

PROTEX/BARDAHL DOT 3 BRAKE FLUID 12 FL.OZ.

Safety Data Sheet

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

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Version: 1.2

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

1.1. Product identifier

Product form : Mixture
Trade name : PROTEX/BARDAHL DOT 3 BRAKE FLUID 12 FL.OZ.
Product code : 58130

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

Use of the substance/mixture : Brake Fluid

1.3. Details of the supplier of the safety data sheet

Bardahl Manufacturing Corporation
PO BOX 70607
Seattle, WA 98127-0607
T 206-783-4851

1.4. Emergency telephone number

Emergency number : CHEMTREC 24 Hour 1-800-424-9300, 1-703-527-3887 (International)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GHS-US classification

Acute Tox. 4 (Oral) H302
Acute Tox. 4 (Inhalation:dust,mist) H332
Skin Irrit. 2 H315
Eye Dam. 1 H318
STOT RE 2 H373

Full text of H statements : see section 16

2.2. Label elements

GHS-US labeling

Hazard pictograms (GHS-US) :



GHS05

GHS07

GHS08

Signal word (GHS-US) :

Danger

Hazard statements (GHS-US) :

H302+H332 - Harmful if swallowed or if inhaled
H315 - Causes skin irritation
H318 - Causes serious eye damage
H373 - May cause damage to organs through prolonged or repeated exposure

Precautionary statements (GHS-US) :

P260 - Do not breathe dust,fumes,gas,mist,vapor spray
P261 - Avoid breathing dust,fume,gas,mist,vapor spray
P264 - Wash affected areas thoroughly after handling
P270 - Do not 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 poison center, doctor if you feel unwell
P302+P352 - If on skin: Wash with plenty of soap and water
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, physician
P312 - Call a POISON CONTROL CENTER, doctor, if you feel unwell.
P314 - Get medical advice/attention if you feel unwell
P321 - Specific treatment: See section 4.1 on SDS
P330 - Rinse mouth
P332+P313 - If skin irritation occurs: Get medical advice/attention
P362+P364 - Take off contaminated clothing and wash it before reuse
P501 - Dispose of contents/container to appropriate waste disposal facility, in accordance with local, regional, national, international regulations.

2.3. Other hazards

Other hazards not contributing to the classification :

None under normal conditions.

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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	%	GHS-US classification
Triethyleneglycol Monoethyl Ether	(CAS No) 112-50-5	15 - 40	Not classified
Triethylene Glycol Monobutyl Ether	(CAS No) 143-22-6	1 - 30	Eye Dam. 1, H318
3,6,9,12-Tetraoxatetradecane-1,14-diol	(CAS No) 4792-15-8	< 30	Not classified
Triethylene Glycol Monomethyl Ether	(CAS No) 112-35-6	1 - 30	Not classified
Tetraethylene Glycol	(CAS No) 112-60-7	1 - 25	Not classified
Polyalkylene Glycol Monobutyl Ether	(CAS No) 9004-77-7	1 - 20	Not classified
Triethyleneglycol	(CAS No) 112-27-6	1 - 20	Not classified
2-(2-Butoxyethoxy) Ethanol	(CAS No) 112-34-5	< 10	Eye Irrit. 2A, H319
Diethylene Glycol	(CAS No) 111-46-6	< 5	Acute Tox. 4 (Oral), H302 STOT RE 2, H373
hexaethylene glycol	(CAS No) 2615-15-8	< 5	Not classified
sodium dihydrogenorthophosphate	(CAS No) 7558-80-7	< 5	Not classified
Polyethylene Glycol 200-600	(CAS No) 25322-68-3	< 5	Not classified
potassium dihydrogenorthophosphate	(CAS No) 7778-77-0	< 5	Not classified
trisodium orthophosphate	(CAS No) 7601-54-9	< 5	Skin Corr. 1A, H314
Diisopropanolamine	(CAS No) 110-97-4	< 3	Not classified
phosphoric acid ... %, orthophosphoric acid ... %	(CAS No) 7664-38-2	< 1	Skin Corr. 1B, H314
2,6-Di-tert-butyl-p-cresol	(CAS No) 128-37-0	< 1	Acute Tox. 4 (Oral), H302

The exact percentage is a trade secret.

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	: Allow victim to breathe fresh air. Allow the victim to rest. Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.
First-aid measures after skin contact	: Wash with plenty of soap and water. Wash contaminated clothing before reuse. If skin irritation occurs: Get medical advice/attention.
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 or 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 skin contact	: Causes skin irritation.
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. Prevent fire-fighting water from entering environment.
Protection during firefighting	: Do not enter fire area without proper protective equipment, including respiratory protection.

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SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Remove ignition sources.

6.1.1. For non-emergency personnel

Protective equipment : Gloves. Safety glasses.
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

For containment : Dam up the liquid spill. Contain released substance, pump into suitable containers. Plug the leak, cut off the supply.
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, vapor spray.
Hygiene measures : Do not eat, drink or smoke when using this product. Wash affected areas thoroughly after handling. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Wash contaminated clothing before reuse. Take off immediately all contaminated clothing and wash it before reuse. Always wash hands after handling the product. Remove contaminated clothes. Separate working clothes from town clothes. Launder separately.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Proper grounding procedures to avoid static electricity should be followed.
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

2-(2-Butoxyethoxy) Ethanol (112-34-5)

USA ACGIH	ACGIH TWA (ppm)	10 ppm (Diethylene glycol monobutyl ether; USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value; Inhalable fraction and vapor)
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2,6-Di-tert-butyl-p-cresol (128-37-0)

USA ACGIH	ACGIH TWA (mg/m ³)	2 mg/m ³ (Butylated hydroxytoluene (BHT); USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value; Inhalable fraction and vapor)
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8.2. Exposure controls

Appropriate engineering controls : Local exhaust ventilation, vent hoods . Ensure good ventilation of the work station.
Personal protective equipment : Gloves. Safety glasses. Avoid all unnecessary exposure.



Materials for protective clothing : GIVE EXCELLENT RESISTANCE:
Hand protection : Wear protective gloves.

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Eye protection	: Chemical goggles or safety glasses.
Skin and body protection	: Wear suitable protective clothing.
Respiratory protection	: Wear appropriate mask.
Environmental exposure controls	: Avoid release to the environment.
Consumer exposure controls	: Avoid contact during pregnancy/while nursing.
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
Appearance	: Liquid.
Color	: Colourless to light yellow.
Odor	: Ether-like odour.
Odor threshold	: No data available
pH	: 7 - 9
Relative evaporation rate (butyl acetate=1)	: No data available
Melting point	: No data available
Freezing point	: -51 °C Estimated
Boiling point	: 256 °C
Flash point	: 138 °C Closed Cup ASTM D 93
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapor pressure	: 0.01 mm Hg @ 20 deg C Estimated
Relative vapor density at 20 °C	: 6 Estimated
Relative density	: 1.03 - 1.07
Solubility	: Soluble in water. Water: 100 %
Log Pow	: No data available
Log Kow	: No data available
Viscosity, kinematic	: 990 cSt @ -40 deg C
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available
Explosion limits	: No data available

9.2. Other information

VOC content	: 0 %
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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

Strong acids. Strong bases.

10.6. Hazardous decomposition products

Toxic fume. . Carbon monoxide. Carbon dioxide.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity	: Oral: Harmful if swallowed. Inhalation:dust,mist: Harmful if inhaled.
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Triethylene Glycol Monobutyl Ether (143-22-6)	
LD50 oral rat	> 5000 mg/kg (Rat)
LD50 dermal rabbit	3480 mg/kg (Rabbit)
Diethylene Glycol (111-46-6)	
LD50 dermal rabbit	11890 mg/kg (Rabbit)
2-(2-Butoxyethoxy) Ethanol (112-34-5)	
LD50 oral rat	5660 mg/kg (Rat)
LD50 dermal rabbit	2764 mg/kg (Rabbit; Experimental value; OECD 402: Acute Dermal Toxicity)
Tetraethylene Glycol (112-60-7)	
LD50 oral rat	29000 mg/kg (Rat)
LD50 dermal rabbit	> 20000 mg/kg (Rabbit)
Diisopropanolamine (110-97-4)	
LD50 oral rat	4765 mg/kg (Rat)
LD50 dermal rat	16000 mg/kg (Rat)
LD50 dermal rabbit	8000 mg/kg (Rabbit)
Triethyleneglycol (112-27-6)	
LD50 oral rat	> 5000 mg/kg (Rat)
LD50 dermal rabbit	> 5000 mg/kg (Rabbit)
Triethyleneglycol Monoethyl Ether (112-50-5)	
LD50 oral rat	7750 mg/kg (Rat)
LD50 dermal rabbit	8168 mg/kg (Rabbit)
Triethylene Glycol Monomethyl Ether (112-35-6)	
LD50 oral rat	11865 mg/kg (Rat)
LD50 dermal rabbit	7455 mg/kg (Rabbit)
hexaethylene glycol (2615-15-8)	
LD50 oral rat	32000 mg/kg (Rat)
sodium dihydrogenorthophosphate (7558-80-7)	
LD50 oral rat	8290 mg/kg (Rat)
LD50 dermal rabbit	> 7940 mg/kg (Rabbit)
Polyethylene Glycol 200-600 (25322-68-3)	
LD50 oral rat	> 15000 mg/kg (Rat)
LD50 dermal rabbit	> 20000 mg/kg (Rabbit)
potassium dihydrogenorthophosphate (7778-77-0)	
LD50 oral rat	7100 mg/kg (Rat)
LD50 dermal rabbit	> 4640 mg/kg (Rabbit)
trisodium orthophosphate (7601-54-9)	
LD50 oral rat	4800 mg/kg (Rat; OECD 420: Acute Oral toxicity – Acute Toxic Class Method; Experimental value; >2000 mg/kg bodyweight; Rat)
LD50 dermal rat	> 2000 mg/kg body weight (Rat; Read-across; OECD 402: Acute Dermal Toxicity)
LD50 dermal rabbit	> 2000 mg/kg (Rabbit)
2,6-Di-tert-butyl-p-cresol (128-37-0)	
LD50 oral rat	890 mg/kg (Rat; OECD 401: Acute Oral Toxicity; Experimental value; >6000 mg/kg bodyweight; Rat)
LD50 dermal rat	> 2000 mg/kg (Rat; Literature study; OECD 402: Acute Dermal Toxicity; >2000 mg/kg bodyweight; Rat; Experimental value)

Skin corrosion/irritation	: Causes skin irritation. pH: 7 - 9
Serious eye damage/irritation	: Causes serious eye damage. pH: 7 - 9
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified

Polyalkylene Glycol Monobutyl Ether (9004-77-7)	
IARC group	4
2,6-Di-tert-butyl-p-cresol (128-37-0)	
IARC group	3

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Reproductive toxicity	: Not classified
Specific target organ toxicity – single exposure	: Not classified
Specific target organ toxicity – repeated exposure	: May cause damage to organs through prolonged or repeated exposure.
Aspiration hazard	: Not classified
Potential Adverse human health effects and symptoms	: Based on available data, the classification criteria are not met. 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 skin contact	: Causes skin irritation.
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 Monobutyl Ether (143-22-6)	
LC50 fish 2	2200 mg/l (LC50; 96 h)
EC50 Daphnia 2	> 500 mg/l (EC50; 48 h)
Threshold limit algae 1	> 500 mg/l (EC50; 72 h)
Diethylene Glycol (111-46-6)	
LC50 fish 1	> 5000 ppm (LC50; 24 h)
EC50 Daphnia 1	> 10000 mg/l (EC50; 24 h)
2-(2-Butoxyethoxy) Ethanol (112-34-5)	
LC50 fish 1	1300 mg/l (LC50; OECD 203: Fish, Acute Toxicity Test; 96 h; Lepomis macrochirus; Static system; Fresh water; Experimental value)
EC50 Daphnia 2	> 100 mg/l (EC50; OECD 202: Daphnia sp. Acute Immobilisation Test; 48 h; Daphnia magna; Static system; Fresh water; Experimental value)
Diisopropanolamine (110-97-4)	
LC50 fish 1	1000 - 2200 mg/l (LC50; OECD 203: Fish, Acute Toxicity Test; 96 h; Brachydanio rerio)
EC50 Daphnia 2	277.7 mg/l (EC50; 48 h)
Threshold limit algae 1	270 mg/l (EC50; 72 h)
Triethyleneglycol (112-27-6)	
EC50 Daphnia 1	42426 mg/l (EC50; 48 h)
LC50 fish 2	61000 mg/l (LC50; 96 h; Lepomis macrochirus)
Threshold limit algae 2	> 10000 mg/l (EC0; 168 h)
Triethyleneglycol Monoethyl Ether (112-50-5)	
LC50 fish 1	> 10000 mg/l (LC50; 96 h)
EC50 Daphnia 1	> 10000 mg/l (LC50; 48 h)
Triethylene Glycol Monomethyl Ether (112-35-6)	
LC50 fish 1	> 5000 mg/l (LC50; 96 h)
EC50 Daphnia 1	> 10000 mg/l (LC50; 48 h)
Threshold limit algae 1	> 500 mg/l (EC50; 72 h)
sodium dihydrogenorthophosphate (7558-80-7)	
LC50 fish 1	> 2400 mg/l (LC50; OECD 203: Fish, Acute Toxicity Test; 48 h; Leuciscus idus)
EC50 Daphnia 1	126 ppm (TLm; 72 h)
Polyethylene Glycol 200-600 (25322-68-3)	
LC50 fish 2	> 5000 mg/l (LC50; 24 h)
Threshold limit algae 2	500 mg/l (EC0; 720 h)
potassium dihydrogenorthophosphate (7778-77-0)	
LC50 fish 1	> 900 mg/l (LC50; 48 h)
trisodium orthophosphate (7601-54-9)	
EC50 Daphnia 1	120 mg/l (LC50; 50 h; Daphnia magna)
LC50 fish 2	220 mg/l (LC50; 96 h; Lepomis macrochirus)
2,6-Di-tert-butyl-p-cresol (128-37-0)	
LC50 fish 1	>= 0.57 mg/l (LC0; EU Method C.1; 96 h; Brachydanio rerio; Semi-static system; Fresh water; Experimental value)
EC50 Daphnia 1	0.48 mg/l (EC50; OECD 202: Daphnia sp. Acute Immobilisation Test; 48 h; Daphnia magna; Static system; Fresh water; Experimental value)

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2,6-Di-tert-butyl-p-cresol (128-37-0)	
LC50 fish 2	0.199 mg/l (LC50; ECOSAR v1.00; 96 h; Pisces)
EC50 Daphnia 2	0.15 mg/l (NOEC; OECD 202: Daphnia sp. Acute Immobilisation Test; 48 h; Daphnia magna; Static system; Fresh water; Experimental value)
12.2. Persistence and degradability	
PROTEX/BARDAHL DOT 3 BRAKE FLUID 12 FL.OZ.	
Persistence and degradability	Not established.
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
Diethylene Glycol (111-46-6)	
Persistence and degradability	Readily biodegradable in water. Biodegradable in the soil. Highly mobile in soil. Photolysis in the air.
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
2-(2-Butoxyethoxy) Ethanol (112-34-5)	
Persistence and degradability	Readily biodegradable in water. Biodegradable in the soil. No (test)data on mobility of the substance available. Photodegradation in the air.
Biochemical oxygen demand (BOD)	0.25 g O ₂ /g substance
Chemical oxygen demand (COD)	2.08 g O ₂ /g substance
ThOD	2.173 g O ₂ /g substance
BOD (% of ThOD)	0.11
Polyalkylene Glycol Monobutyl Ether (9004-77-7)	
Persistence and degradability	Not established.
Tetraethylene Glycol (112-60-7)	
Persistence and degradability	Readily biodegradable in water.
Biochemical oxygen demand (BOD)	0.5 g O ₂ /g substance (10d)
ThOD	2.23 g O ₂ /g substance
BOD (% of ThOD)	0.286
3,6,9,12-Tetraoxatetradecane-1,14-diol (4792-15-8)	
Persistence and degradability	Biodegradability in water: no data available.
Diisopropanolamine (110-97-4)	
Persistence and degradability	Not readily biodegradable in water.
Triethyleneglycol (112-27-6)	
Persistence and degradability	Inherently biodegradable. Readily biodegradable in water. Photolysis in the air.
Biochemical oxygen demand (BOD)	0.03 g O ₂ /g substance
Chemical oxygen demand (COD)	1.57 g O ₂ /g substance
ThOD	1.6 g O ₂ /g substance
Triethyleneglycol Monoethyl Ether (112-50-5)	
Persistence and degradability	Readily biodegradable in water.
Triethylene Glycol Monomethyl Ether (112-35-6)	
Persistence and degradability	Inherently biodegradable. Non degradable in the soil. Photodegradation in the air. Not established.
hexaethylene glycol (2615-15-8)	
Persistence and degradability	Biodegradability in water: no data available.
sodium dihydrogenorthophosphate (7558-80-7)	
Persistence and degradability	Biodegradability: not applicable. Not established.
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
Polyethylene Glycol 200-600 (25322-68-3)	
Persistence and degradability	Biodegradability in water: no data available. Not established.
potassium dihydrogenorthophosphate (7778-77-0)	
Persistence and degradability	Biodegradability: not applicable. Not established.

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potassium dihydrogenorthophosphate (7778-77-0)	
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
trisodium orthophosphate (7601-54-9)	
Persistence and degradability	Biodegradability: not applicable. Biodegradability in soil: not applicable. No (test)data on mobility of the substance available. Not established.
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
phosphoric acid ... %, orthophosphoric acid ... % (7664-38-2)	
Persistence and degradability	Not established.
2,6-Di-tert-butyl-p-cresol (128-37-0)	
Persistence and degradability	Not readily biodegradable in water. Biodegradable in the soil. Adsorbs into the soil. Low potential for mobility in soil. Photooxidation in the air.
Biochemical oxygen demand (BOD)	0.51 g O ₂ /g substance
Chemical oxygen demand (COD)	2.27 g O ₂ /g substance
ThOD	2.977 g O ₂ /g substance
BOD (% of ThOD)	0.17
12.3. Bioaccumulative potential	
PROTEX/BARDAHL DOT 3 BRAKE FLUID 12 FL.OZ.	
Bioaccumulative potential	Not established.
Triethylene Glycol Monobutyl Ether (143-22-6)	
Log Pow	0.51 (Experimental value)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).
Diethylene Glycol (111-46-6)	
BCF fish 1	100 (BCF; Other; 3 days; Leuciscus melanotus; Static system; Fresh water; Experimental value)
Log Pow	-1.98 (Calculated; Other)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).
2-(2-Butoxyethoxy) Ethanol (112-34-5)	
BCF fish 1	0.46 (BCF)
Log Pow	0.56 (Experimental value)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).
Polyalkylene Glycol Monobutyl Ether (9004-77-7)	
Bioaccumulative potential	Not established.
Tetraethylene Glycol (112-60-7)	
Log Pow	-2.18 - -1.38
Bioaccumulative potential	Bioaccumulation: not applicable.
3,6,9,12-Tetraoxatetradecane-1,14-diol (4792-15-8)	
Log Pow	-2.3 (Estimated value)
Bioaccumulative potential	Bioaccumulation: not applicable.
Diisopropanolamine (110-97-4)	
Log Pow	-0.79
Bioaccumulative potential	Bioaccumulation: not applicable.
Triethyleneglycol (112-27-6)	
Log Pow	-2.08 - -1.17 (Calculated)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).
Triethyleneglycol Monoethyl Ether (112-50-5)	
Bioaccumulative potential	Not bioaccumulative.
Triethylene Glycol Monomethyl Ether (112-35-6)	
Log Pow	-1.13
Bioaccumulative potential	Bioaccumulation: not applicable. Not established.
hexaethylene glycol (2615-15-8)	
Bioaccumulative potential	No bioaccumulation data available.
sodium dihydrogenorthophosphate (7558-80-7)	
Log Pow	-3.96 (Estimated value)

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sodium dihydrogenorthophosphate (7558-80-7)	
Bioaccumulative potential	Bioaccumulation: not applicable. Not established.
Polyethylene Glycol 200-600 (25322-68-3)	
Log Pow	-1.2
Bioaccumulative potential	Bioaccumulation: not applicable. Not established.
potassium dihydrogenorthophosphate (7778-77-0)	
Bioaccumulative potential	No bioaccumulation data available. Not established.
trisodium orthophosphate (7601-54-9)	
Bioaccumulative potential	No bioaccumulation data available. Not established.
phosphoric acid ... %, orthophosphoric acid ... % (7664-38-2)	
Bioaccumulative potential	Not established.
2,6-Di-tert-butyl-p-cresol (128-37-0)	
BCF fish 1	230 - 2500 (BCF; OECD 305: Bioconcentration: Flow-Through Fish Test; 56 days; Cyprinus carpio; Flow-through system; Fresh water; Experimental value)
Log Pow	5.1 (Experimental value)
Bioaccumulative potential	Potential for bioaccumulation ($500 \leq \text{BCF} \leq 5000$).

12.4. Mobility in soil

Diethylene Glycol (111-46-6)	
Surface tension	0.0485 N/m
Log Koc	Koc, SRC PCKOCWIN v1.66; 1; Calculated value; log Koc; SRC PCKOCWIN v1.66; 0; Calculated value
2-(2-Butoxyethoxy) Ethanol (112-34-5)	
Surface tension	0.034 N/m (25 °C)
Tetraethylene Glycol (112-60-7)	
Surface tension	0.019 N/m
Triethyleneglycol (112-27-6)	
Surface tension	0.045 N/m (20 °C)
Triethylene Glycol Monomethyl Ether (112-35-6)	
Surface tension	0.0314 N/m
2,6-Di-tert-butyl-p-cresol (128-37-0)	
Log Koc	Koc, PCKOCWIN v1.66; 23030; Calculated value; log Koc; PCKOCWIN v1.66; 4.362; Calculated value
Ecology - soil	May be harmful to plant growth, blooming and fruit formation.

12.5. Other adverse effects

Other information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product/Packaging disposal recommendations : Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to appropriate waste disposal facility, in accordance with local, regional, national, international regulations.

Ecology - waste materials : Avoid release to the environment.

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

US DOT (ground): Not regulated,

ICAO/IATA (air): Not regulated,

IMO/IMDG (water): Not regulated,

14.2. UN proper shipping name

Proper Shipping Name (DOT) : Not regulated

14.3. Additional information

Other information : No supplementary information available.

Overland transport

No additional information available

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Transport by sea

No additional information available

Air transport

No additional information available

SECTION 15: Regulatory information

15.1. US Federal regulations

PROTEX/BARDAHL DOT 3 BRAKE FLUID 12 FL.OZ.	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
SARA Section 311/312 Hazard Classes	Delayed (chronic) health hazard Immediate (acute) health hazard
Triethylene Glycol Monobutyl Ether (143-22-6)	
Subject to reporting requirements of United States SARA Section 313	
2-(2-Butoxyethoxy) Ethanol (112-34-5)	
Subject to reporting requirements of United States SARA Section 313	
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Delayed (chronic) health hazard Reactive hazard
Triethyleneglycol Monoethyl Ether (112-50-5)	
Subject to reporting requirements of United States SARA Section 313	
Triethylene Glycol Monomethyl Ether (112-35-6)	
Subject to reporting requirements of United States SARA Section 313	

15.2. International regulations

CANADA

PROTEX/BARDAHL DOT 3 BRAKE FLUID 12 FL.OZ.	
Listed on the Canadian DSL (Domestic Substances List)	
2-(2-Butoxyethoxy) Ethanol (112-34-5)	
Listed on the Canadian DSL (Domestic Substances List)	
WHMIS Classification	Class B Division 3 - Combustible Liquid Class D Division 2 Subdivision B - Toxic material causing other toxic effects
Triethyleneglycol Monoethyl Ether (112-50-5)	
Triethylene Glycol Monomethyl Ether (112-35-6)	

EU-Regulations

2-(2-Butoxyethoxy) Ethanol (112-34-5)
Triethyleneglycol Monoethyl Ether (112-50-5)
Triethylene Glycol Monomethyl Ether (112-35-6)

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

Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

Xi; R41

R52/53

Full text of R-phrases: see section 16

15.2.2. National regulations

PROTEX/BARDAHL DOT 3 BRAKE FLUID 12 FL.OZ.	
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)	
2-(2-Butoxyethoxy) Ethanol (112-34-5)	
Triethyleneglycol Monoethyl Ether (112-50-5)	
Triethylene Glycol Monomethyl Ether (112-35-6)	

15.3. US State regulations

PROTEX/BARDAHL DOT 3 BRAKE FLUID 12 FL.OZ.	
U.S. - California - Proposition 65 - Carcinogens List	Yes
U.S. - California - Proposition 65 - Developmental Toxicity	Yes
U.S. - California - Proposition 65 - Reproductive	Yes

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PROTEX/BARDAHL DOT 3 BRAKE FLUID 12 FL.OZ.				
Toxicity - Female				
U.S. - California - Proposition 65 - Reproductive Toxicity - Male		Yes		
State or local regulations		U.S. - Pennsylvania - RTK (Right to Know) List U.S. - California - Proposition 65 U.S. - New Jersey - Right to Know Hazardous Substance List		
Triethylene Glycol Monobutyl Ether (143-22-6)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	Non-significant risk level (NSRL)
No	No	No	No	
Diethylene Glycol (111-46-6)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	Non-significant risk level (NSRL)
No	No	No	No	
2-(2-Butoxyethoxy) Ethanol (112-34-5)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	Non-significant risk level (NSRL)
No	No	No	No	
Polyalkylene Glycol Monobutyl Ether (9004-77-7)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	Non-significant risk level (NSRL)
No	No	No	No	
Tetraethylene Glycol (112-60-7)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	Non-significant risk level (NSRL)
No	No	No	No	
3,6,9,12-Tetraoxatetradecane-1,14-diol (4792-15-8)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	Non-significant risk level (NSRL)
No	No	No	No	
Diisopropanolamine (110-97-4)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	Non-significant risk level (NSRL)
No	No	No	No	
Triethyleneglycol (112-27-6)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	Non-significant risk level (NSRL)
No	No	No	No	
Triethyleneglycol Monoethyl Ether (112-50-5)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	Non-significant risk level (NSRL)
No	No	No	No	

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Triethyleneglycol Monoethyl Ether (112-50-5)				
No	No	No	No	
Triethylene Glycol Monomethyl Ether (112-35-6)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	Non-significant risk level (NSRL)
No	No	No	No	
hexaethylene glycol (2615-15-8)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	Non-significant risk level (NSRL)
No	No	No	No	
sodium dihydrogenorthophosphate (7558-80-7)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	Non-significant risk level (NSRL)
No	No	No	No	
Polyethylene Glycol 200-600 (25322-68-3)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	Non-significant risk level (NSRL)
No	No	No	No	
potassium dihydrogenorthophosphate (7778-77-0)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	Non-significant risk level (NSRL)
No	No	No	No	
trisodium orthophosphate (7601-54-9)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	Non-significant risk level (NSRL)
No	No	No	No	
phosphoric acid ... %, orthophosphoric acid ... % (7664-38-2)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	Non-significant risk level (NSRL)
No	No	No	No	
2,6-Di-tert-butyl-p-cresol (128-37-0)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	Non-significant risk level (NSRL)
No	No	No	No	
Triethylene Glycol Monobutyl Ether (143-22-6)				
State or local regulations				
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List U.S. - New Jersey - Right to Know Hazardous Substance List				
2-(2-Butoxyethoxy) Ethanol (112-34-5)				
State or local regulations				
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List U.S. - New Jersey - Right to Know Hazardous Substance List				

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Triethyleneglycol (112-27-6)
State or local regulations
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List
Triethyleneglycol Monoethyl Ether (112-50-5)
State or local regulations
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List U.S. - New Jersey - Right to Know Hazardous Substance List
Triethylene Glycol Monomethyl Ether (112-35-6)
State or local regulations
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List U.S. - New Jersey - Right to Know Hazardous Substance List

SECTION 16: Other information

Other information : None.

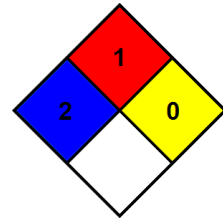
Full text of H-phrases:

H302	Harmful if swallowed
H314	Causes severe skin burns and eye damage
H315	Causes skin irritation
H318	Causes serious eye damage
H319	Causes serious eye irritation
H332	Harmful if inhaled
H373	May cause damage to organs through prolonged or repeated exposure

NFPA health hazard : 2 - Intense or continued exposure could cause temporary incapacitation or possible residual injury unless prompt medical attention 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

Personal Protection : B

SDS US (GHS HazCom 2012) - TCC

The Supplier identified in Section 1 of this SDS 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

Disclaimer: The information and recommendations contained herein are based upon tests believed to be reliable. However, the manufacturer/distributor of this product does not guarantee their accuracy or completeness NOR SHALL ANY OF THIS INFORMATION CONSTITUTE A WARRANTY, WHETHER EXPRESSED OR IMPLIED, AS TO THE SAFETY OF THE GOODS, THE MERCHANTABILITY OF THE GOODS, OR THE FITNESS OF THE GOODS FOR A PARTICULAR PURPOSE. Adjustment to conform to actual conditions of usage may be required. The manufacturer/distributor assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits, arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied.