JOHNSEN'S DOT 4 BRAKE FLUID 12 FL.OZ.

Safety Data Sheet

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

Revision date: 01/05/2018 Supersedes:08/18/2016 Version: 1.3

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

1.1. Product identifier

Product form : Mixture

Trade name : JOHNSEN'S DOT 4 BRAKE FLUID 12 FL.OZ.

Product code : 5012

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

Use of the substance/mixture : Brake Fluid

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GHS-US classification

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 GHS08

Signal word (GHS-US) : Danger

Hazard statements (GHS-US) : 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
P264 - Wash affected areas thoroughly after handling
P280 - Wear protective gloves,protective clothing,eye protection,face protection
P302+P352 - If on skin: Wash with plenty of soap and water
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
P314 - Get medical advice/attention if you feel unwell
P321 - Specific treatment: See section 4.1 on SDS
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.

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	35 - 40	Not classified

Name	Product identifier	%	GHS-US classification
Butyl Triglycolether	(CAS No) 143-22-6	10 - 30	Eye Dam. 1, H318
Triethylene Glycol Monomethyl Ether	(CAS No) 112-35-6	5 - 25	Not classified
Diethylene Glycol	(CAS No) 111-46-6	5 - 20	Acute Tox. 4 (Oral), H302 STOT RE 2, H373
Methoxypolyethyleneglycols	(CAS No) 9004-74-4	0 - 15	Not classified
Poly(oxy-1,2-ethanediyl), alpha-butyl-omega-hydroxy-	(CAS No) 9004-77-7	0 - 15	Not classified
Polyethylene Glycol	(CAS No) 25322-68-3	6 - 14	Not classified
2-(2-Butoxyethoxy) Ethanol	(CAS No) 112-34-5	5 - 10	Eye Irrit. 2, H319
Triethyleneglycol	(CAS No) 112-27-6	0 - 10	Not classified
Diethyleneglycolmonoethyl Ether	(CAS No) 111-90-0	3 - 5	Eye Irrit. 2A, H319
Diethanolamine	(CAS No) 111-42-2	0 - 1	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT RE 2, H373
Diisopropanolamine	(CAS No) 110-97-4	0 - 1	Eye Irrit. 2, H319

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 exposed or concerned: Get medical advice/attention.

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. Suspected of damaging fertility or the unborn child.

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

Symptoms/injuries after skin contact : May cause moderate irritation. Itching. Red skin. Skin rash/inflammation. Causes skin irritation.

Symptoms/injuries after eye contact : Irritation of the eye tissue. Inflammation/damage of the eye tissue. Redness of the eye tissue. 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.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Remove ignition sources. Use special care to avoid static electric charges.

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. Plug the leak, cut off the supply. Contain released product, pump into suitable containers.

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. Obtain special instructions . Do not handle until all safety precautions have been read and understood.

Hygiene measures : Do not eat, drink or smoke when using this product. Wash affected areas thoroughly after handling. Wash contaminated clothing before reuse. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Take off immediately all contaminated clothing and wash it before reuse. Observe normal hygiene standards. Keep container tightly closed. 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.

Storage area : Keep only in the original container.

Special rules on packaging : Keep only in original container.

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)

Diethanolamine (111-42-2)		
USA ACGIH	ACGIH TWA (mg/m³)	1 mg/m³ (Diethanolamine; USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value; Inhalable fraction and vapor)

8.2. Exposure controls

Appropriate engineering controls : Local exhaust venilation, 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.

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	:	Amber. Yellow.
Odor	:	Mild . Ammoniacal.
Odor threshold	:	No data available
pH	:	9 - 11
Relative evaporation rate (butyl acetate=1)	:	No data available
Melting point	:	< -59 °C
Freezing point	:	No data available
Boiling point	:	> 230 °C
Flash point	:	203 °C
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Flammability (solid, gas)	:	No data available
Vapor pressure	:	< 0.01 mm Hg Estimated
Relative vapor density at 20 °C	:	> 10
Relative density	:	1.03 - 1.08
Solubility	:	Soluble in water. Water: 100% Estimated
Log Pow	:	No data available
Log Kow	:	No data available
Viscosity, kinematic	:	< 1500 cSt
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 %

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

Toxic fume. . Carbon monoxide. Carbon dioxide.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

Triethyleneglycol Monoethyl Ether (112-50-5)	
LD50 oral rat	7750 mg/kg (Rat)
LD50 dermal rabbit	8168 mg/kg (Rabbit)

Butyl Triglycolether (143-22-6)	
LD50 oral rat	5170 mg/kg body weight (Rat; according to BASF-internal standards; Experimental value)
LD50 dermal rabbit	3540 mg/kg body weight (Rabbit; Experimental value; OECD 402: Acute Dermal Toxicity)

Polyethylene Glycol (25322-68-3)	
LD50 oral rat	30200 mg/kg (Rat, Literature study)
LD50 dermal rabbit	> 20000 mg/kg (Rabbit, Inconclusive, insufficient data)
ATE CLP (oral)	30200 mg/kg body weight

2-(2-Butoxyethoxy) Ethanol (112-34-5)	
LD50 dermal rabbit	2764 mg/kg body weight (Rabbit; Experimental value; Equivalent or similar to OECD 402)

Diethylene Glycol (111-46-6)	
LD50 dermal rabbit	11890 mg/kg (Rabbit)

Diethyleneglycolmonoethyl Ether (111-90-0)	
LD50 oral rat	5445 mg/kg (Rat)
LD50 dermal rat	5940 mg/kg (Rat)
LD50 dermal rabbit	> 5000 mg/kg (Rabbit)
LC50 inhalation rat (mg/l)	> 5.2 mg/l/4h (Rat)

Triethyleneglycol (112-27-6)	
LD50 oral rat	> 5000 mg/kg (Rat)
LD50 dermal rabbit	> 5000 mg/kg (Rabbit)

Methoxypolyethyleneglycols (9004-74-4)	
LD50 oral rat	> 2000 mg/kg body weight (Rat)
LD50 dermal rabbit	> 2000 mg/kg body weight (Rabbit)

Poly(oxy-1,2-ethanediyl), alpha-butyl-omega-hydroxy- (9004-77-7)	
LD50 oral rat	> 2000 mg/kg body weight (OECD 401: Acute Oral Toxicity, Rat, Male/female, Experimental value)
LD50 dermal rabbit	3540 mg/kg body weight (Modification of Draize 1959 method, 24 h, Rabbit, Male, Read-across)
ATE CLP (dermal)	3540 mg/kg body weight

Triethylene Glycol Monomethyl Ether (112-35-6)	
LD50 oral rat	11865 mg/kg (Rat)
LD50 dermal rabbit	7455 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)

Diethanolamine (111-42-2)	
LD50 oral rat	620 mg/kg (Rat)
LD50 dermal rabbit	7640 mg/kg (Rabbit)

Skin corrosion/irritation : Causes skin irritation.
pH: 9 - 11

Serious eye damage/irritation : Causes serious eye damage.
pH: 9 - 11

Respiratory or skin sensitization : Not classified

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

Carcinogenicity : Not classified

Diethanolamine (111-42-2)	
IARC group	3

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 : May cause moderate irritation. Itching. Red skin. Skin rash/inflammation. Causes skin irritation.

Symptoms/injuries after eye contact : Irritation of the eye tissue. Inflammation/damage of the eye tissue. Redness of the eye tissue. 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

Triethyleneglycol Monoethyl Ether (112-50-5)	
LC50 fish 1	> 10000 mg/l (LC50; 96 h)
EC50 Daphnia 1	> 10000 mg/l (LC50; 48 h)

Butyl Triglycolether (143-22-6)	
LC50 fish 1	2200/2400,LC50; DIN 38412-15; 96 h; Leuciscus idus; Static system; Fresh water; Experimental value
EC50 Daphnia 1	> 500 mg/l (EC50; EU Method C.2; 48 h; Daphnia magna; Static system; Fresh water; Experimental value)
Threshold limit algae 1	62.5 mg/l (NOEC; DIN 38412-9; 72 h; Desmodesmus subspicatus; Static system; Fresh water; Experimental value)

Polyethylene Glycol (25322-68-3)	
LC50 fish 1	> 100 mg/l (OECD 203: Fish, Acute Toxicity Test, 96 h, Poecilia reticulata, Static system, Fresh water, Experimental value)
LC50 other aquatic organisms 1	> 1000 mg/l (96 h)

2-(2-Butoxyethoxy) Ethanol (112-34-5)	
LC50 fish 1	1300 mg/l (LC50; Equivalent or similar to OECD 203; 96 h; Lepomis macrochirus; Static system; Fresh water; Experimental value)
EC50 Daphnia 1	4950 mg/l (EC50; Equivalent or similar to OECD 202; 48 h; Daphnia magna; Static system; Fresh water; Experimental value)
Threshold limit algae 1	> 100 mg/l (EC50; OECD 201: Alga, Growth Inhibition Test; 96 h; Desmodesmus subspicatus; Static system; Fresh water; Experimental value)

Diethylene Glycol (111-46-6)	
LC50 fish 1	> 5000 ppm (LC50; 24 h)
EC50 Daphnia 1	> 10000 mg/l (EC50; 24 h)

Diethyleneglycolmonoethyl Ether (111-90-0)	
LC50 fish 1	12900 mg/l (LC50; 96 h; Salmo gairdneri)
EC50 Daphnia 1	3940 mg/l (EC50; 48 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)

Poly(oxy-1,2-ethanediyl), alpha-butyl-omega-hydroxy- (9004-77-7)	
LC50 fish 1	> 1800 mg/l (OECD 203: Fish, Acute Toxicity Test, 96 h, Scophthalmus maximus, Semi-static system, Salt water, Experimental value)
EC50 Daphnia 1	> 3200 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Semi-static system, Fresh water, Experimental value)
ErC50 (algae)	2490 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Selenastrum capricornutum, Static system, Fresh water, Read-across)

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)

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)

Diethanolamine (111-42-2)	
LC50 fish 1	1664 mg/l (LC50; 96 h; Pimephales promelas)
EC50 Daphnia 2	55 mg/l (EC50; 48 h)

12.2. Persistence and degradability

JOHNSEN'S DOT 4 BRAKE FLUID 12 FL.OZ.	
Persistence and degradability	Not established.

Triethyleneglycol Monoethyl Ether (112-50-5)	
Persistence and degradability	Readily biodegradable in water. Not established.

Butyl Triglycolether (143-22-6)	
Persistence and degradability	Readily biodegradable in water. Low potential for adsorption in soil. Photooxidation in the air. Not established.

Polyethylene Glycol (25322-68-3)	
Persistence and degradability	Readily biodegradable in water. Not established.

2-(2-Butoxyethoxy) Ethanol (112-34-5)	
Persistence and degradability	Readily biodegradable in water. Low potential for adsorption in soil. Photooxidation in the air. Not established.

Diethylene Glycol (111-46-6)	
Persistence and degradability	Readily biodegradable in water. Biodegradable in the soil. Highly mobile in soil. Photolysis in the air. Not established.
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

Diethyleneglycolmonoethyl Ether (111-90-0)	
Persistence and degradability	Readily biodegradable in water. Not established.
Biochemical oxygen demand (BOD)	0.2 g O_2 /g substance
Chemical oxygen demand (COD)	1.85 g O_2 /g substance
ThOD	1.9078849 g O_2 /g substance
BOD (% of ThOD)	0.11

Triethyleneglycol (112-27-6)	
Persistence and degradability	Inherently biodegradable. Readily biodegradable in water. Photolysis in the air. Not established.
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

Methoxypolyethyleneglycols (9004-74-4)	
Persistence and degradability	Biodegradability in water: no data available. Not established.

Poly(oxy-1,2-ethanediyl), alpha-butyl-omega-hydroxy- (9004-77-7)	
Persistence and degradability	Readily biodegradable in water. Not established.

Triethylene Glycol Monomethyl Ether (112-35-6)	
Persistence and degradability	Inherently biodegradable. Non degradable in the soil. Photodegradation in the air. Not established.

Diisopropanolamine (110-97-4)	
Persistence and degradability	Not readily biodegradable in water. Not established.

Diethanolamine (111-42-2)	
Persistence and degradability	Readily biodegradable in water. Biodegradable in the soil. Photodegradation in the air.
Biochemical oxygen demand (BOD)	0.22 g O_2 /g substance
Chemical oxygen demand (COD)	1.52 g O_2 /g substance
ThOD	2.13 g O_2 /g substance
BOD (% of ThOD)	0.1

12.3. Bioaccumulative potential

JOHNSEN'S DOT 4 BRAKE FLUID 12 FL.OZ.	
Bioaccumulative potential	Not established.

Triethyleneglycol Monoethyl Ether (112-50-5)	
Bioaccumulative potential	Not bioaccumulative. Not established.

Butyl Triglycolether (143-22-6)	
Log Pow	0.51 (20 °C)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4). Not established.

Polyethylene Glycol (25322-68-3)	
BCF fish 1	3.2 (Other, Pisces, Calculated value)
Log Pow	-0.96 - -0.7 (Weight of evidence approach, Other, 30 °C)
Bioaccumulative potential	Not bioaccumulative. Not established.

2-(2-Butoxyethoxy) Ethanol (112-34-5)	
Log Pow	1 (Test data; Equivalent or similar to OECD 107; 20 °C)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4). Not established.

Diethylene Glycol (111-46-6)	
BCF fish 1	100 (BCF; Other; 3 days; Leuciscus melanotus; Static system; Fresh water; Experimental value)

Diethylene Glycol (111-46-6)	
Log Pow	-1.98 (Calculated; Other)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500). Not established.

Diethyleneglycolmonoethyl Ether (111-90-0)	
Log Pow	-1.19 - -0.08
Bioaccumulative potential	Bioaccumulation: not applicable. Not established.

Triethyleneglycol (112-27-6)	
Log Pow	-2.08 - -1.17 (Calculated)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4). Not established.

Methoxypolyethyleneglycols (9004-74-4)	
Bioaccumulative potential	No bioaccumulation data available. Not established.

Poly(oxy-1,2-ethanediyl), alpha-butyl-omega-hydroxy- (9004-77-7)	
Log Pow	0.436 (Experimental value, EU Method A.8: Partition Coefficient, 25.5 °C)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4). Not established.

Triethylene Glycol Monomethyl Ether (112-35-6)	
Log Pow	-1.13
Bioaccumulative potential	Bioaccumulation: not applicable. Not established.

Diisopropanolamine (110-97-4)	
Log Pow	-0.79
Bioaccumulative potential	Bioaccumulation: not applicable. Not established.

Diethanolamine (111-42-2)	
Log Pow	-2.18 - -1.43 (Experimental value)
Bioaccumulative potential	Bioaccumulation: not applicable.

12.4. Mobility in soil

Butyl Triglycolether (143-22-6)	
Surface tension	0.0614 N/m (°C)

Polyethylene Glycol (25322-68-3)	
Log Koc	1 (log Koc, Other, Calculated value)
Ecology - soil	Highly mobile in soil.

2-(2-Butoxyethoxy) Ethanol (112-34-5)	
Surface tension	0.0069 N/m (20 °C)

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

Diethyleneglycolmonoethyl Ether (111-90-0)	
Surface tension	0.032 N/m (25 °C)

Triethyleneglycol (112-27-6)	
Surface tension	0.045 N/m (20 °C)

Poly(oxy-1,2-ethanediyl), alpha-butyl-omega-hydroxy- (9004-77-7)	
Surface tension	0.0614 N/m (20 °C)
Ecology - soil	Low potential for adsorption in soil.

Triethylene Glycol Monomethyl Ether (112-35-6)	
Surface tension	0.0314 N/m

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

Transport by sea

No additional information available

Air transport

No additional information available

SECTION 15: Regulatory information

15.1. US Federal regulations

JOHNSEN'S DOT 4 BRAKE FLUID 12 FL.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

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

JOHNSEN'S DOT 4 BRAKE FLUID 12 FL.OZ.
Listed on the Canadian DSL (Domestic Substances List)

Triethylene Glycol Monomethyl Ether (112-35-6)

EU-Regulations

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
Xi; R38
R52/53

Full text of R-phrases: see section 16

15.2.2. National regulations

JOHNSEN'S DOT 4 BRAKE FLUID 12 FL.OZ.
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)

Triethylene Glycol Monomethyl Ether (112-35-6)

15.3. US State regulations

JOHNSEN'S DOT 4 BRAKE FLUID 12 FL.OZ.	
U.S. - California - Proposition 65 - Carcinogens List	No
U.S. - California - Proposition 65 - Developmental Toxicity	No
U.S. - California - Proposition 65 - Reproductive Toxicity - Female	No

JOHNSEN'S DOT 4 BRAKE FLUID 12 FL.OZ.	
U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No
State or local regulations	U.S. - Pennsylvania - RTK (Right to Know) List U.S. - New Jersey - Right to Know Hazardous Substance List

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	

Butyl Triglycolether (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	

Polyethylene Glycol (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	

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	

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	

Diethyleneglycolmonoethyl Ether (111-90-0)				
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	

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	

Methoxypolyethyleneglycols (9004-74-4)				
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	

Poly(oxy-1,2-ethanediyl), alpha-butyl-omega-hydroxy- (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	

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	

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	

Diethanolamine (111-42-2)				
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)
Yes	No	No	No	

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

Triethyleneglycol (112-27-6)

State or local regulations

U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard 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

Diethanolamine (111-42-2)

State or local regulations

U.S. - California - Proposition 65

SECTION 16: Other information

Indication of changes : Revision - See : *.

Other information : None.

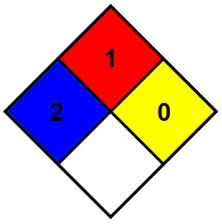
Full text of H-phrases:

H302	Harmful if swallowed
H315	Causes skin irritation
H318	Causes serious eye damage
H319	Causes serious eye irritation
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

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. Published by Melissa Hutchinson