 6 columns: WORKER INDUSTRIAL, WORKER PROFESSIONAL, CONSUMER, EXPOSURE ROUTE, EXPOSURE FREQUENCY, and REMARK. It lists DNEL values for 2,6-di-tert-butylphenol for various exposure scenarios.

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, ...).

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

- EYE PROTECTION: Chemical goggles and face shield in case of oil splashes.
PROTECTION FOR SKIN: Wear suitable protective clothing... Practice reasonable personal cleanliness.
PROTECTION FOR HANDS: Wear suitable gloves...
RESPIRATORY PROTECTION: None required under normal conditions of use.

Safety Data Sheet
PETRONAS HYDRAULIC ESF 46.

Revision Date: 23/4/2024
version 2



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

Physical State Liquid
Color: amber

9.1. INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

Table with 3 columns: CHEMICAL-PHYSICAL PROPERTY, VALUE, METHOD. Rows include PHYSICAL STATE, APPEARANCE AND COLOUR, ODOUR, ODOUR THRESHOLD, PH, MELTING POINT / FREEZING POINT, INITIAL BOILING POINT AND BOILING RANGE, FLASH POINT, EVAPORATION RATE, UPPER/LOWER FLAMMABILITY OR EXPLOSIVE LIMITS, VAPOUR DENSITY, VAPOUR PRESSURE, DENSITY, SOLUBILITY IN WATER, SOLUBILITY IN OIL, PARTITION COEFFICIENT (N-OCTANOL/WATER), AUTO-IGNITION TEMPERATURE, DECOMPOSITION TEMPERATURE, KINEMATIC VISCOSITY AT 100°C, KINEMATIC VISCOSITY AT 40°C, EXPLOSIVE PROPERTIES, OXIDIZING PROPERTIES, FLAMMABILITY (SOLID, GAS).

9.2. OTHER INFORMATION

Table with 3 columns: CHEMICAL-PHYSICAL PROPERTY, VALUE, METHOD. Rows include SUBSTANCE GROUPS RELEVANT PROPERTIES, MISCIBILITY, CONDUCTIVITY, FREEZING POINT, POUR POINT, DROPPING POINT.

Lower and upper explosion limit/flammability limits:
Kinematic viscosity: > 20,5 mm2/sec (40 °C) mm2/s
Particle characteristics:

Safety Data Sheet

PETRONAS HYDRAULIC ESF 46.

Revision Date: 23/4/2024

version 2



Section 10: Stability and reactivity

REACTIVITY

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

CHEMICAL STABILITY

The product is stable under normal conditions of use.

POSSIBILITY OF HAZARDOUS REACTIONS

Not expected under normal conditions of use.

CONDITIONS TO AVOID

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

INCOMPATIBLE MATERIALS

Strong oxidizing agents, hard acids and bases.

HAZARDOUS DECOMPOSITION PRODUCTS

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

Section 11: Toxicological information

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.

Safety Data Sheet
PETRONAS HYDRAULIC ESF 46.

Revision Date: 23/4/2024
version 2



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:

Table with 3 columns: Component Name, Hazard Type, and Toxicological Data. Rows include Distillates, petroleum, hydrotreated heavy paraffinic (649-467-00-8) and 2,6-di-tert-butylphenol with various toxicity data points like LD50 Oral Rat, LD50 Skin Rabbit, and LC50 Inhalation Rat.

If not differently specified, the information required in the regulation and listed below must be

Safety Data Sheet
PETRONAS HYDRAULIC ESF 46.

Revision Date: 23/4/2024
version 2



- considered as N.A.
a) acute toxicity
b) skin corrosion/irritation
c) serious eye damage/irritation
d) respiratory or skin sensitisation
e) germ cell mutagenicity
f) carcinogenicity
g) reproductive toxicity
h) STOT-single exposure
Toxicological kinetics, metabolism and distribution information
i) STOT-repeated exposure
j) aspiration hazard

Section 12: Ecological information

ECOTOXICITY

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

List of Eco-Toxicological properties of the components

Table with 3 columns: COMPONENT, IDENT. NUMB., ECOTOX DATA. Row 1: Distillates, petroleum, hydrotreated heavy paraffinic (649-467-00-8), CAS: 64742-54-7 - EINECS: 265-157-1, 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

PERSISTENCE AND DEGRADABILITY

no data available
Data on biodegradability of product are not available.

BIOACCUMULATIVE POTENTIAL

Not available.

Safety Data Sheet
PETRONAS HYDRAULIC ESF 46.

Revision Date: 23/4/2024
version 2



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.
no data available

OTHER ADVERSE EFFECTS

No effect known.

Section 13: Disposal considerations

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.
Recover if possible. In so doing, comply with the local and national regulations currently in force.
The used product and its package have to be treated in accordance with the local council and /or state environment authority.
The package is disposed as waste only after it has been render incapable of containing any substance.
Packages may be reused or recycled only if it has been treated to remove any residual contents of the hazardous substance.
When the product or its dirty package are discharged as waste or deposited into a landfill, take care that there is no ignition or explosion source in the vicinity of the disposal site at any time that is capable of igniting the substance. If the substance were to ignite accidentally, take care that no person, or place where a person may legally be, would be exposed to an unsafe level of heat radiation.

Section 14: Transport information

UN NUMBER

N/A

UN PROPER SHIPPING NAME

ADG-Shipping Name: N.A.
ADR-Shipping Name: N/A
IATA-Technical name: N/A
IMDG-Technical name: N/A

TRANSPORT HAZARD CLASS(ES)

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

Safety Data Sheet
PETRONAS HYDRAULIC ESF 46.

Revision Date: 23/4/2024
version 2



IMDG-Class: N/A

PACKING GROUP, IF APPLICABLE

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

ENVIRONMENTAL HAZARDS

ADG-Environmental Pollutant: No
Marine pollutant: No

SPECIAL PRECAUTIONS FOR USER

ADG-Subsidiary hazards -
ADG-S.P.: -

Road and Rail (ADR-RID) :
ADR-Label: N/A
ADR - Hazard identification number: N/A
ADR-Special Provisions: 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 Provisioning: N/A

Sea (IMDG) :
IMDG-Stowage Code: N/A
IMDG-Stowage Note: N/A
IMDG-Subsidiary hazards: N/A
IMDG-Special Provisioning: N/A
IMDG-EMS: N/A

ADDITIONAL INFORMATION

no data available

14.8. HAZCHEM CODE/EMERGENCY ACTION CODE

N.A.
no data available

Safety Data Sheet

PETRONAS HYDRAULIC ESF 46.

Revision Date: 23/4/2024
version 2



Section 15: Regulatory information

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

REGULATORY REFERENCES:

Work Health and Safety Act and Regulations (WHS Act and Regulations)
Code of Practice - Labelling of Workplace Hazardous Chemicals (Safe Work Australia)
Code of Practice - Preparation of Safety Data Sheets for Hazardous Chemicals (Safe Work Australia)
Standard for the Uniform Scheduling of Medicines and Poisons - Poisons Standard (SUSMP)
Australian Inventory of Chemical Substances (AICS)
Globally Harmonized System of Classification and Labeling of Chemicals (GHS), Rev. 4th
Regulation (EC) No 1272/2008, with all National and European related legislations, on classification, labelling and packaging of substances and mixtures (CLP)
Regulation (EC) No 1907/2006, with all National and European related legislations, concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)
This Safety Data Sheet has been prepared according to the Australian Work Health and Safety (WHS) act and the Code of Practice on preparation of safety data sheets for Hazardous Chemicals.

LIST OF SUBSTANCES INCLUDED IN THE NICNAS:

All components are in compliance with the National Industrial Chemicals Notification and Assessment Scheme (NICNAS).

LIST OF SUBSTANCES INCLUDED IN THE AICS INVENTORY:

All components are in compliance with the Australian Inventory of Chemical Substances (AICS).

POISON SCHEDULE (SUSMP):

None Specified

Section 16: Any other relevant 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 Code of Practice - Preparation of SDS for Hazardous Chemicals and Global Harmonized System (GHS) standards.

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: 20/08/2020

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This SDS cancels and replaces any preceding release.

Safety Data Sheet
PETRONAS HYDRAULIC ESF 46.

Revision Date: 23/4/2024
version 2



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:

Table with 3 columns: CODE, DESCRIPTION, HAZARD CLASS AND HAZARD CATEGORY. It lists hazard codes (H304, H315, H400, H410) and their descriptions, as well as hazard codes (3.10/1, 3.2/2, AUS-HAE/A1, AUS-HAE/C1) and their corresponding hazard classes and categories.

- 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

Safety Data Sheet

PETRONAS HYDRAULIC ESF 46.

Revision Date: 23/4/2024

version 2



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.

Paragraphs modified from the previous revision:

- SECTION 1: Identification of the substance/mixture and of the company/undertaking
- SECTION 2: Hazards identification
- SECTION 3: Composition/information on ingredients
- SECTION 5: Firefighting measures
- SECTION 7: Handling and storage
- SECTION 8: Exposure controls/personal protection
- SECTION 9: Physical and chemical properties
- SECTION 10: Stability and reactivity
- SECTION 11: Toxicological information

Safety Data Sheet

PETRONAS HYDRAULIC ESF 46.

Revision Date: 23/4/2024

version 2



- SECTION 12: Ecological information
- SECTION 14: Transport information