PETRA DOT 4 BRAKE FLUID 12/32 OZ

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Revision date: 05/02/2013 : Version:

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form : Mixtures

Trade name : PETRA DOT 4 BRAKE FLUID 12/32 OZ

Product code : PETRA6432

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : FOLLOW LABEL DIRECTIONS

1.3. Details of the supplier of the safety data sheet

Petra Oil Company
6100 West by Northwest Blvd. Ste. 190
Houston, TX 77040

1.4. Emergency telephone number

Emergency number : CHEMTREC 24 Hour 1-800-424-9300

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (GHS-US)

Acute Tox. 4 (Oral)	H302
Acute Tox. 4 (Inhalation:dust,mist)	H332
Eye Dam. 1	H318
STOT RE 2	H373

2.2. Label elements

GHS-US labeling

Hazard pictograms (GHS-US) :

GHS05 GHS07 GHS08

Signal word (GHS-US) : Danger

Hazard statements (GHS-US) :
H302 - Harmful if swallowed
H318 - Causes serious eye damage
H332 - Harmful if inhaled
H373 - May cause damage to organs through prolonged or repeated exposure

Precautionary statements (GHS-US) :
P260 - Do not breathe dust/fume/gas/mist/vapors/spray
P261 - Avoid breathing dust/fume/gas/mist/vapors/spray
P264 - Wash ... thoroughly after handling
P270 - Do no eat, drink or smoke when using this product
P271 - Use only outdoors or in a well-ventilated area
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P301+P312 - If swallowed, call a doctor if you feel unwell
P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing
P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P310 - Immediately call a POISON CENTER/doctor/…
P312 - Call a POISON CENTER/doctor/…/if you feel unwell
P314 - Get medical advice and attention if you feel unwell
P330 - If swallowed, rinse mouth
P501 - Dispose of contents/container to ...

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS US)

No data available

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	Classification (GHS-US)
TRIETHYLENE GLYCOL MONOMETHYL BORATE ESTER	(CAS No) 71243-41-9	30 - 40	Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Dermal), H312 Acute Tox. 4 (Inhalation:dust,mist), H332 Eye Irrit. 2B, H320
triethylene glycol monomethyl ether	(CAS No) 112-35-6	28 - 31	Not classified
methoxy polyethylene glycol 350	(CAS No) 9004-74-4	14 - 28	Not classified
diethylene glycol	(CAS No) 111-46-6	0 - 5	STOT RE 2, H373
triethylene glycol monobutyl ether	(CAS No) 143-22-6	0 - 3.25	Eye Dam. 1, H318
tetraethylene glycol	(CAS No) 112-60-7	0 - 2	Not classified
polyethylene glycol 200-600	(CAS No) 25322-68-3	0 - 2	Not classified
3,6,9,12-tetraoxahexadecane-1-ol	(CAS No) 1559-34-8	0 - 1.5	Not classified

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

First-aid measures after inhalation : Assure fresh air breathing. Allow the victim to rest. Remove to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER/doctor/physician if you feel unwell.

First-aid measures after skin contact : Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse.

First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician.

First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention. Call a POISON CENTER/doctor/physician if you feel unwell.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries : Causes damage to organs.

Symptoms/injuries after inhalation : Danger of serious damage to health by prolonged exposure through inhalation. Harmful if inhaled.

Symptoms/injuries after eye contact : Causes serious eye damage.

Symptoms/injuries after ingestion : Swallowing a small quantity of this material will result in serious health hazard.

4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

suitable extinguishing media : Foam. Dry powder. Carbon dioxide. Water spray. Sand.

Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

No additional information available

5.3. Advice for firefighters

Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Avoid (reject) fire-fighting water to enter environment.

Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment : Equip cleanup crew with proper protection.

Emergency procedures : Ventilate area.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling	:	Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapor. Use only outdoors or in a well-ventilated area. Avoid breathing dust/fume/gas/mist/vapors/spray.
Hygiene measures	:	Do no eat, drink or smoke when using this product. Wash ... thoroughly after handling.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions	:	Keep only in the original container in a cool, well ventilated place away from : Keep container closed when not in use.
Incompatible products	:	Strong bases. strong acids.
Incompatible materials	:	Sources of ignition. Direct sunlight.

7.3. Specific end use(s)

Follow Label Directions.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.2. Exposure controls

Personal protective equipment	:	Avoid all unnecessary exposure.
Hand protection	:	Wear protective gloves.
Eye protection	:	Chemical goggles or safety glasses.
Respiratory protection	:	Wear appropriate mask.
Other information	:	Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Liquid
Color	:	Colourless to light yellow. colorless.
Odor	:	mild. characteristic.
Odor threshold	:	No data available
pH	:	8.6
Relative evaporation rate (butyl acetate=1)	:	No data available
Melting point	:	< -50 ℃
Freezing point	:	< -50 ℃
Boiling point	:	> 243 ℃
Flash point	:	> 121 ℃
Self ignition temperature	:	310 ℃
Decomposition temperature	:	No data available
Flammability (solid, gas)	:	No data available
Vapor pressure	:	< 0.01 mm Hg
Relative vapor density at 20 ℃	:	No data available
Relative density	:	1.06
Solubility	:	Soluble in water.
Log Pow	:	No data available
Log Kow	:	No data available
Viscosity, kinematic	:	No data available
Viscosity, dynamic	:	No data available
Explosive properties	:	No data available
Oxidizing properties	:	No data available
Explosive limits	:	No data available

9.2. Other information

VOC content	:	0.5 %

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

Not established.

10.3. Possibility of hazardous reactions

Not established.

10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures.

10.5. Incompatible materials

Oxidizing agent. strong acids. Strong bases.

10.6. Hazardous decomposition products

fume. Carbon monoxide. Carbon dioxide.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Harmful if swallowed. Harmful if inhaled.

TRIETHYLENE GLYCOL MONOMETHYL BORATE ESTER (71243-41-9)	
LD50 oral rat	> 5 g/kg
LD50 dermal rabbit	> 2 g/kg
LC50 inhalation rat (mg/l)	200 mg/l

triethylene glycol monomethyl ether (112-35-6)	
LD50 oral rat	11865 mg/kg (Rat)
LD50 dermal rabbit	7455 mg/kg (Rabbit)

methoxy polyethylene glycol 350 (9004-74-4)	
LD50 oral rat	22000 mg/kg (Rat)
LD50 dermal rabbit	> 20000 mg/kg (Rabbit)

diethylene glycol (111-46-6)	
LD50 oral rat	12565 mg/kg (Rat)
LD50 dermal rabbit	11890 mg/kg (Rabbit)

triethylene glycol monobutyl ether (143-22-6)	
LD50 oral rat	> 5000 mg/kg (Rat)
LD50 dermal rabbit	3480 mg/kg (Rabbit)

tetraethylene glycol (112-60-7)	
LD50 oral rat	29000 mg/kg (Rat)
LD50 dermal rabbit	> 20000 mg/kg (Rabbit)

polyethylene glycol 200-600 (25322-68-3)	
LD50 oral rat	> 15000 mg/kg (Rat)
LD50 dermal rabbit	> 20000 mg/kg (Rabbit)

3,6,9,12-tetraoxahexadecane-1-ol (1559-34-8)	
LD50 oral rat	> 5000 mg/kg (Rat)
LD50 dermal rat	> 4000 mg/kg (Rat)

Skin corrosion/irritation : Not classified
pH: 8.6

Serious eye damage/irritation : Causes serious eye damage.
pH: 8.6

Respiratory or skin sensitization : Not classified

Germ cell mutagenicity : Not classifiedBased on available data, the classification criteria are not met

Carcinogenicity : Not classified

Reproductive toxicity : Not classifiedBased on available data, the classification criteria are not met

Specific target organ toxicity (single exposure) : Not classified

Specific target organ toxicity (repeated exposure) : May cause damage to organs through prolonged or repeated exposure.Based on available data, the classification criteria are not met

Aspiration hazard : Not classifiedBased on available data, the classification criteria are not met

Potential Adverse human health effects and symptoms : Harmful if swallowed. Harmful if inhaled.

Symptoms/injuries after inhalation	:	Danger of serious damage to health by prolonged exposure through inhalation. Harmful if inhaled.
Symptoms/injuries after eye contact	:	Causes serious eye damage.
Symptoms/injuries after ingestion	:	Swallowing a small quantity of this material will result in serious health hazard.

SECTION 12: Ecological information

12.1. Toxicity

triethylene glycol monomethyl ether (112-35-6)	
LC50 fish 1	> 5000 mg/l (96 h; Brachydanio rerio; MEASURED CONCENTRATION)
EC50 other aquatic organisms 1	> 5000 mg/l (16 h; Activated sludge; CELL NUMBERS)
LC50 fish 2	> 10000 mg/l (96 h; Pimephales promelas)
TLM fish 1	> 1000 ppm (96 h; Pisces)
TLM other aquatic organisms 1	> 1000 ppm (96 h)
Threshold limit algae 1	> 500 mg/l (72 h; Scenedesmus subspicatus)

methoxy polyethylene glycol 350 (9004-74-4)	
LC50 fish 1	> 10000 mg/l (Pimephales promelas)

diethylene glycol (111-46-6)	
LC50 fish 1	> 5000 ppm (24 h; Carassius auratus)
LC50 other aquatic organisms 1	1174 mg/l (Xenopus laevis)
EC50 Daphnia 1	> 10000 mg/l (24 h; Daphnia magna)
LC50 fish 2	61072 ppm (168 h; Poecilia reticulata)
TLM fish 1	> 32000 mg/l (96 h; Gambusia affinis)
TLM other aquatic organisms 1	> 1000 ppm (96 h)
Threshold limit other aquatic organisms 1	1174 mg/l (72 h; Xenopus laevis; TOXICITY TEST)
Threshold limit other aquatic organisms 2	10745 mg/l (16 h; Protozoa; TOXICITY TEST)
Threshold limit algae 1	2700 mg/l (168 h; Scenedesmus quadricauda)
Threshold limit algae 2	100 mg/l (Selenastrum capricornutum)

triethylene glycol monobutyl ether (143-22-6)	
LC50 fish 1	2400 mg/l (96 h; Pimephales promelas; Static system)
EC50 Daphnia 1	3200 mg/l (24 h; Daphnia magna)
LC50 fish 2	2200 mg/l (96 h; Leuciscus idus)
EC50 Daphnia 2	> 500 mg/l (48 h; Daphnia magna)

tetraethylene glycol (112-60-7)	
LC50 fish 1	> 5000 mg/l (24 h; Carassius auratus)

polyethylene glycol 200-600 (25322-68-3)	
LC50 fish 1	> 1000 mg/l (96 h; Pisces)
LC50 other aquatic organisms 1	> 1000 mg/l (96 h)
LC50 fish 2	> 5000 mg/l (24 h; Carassius auratus)
Threshold limit other aquatic organisms 1	<= 100 mg/l (96 h; Plankton)
Threshold limit other aquatic organisms 2	> 1000 mg/l
Threshold limit algae 2	500 mg/l (720 h; Algae; NO EFFECT)

3,6,9,12-tetraoxahexadecane-1-ol (1559-34-8)	
LC50 fish 1	> 1409 mg/l 96 h; Salmo gairdneri (Oncorhynchus mykiss)
EC50 Daphnia 1	> 1000 mg/l (48 h; Daphnia magna)

12.2. Persistence and degradability

PETRA DOT 4 BRAKE FLUID 12/32 OZ	
Persistence and degradability	Not established.

TRIETHYLENE GLYCOL MONOMETHYL BORATE ESTER (71243-41-9)	
Persistence and degradability	Not established.

triethylene glycol monomethyl ether (112-35-6)	
Persistence and degradability	Inherently biodegradable. Non degradable in the soil. Photodegradation in the air.

methoxy polyethylene glycol 350 (9004-74-4)	
Persistence and degradability	Not readily biodegradable in water.

diethylene glycol (111-46-6)	
Persistence and degradability	Readily biodegradable in water. Biodegradable in the soil. Photolysis in the air.

diethylene glycol (111-46-6)	
Biochemical oxygen demand (BOD)	0.02 g O^2/g substance
Chemical oxygen demand (COD)	1.51 g O^2/g substance
ThOD	1.51 g O^2/g substance
BOD (% of ThOD)	0.015 % ThOD

triethylene glycol monobutyl ether (143-22-6)	
Persistence and degradability	Readily biodegradable in water.
Biochemical oxygen demand (BOD)	0.02 g O^2/g substance
Chemical oxygen demand (COD)	1.83 g O^2/g substance

tetraethylene glycol (112-60-7)	
Persistence and degradability	Readily biodegradable in water.
Biochemical oxygen demand (BOD)	0.50 g O^2/g substance (10d)
ThOD	2.23 g O^2/g substance
BOD (% of ThOD)	28.6 % ThOD

polyethylene glycol 200-600 (25322-68-3)	
Persistence and degradability	Biodegradability in water: no data available.

3,6,9,12-tetraoxahexadecane-1-ol (1559-34-8)	
Persistence and degradability	Not readily biodegradable in water. Inherently biodegradable.
ThOD	2.05 g O^2/g substance

12.3. Bioaccumulative potential

PETRA DOT 4 BRAKE FLUID 12/32 OZ	
Bioaccumulative potential	Not established.

TRIETHYLENE GLYCOL MONOMETHYL BORATE ESTER (71243-41-9)	
Bioaccumulative potential	Not established.

triethylene glycol monomethyl ether (112-35-6)	
Log Pow	-1.13
Bioaccumulative potential	Bioaccumulation: not applicable.

methoxy polyethylene glycol 350 (9004-74-4)	
Bioaccumulative potential	Not bioaccumulative.

diethylene glycol (111-46-6)	
Log Pow	-1.98
Bioaccumulative potential	Bioaccumulation: not applicable.

triethylene glycol monobutyl ether (143-22-6)	
Log Pow	0.51 (Experimental value)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

tetraethylene glycol (112-60-7)	
Log Pow	-2.18 - -1.38
Bioaccumulative potential	Bioaccumulation: not applicable.

polyethylene glycol 200-600 (25322-68-3)	
Log Pow	-1.2
Bioaccumulative potential	Bioaccumulation: not applicable.

3,6,9,12-tetraoxahexadecane-1-ol (1559-34-8)	
Log Pow	-0.26 (Calculated)
Bioaccumulative potential	Bioaccumulation: not applicable.

12.4. Mobility in soil

triethylene glycol monomethyl ether (112-35-6)	
Surface tension	0.0314 N/m

methoxy polyethylene glycol 350 (9004-74-4)	
Surface tension	0.04 N/m

diethylene glycol (111-46-6)	
Surface tension	0.0485 N/m

tetraethylene glycol (112-60-7)	
Surface tension	0.019 N/m

12.5. Other adverse effects

Other information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste disposal recommendations : Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to ...

Ecology - waste materials : Avoid release to the environment.

SECTION 14: Transport information

In accordance with ADR / RID / ADNR / IMDG / ICAO / IATA

US DOT (ground): NOT REGULATED,

ICAO/IATA (air): NOT REGULATED,

IMO/IMDG (water): NOT REGULATED,

14.2. UN proper shipping name

DOT Proper Shipping Name : NOT REGULATED

14.3. Additional information

Other information : No supplementary information available.

Overland transport

No additional information available

Transport by sea

No additional information available

Air transport

No additional information available

SECTION 15: Regulatory information

15.1. US Federal regulations

PETRA DOT 4 BRAKE FLUID 12/32 OZ	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Delayed (chronic) health hazard Fire hazard

TRIETHYLENE GLYCOL MONOMETHYL BORATE ESTER (71243-41-9)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. International regulations

CANADA

TRIETHYLENE GLYCOL MONOMETHYL BORATE ESTER (71243-41-9)
Listed on the Canadian DSL (Domestic Substances List) inventory.

EU-Regulations

TRIETHYLENE GLYCOL MONOMETHYL BORATE ESTER (71243-41-9)
Listed on European List of Notified Chemical Substances (ELINCS)

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Classification according to Directive 67/548/EEC or 1999/45/EC

Not classified

15.2.2. National regulations

PETRA DOT 4 BRAKE FLUID 12/32 OZ
Listed on the AICS (the Australian Inventory of Chemical Substances)

15.3. US State regulations

TRIETHYLENE GLYCOL MONOMETHYL BORATE ESTER (71243-41-9)
U.S. - California - Proposition 65 - Maximum Allowable Dose Levels (MADL)

SECTION 16: Other information

Indication of changes : Revision - See : *.

Other information : None.

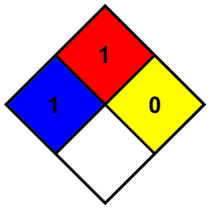
Full text of H-phrases: see section 16:

Acute Tox. 4 (Dermal)	Acute toxicity (dermal) Category 4
Acute Tox. 4 (Inhalation:dust,mist)	Acute toxicity (inhalation:dust,mist) Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral) Category 4
Eye Dam. 1	Serious eye damage/eye irritation Category 1
Eye Irrit. 2B	Serious eye damage/eye irritation Category 2B
STOT RE 2	Specific target organ toxicity (repeated exposure) Category 2
H302	Harmful if swallowed
H312	Harmful in contact with skin
H318	Causes serious eye damage
H332	Harmful if inhaled
H373	May cause damage to organs through prolonged or repeated exposure

NFPA health hazard : 1 - Exposure could cause irritation but only minor residual injury even if no treatment is given.

NFPA fire hazard : 1 - Must be preheated before ignition can occur.

NFPA reactivity : 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.



HMIS III Rating

Health : 2 Moderate Hazard - Temporary or minor injury may occur

Flammability : 1 Slight Hazard

Physical : 0 Minimal Hazard

SDS US (GHS HazCom 2012) - Technical Chemical

The Supplier identified in Section 1 of this MSDS has evaluated this product and certifies it to be labeled and packaged in compliance with the applicable provisions of the Federal Hazardous Substance Act as stated in 16 CFR 1500 and enforced by the Consumer Product Safety Commission, and where applicable the products that require Child Resistant Closures are packaged in accordance with the Poison Prevention Packaging Act as stated in 16 CFR 1700 and enforced by the Consumer Product Safety Commission. All closures have been tested in accordance with the latest protocols. No other testing is required to certify compliance with the above. The date of manufacture is stamped on the product