

Safety Data Sheet

PETRONAS BRAKE FLUID DOT 3

Revision Date: 17/8/2021
version 1



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

1.1. PRODUCT IDENTIFIER

MIXTURE IDENTIFICATION:

TRADE NAME:

PETRONAS BRAKE FLUID DOT 3

Trade code: 76129

1.2. RECOMMENDED USE OF THE CHEMICAL AND RESTRICTIONS ON USE

RECOMMENDED USE:

Brake fluid.

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

Repr. 2 Suspected of damaging fertility or the unborn child.

Eye Irrit. 2 Causes serious eye irritation.

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ADVERSE PHYSICOCHEMICAL, HUMAN HEALTH AND ENVIRONMENTAL EFFECTS:

No other hazards

2.2. LABEL ELEMENTS

Pictograms and Signal Words



Warning

Hazard statements

H319 Causes serious eye irritation.

H361 Suspected of damaging fertility or the unborn child.

Precautionary statements

P201 Obtain special instructions before use.

P202 Do not handle until all safety precautions have been read and understood.

P264 Wash the hands thoroughly after handling.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P405 Store locked up.

P501 Dispose of contents/container in accordance with applicable regulations.

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

Mixture of polyglycols, polyglycolethers and/or boric esters, inhibitors.

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

QTY	NAME	IDENT. NUMB.	CLASSIFICATION
20.0-<30.0 %	Ethanol, 2-(2-(2-butoxyethoxy)ethoxy)-	CAS:143-22-6 EC:205-592-6 Index:603-183-00-0	Eye Dam. 1, H318
20.0-<30.0 %	Diethylene glycol	CAS:111-46-6 EC:203-872-2 Index:603-140-00-6	Acute Tox. 4, H302

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15.0-<20.0 %	Tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl] orthoborate	CAS:30989-05-0 EC:250-418-4	Repr. 2, H361
6.25-<10.0 %	Poly(oxy-1,2-ethanediyl), α-butyl-ω-hydroxy-	CAS:9004-77-7 EC:500-012-0	Eye Dam. 1, H318
2.5-<3.0 %	2-(2-butoxyethoxy)ethanol	CAS:112-34-5 EC:203-961-6 Index:603-096-00-8	Eye Irrit. 2, H319
2.5-<3.0 %	Ethanol, 2-(2-methoxyethoxy)-	CAS:111-77-3 EC:203-906-6 Index:603-107-00-6	Repr. 2, H361d

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.

Eye irritation
Eye damages

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

Refer to section 4.1.

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

SECTION 5: FIRE-FIGHTING MEASURES

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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 nitrogen and products of incomplete combustion.

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 aerosols.

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

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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 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.

7.2. CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES

Avoid moisture pick up. Moisture has an adverse effect on the properties of brake fluids. Store under cover in the original container securely closed away from heat and sources of ignition. Keep out of reach of children and away from food and drink.

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

Community Occupational Exposure Limits (OEL)

COMPONENT	OEL TYPE	COUNTRY	CEILING	LONG TERM MG/M3	LONG TERM PPM	SHORT TERM MG/M3	SHORT TERM PPM	BEHAVIOUR NOTES
2-(2-butoxyethoxy) ethanol	EU			67.500	10.000	101.200	15.000	
	ACGIH				10.000			
Ethanol, 2-(2-methoxyethoxy)-	ITA	ITALY		50.100	10.000			
	EU			50.100	10.000			

Predicted No Effect Concentration (PNEC) values

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COMPONENT	CAS-NO.	PNEC LIMIT	EXPOSURE ROUTE	EXPOSURE FREQUENCY	REMARK
Ethanol, 2-(2-(2-butoxyethoxy)ethoxy)-	143-22-6	1.500	Fresh Water		
		mg/l			
		0.150	Soil		
		mg/l	(agricultural)		
		5.770	Air		
		mg/kg			
		0.130	Fresh Water		
		mg/kg			
		200.000	Marine water		
		mg/l			
		0.450	Marine water		
		mg/kg	sediments		

Derived No Effect Level (DNEL) values

COMPONENT	CAS-NO.	WORKER INDUSTRY	WORKER PROFESSIONAL	CONSUMER	EXPOSURE ROUTE	EXPOSURE FREQUENCY	REMARK
Ethanol, 2-(2-(2-butoxyethoxy)ethoxy)-	143-22-6			2.500	Human Oral	Long Term, systemic effects	
				117.000	Human Inhalation	Long Term, systemic effects	
				25.000	Human Dermal	Long Term, systemic effects	
				195.000	Human Inhalation	Long Term, systemic effects	
				25.000	Human Dermal	Long Term, systemic effects	
				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:

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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:	AMBER	
ODOUR:	NOT RELEVANT	
ODOUR THRESHOLD:	NOT RELEVANT	
PH:	8.88	(ASTM D1287)
MELTING POINT / FREEZING POINT:	N.A. <-50°C	
INITIAL BOILING POINT AND BOILING RANGE:	205 °C (401 °F)	(ASTM D1120)
FLASH POINT:	94 °C (201 °F)	(ASTM D92)
EVAPORATION RATE:	N.A.	
UPPER/LOWER FLAMMABILITY OR EXPLOSIVE LIMITS:	N.A.	
VAPOUR DENSITY:	N.A.	
VAPOUR PRESSURE:	N.A.	
DENSITY	1.03 g/cm ³	(ASTM D1298)
SOLUBILITY IN WATER:	MISCIBLE	
SOLUBILITY IN OIL:	N.A.	
PARTITION COEFFICIENT (N-OCTANOL/WATER):	N.A.	
AUTO-IGNITION TEMPERATURE:	301 °C (574 °F)	(ASTM E659)
DECOMPOSITION TEMPERATURE:	N.A.	
KINEMATIC VISCOSITY AT 100°C	N.A.	
KINEMATIC VISCOSITY AT 40°C	N.A.	
EXPLOSIVE PROPERTIES	N.A.	
OXIDIZING PROPERTIES	N.A.	
FLAMMABILITY (SOLID, GAS)	N.A.	

SECTION 10: STABILITY AND REACTIVITY

10.1. REACTIVITY

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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

This product is alkaline: has to avoid contact with acid substances. This contact may prime a neutralization reaction that sometimes can be violent and give origin to heat development and product jets. Avoid contact with strong oxidizing agents and other hard bases too.

10.6. HAZARDOUS DECOMPOSITION PRODUCTS

Oxides of carbon and compounds of nitrogen.

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:

The product is irritating.

RESPIRATORY SENSITIZATION:

This product is not classified in this hazard class.

SKIN SENSITIZATION:

This product is not classified in this hazard class.

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GERM CELL MUTAGENICITY:

Based on available data, the classification criteria are not met.

CARCINOGENICITY:

Based on available data, the classification criteria are not met.

REPRODUCTIVE TOXICITY:

Based on available data, the classification criteria are not met.

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 on main components of the mixture:	No data available
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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 product

No data available

12.2. PERSISTENCE AND DEGRADABILITY

Data on biodegradability of product are not available.

N.A.

12.3. BIOACCUMULATIVE POTENTIAL

Not available.

N.A.

12.4. MOBILITY IN SOIL

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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.

N.A.

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 is to be considered a special waste to be classified in accordance to Directive 2008/98/EC on waste and related legislation.

Recover, if possible. Send to authorised disposal plants or for incineration under controlled conditions. In so doing, comply with the local and national regulations currently in force.

SECTION 14: TRANSPORT INFORMATION

14.1. UN NUMBER

N/A

14.2. UN PROPER SHIPPING NAME

ADR-Shipping Name: N/A

IATA-Technical name: N/A

IMDG-Technical 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

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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 Code: N/A
IMDG-Stowage Note: N/A
IMDG-Subsidiary hazards: N/A
IMDG-Special Provisions: N/A
IMDG-Page: N/A
IMDG-Label: N/A
IMDG-EMS: N/A
IMDG-MFAG: 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

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P.U. (A) 39/1996 of the Occupational Safety and Health (Control of Industrial Major Accident Hazards)

SECTION 16: OTHER INFORMATION

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: 17/08/2021

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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
H302	Harmful if swallowed.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H361	Suspected of damaging fertility or the unborn child.
H361	Suspected of damaging fertility or the unborn child.
H361d	Suspected of damaging the unborn child.

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.

ADN: 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

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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.

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