Synthetic Brake Fluid DOT 4

Safety Data Sheet

according to the Hazardous Products Regulation (WHMIS 2015)
Issue date: 08/12/2025 Revision date: 01/14/2026 Supersedes: 09/08/2025 Version: 4.0

SECTION 1 Identification

1.1. GHS Product identifier

Product name : Synthetic Brake Fluid DOT 4
Part Number : 20788

1.2. Other means of identification

No additional information available

1.3. Recommended use of the chemical and restrictions on use

No additional information available

1.4. Supplier's details

Lucas Oil Products, Inc.
3199 Harrison Way NW
Corydon, IN 47112
USA
T 800-342-2512
sds@lucasoil.com - www.LucasOil.com

1.5. Emergency phone number

Emergency number : For Chemical Emergency Call ChemTel 24hr/day 7days/week
Within USA, Canada, Puerto Rico and US Virgin Islands: 1-800-255-3924
International: 1-813-248-0585
(collect calls accepted)

SECTION 2 Hazard identification

2.1. Classification of the substance or mixture

Classification (GHS CA)

Serious eye damage/eye irritation, Category 1	H318	Causes serious eye damage.
Reproductive toxicity, Category 2	H361	Suspected of damaging fertility or the unborn child.
Specific target organ toxicity, Repeated exposure, Category 2	H373	May cause damage to organs through prolonged or repeated exposure.

Full text of H-statements: see section 16

2.2. GHS label elements, including precautionary statements

GHS CA labelling

Hazard pictograms (GHS CA) :

Signal word (GHS CA) : Danger

Hazard statements (GHS CA) : H318 - Causes serious eye damage
H361 - Suspected of damaging fertility or the unborn child
H373 - May cause damage to organs through prolonged or repeated exposure.

Precautionary statements (GHS CA) : P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P260 - Do not breathe dust, fume, gas, mist, vapours, spray.

P280 - Wear protective gloves, protective clothing, eye protection, face protection, and hearing 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.
P308+P313 - IF exposed or concerned: Get medical advice or attention.
P310 - Immediately call a POISON CENTER or a doctor.
P314 - Get medical advice or attention if you feel unwell.
P405 - Store locked up.
P501 - Dispose of contents and/or container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulations.

2.3. Other hazards which do not result in classification

No additional information available

SECTION 3 Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Chemical name / Synonyms	Product identifier	%	Classification (GHS CA)
Triethylene glycol butyl ether	Triethylene glycol monobutyl ether / 2-(2-(2-butoxyethoxy)ethoxy)ethanol / 2-[2-(2-butoxyethoxy)ethoxy]ethanol / 3,6,9-trioxa-1-tridecanol / 3,6,9-trioxatridecan-1-ol / butoxytriethylene glycol / butoxytriglycol / butyl triethoxol / butyltriglycol / butyltrigol / ethanol, 2-(2-(2-butoxyethoxy)ethoxy)- / TEGBE / triethylene glycol monobutyl ether / triethylene glycol n-butyl ether / triethylene glycol normal-butyl ether / triglycol monobutyl ether	CAS-No.: 143-22-6	15 - 40*	Eye Dam. 1, H318

Name	Chemical name / Synonyms	Product identifier	%	Classification (GHS CA)
Triethylene glycol monomethyl ether borate ester	tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl] orthoborate ethanol, 2-[2-(2-methoxyethoxy)ethoxy]-, triester with boric acid (H3-BO3) / tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl] orthoborate	CAS-No.: 30989-05-0	< 100	Repr. 2, H361

Diethylene glycol	Diethylene glycol 2,2' -oxybisethanol / 2,2'-dihydroxydiethyl ether / 2,2-dihydroxydiethyl ether / 2,2'-dihydroxyethyl ether / 2,2-dihydroxyethyl ether / 2,2-oxy-bis(ethanol) / 2,2'-oxydiethanol / 2,2-oxydiethanol / 2,2'-oxyethanol / 2-2-hydroxyethoxy)ethanol / 2-hydroxyethyl ether / 3-oxa-1,5-pentanediol / 3-oxapentamethylene-1,5-diol / 3-oxapentane-1,5-diol / beta,beta'-dihydroxydiethyl ether / beta,beta-dihydroxydiethyl ether / bis(2-hydroxyethyl)ether / bis(beta-hydroxyethyl)ether / bissolvant APV / brecolane NDG / carbitol (=2,2'-oxy-bis(ethanol) / cellosolve (=2,2'-oxy-bis(ethanol) / deactivator E / deactivator H / DEG / dicol / diethylene glycol / digenos / diglycol / digol / dihydroxydiethyl ether / dissolvant APV / ethanol, 2,2'-oxybis- / ethylenediglycol / glycol ether / glycolethyl ether / oxapentane-1,5-diol / oxypentane-1,5-diol / TL4N	CAS-No.: 111-46-6	10 - 30*	Acute Tox. 4 (Inhalation:dust,mist), H332 Repr. 2, H361

Name	Chemical name / Synonyms	Product identifier	%	Classification (GHS CA)
Polyethylene glycol monobutyl ether	α-Butyl-ω-hydroxypoly(oxy-1,2-ethanediyl) butoxypolyglycol / DCP 208 / Drilling fluid Additive DCP208 / GEM GP / GLYDRIL MC / NLP Butyl Heavies / poly(oxy-1,2-ethanediyl), α-butyl-ω-hydroxy- / poly(oxy-1,2-ethanediyl),alpha-butyl-omega-hydroxy (consisting of 50 wt % or more of species of the same m. wt.) / polyethylene glycol butyl ether / Solvent CSI44	CAS-No.: 9004-77-7	< 100	Eye Dam. 1, H318

Diethyleneglycolmonoethyl ether	2-(2-Ethoxyethoxy)ethanol 2-(2-ethoxyethoxy)ethanol / 2-(beta-ethoxyethoxy)ethanol / 2-ethoxyethoxyethanol / 3,6-dioxa-1-octanol / 3,6-dioxaoctan-1-ol / 3,6-dioxo-octan-1-ol / APV / carbitol / carbitol cellosolve / carbitol solvent / carbitol solvent, low gravity / cellosolve / DEGEE / DGEE / di(ethylene glycol) ethyl ether / diethyleneglycol ether / diethyleneglycolethyl ether / diethylmonoethyl ether / diglycol monoethyl ether / diglycolethyl ether / dioxitol / dioxytol / dowanol / dowanol 17 / dowanol de / EDGE / ektasolve de / EMKANOL DEG / ethanol, 2-(2-ethoxyethoxy)- / ethanol, 2,2'-oxybis-, monoethyl ether / ethoxydiglycol / ethyl carbitol / ethyl diethylene glycol / ethyldiglycol / ethyldiglycol ether / ethyldigol / ethylene diglycol monoethyl ether / karbitol / monoethyl ether of diethylene glycol / PM 1799 / poly-solv / poly-solv de / solvolsol	CAS-No.: 111-90-0	1 - 5*	Eye Irrit. 2B, H320

Name	Chemical name / Synonyms	Product identifier	%	Classification (GHS CA)
	/ solvosol / transcutol			
Diethylene glycol monobutyl ether	2-(2-Butoxyethoxy)ethanol 2-(2-butoxyethoxy)ethanol / BDGE / butyl diglycol ether / butyldigol / DEGBE / diethylene glycol monobutyl ether / ethanol, 2-(2-butoxyethoxy)-	CAS-No.: 112-34-5	0.5 - 1.5*	Eye Irrit. 2, H319 STOT SE 3, H336 STOT RE 2, H373

Full text of hazard classes and H-statements : see section 16
***Contains fixed concentration**

SECTION 4 First-aid measures

4.1. Description of necessary first-aid measures

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact : Wash skin with plenty of water.
First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately.
First-aid measures after ingestion : Call a poison center or a doctor if you feel unwell.
First-aid measures general : IF exposed or concerned: Get medical advice/attention.
Self protection of the first-aider : First-aiders should pay attention to their own protection and use the recommended personal protective equipment (see section 8).

4.2. Most important symptoms/effects, acute and delayed

Symptoms/effects after inhalation : None under normal conditions.
Symptoms/effects after skin contact : None under normal conditions.
Symptoms/effects after eye contact : Serious damage to eyes.
Symptoms/effects after ingestion : None under normal conditions.

4.3. Indication of immediate medical attention and special treatment needed, if necessary

Other medical advice or treatment : Treat symptomatically.

SECTION 5 Fire-fighting measures

5.1. Suitable extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.
Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Specific hazards arising from the chemical

Fire hazard : No fire hazard.
Explosion hazard : No direct explosion hazard.

Hazardous decomposition products in case of fire : Toxic fumes may be released.

5.3. Special protective actions for fire-fighters

Firefighting instructions : Fight fire from safe distance and protected location. Do not enter fire area without proper protective equipment, including respiratory protection.

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6 Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Stop leak if safe to do so. Notify authorities if product enters sewers or public waters. Absorb spillage to prevent material damage.

Environmental precautions : Avoid release to the environment.

6.2. Methods and materials for containment and cleaning up

For containment : Absorb spilled material with sand or earth. Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. Stop leak without risks if possible.

Methods for cleaning up : Take up liquid spill into absorbent material. Notify authorities if product enters sewers or public waters.

Other information : Dispose of materials or solid residues at an authorized site.

For further information refer to section 13.

SECTION 7 Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear personal protective equipment. Do not breathe dust/fume/gas/mist/vapours/spray. Avoid contact with skin and eyes.

Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

Additional hazards when processed : Not expected to present a significant hazard under anticipated conditions of normal use.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Keep in a cool, well-ventilated place away from heat.

Storage conditions : Store locked up.

Packaging materials : Always store product in container of same material as original container.

SECTION 8 Exposure controls/personal protection

8.1. Control parameters

Diethylene glycol monobutyl ether (112-34-5)	
Canada (Manitoba) - Occupational Exposure Limits	
Local name	Diethylene glycol monobutyl ether
OEL TWA	67.5 mg/m³ (IFV - Inhalable fraction and vapor)
	10 ppm (IFV - Inhalable fraction and vapor)
Notations and remarks	TLV® Basis: Hematologic, liver & kidney eff
Regulatory reference	ACGIH 2025

Diethylene glycol monobutyl ether (112-34-5)	
Canada (Newfoundland and Labrador) - Occupational Exposure Limits	
Local name	Diethylene glycol monobutyl ether
OEL TWA	67.5 mg/m³ (IFV - Inhalable fraction and vapor)
	10 ppm (IFV - Inhalable fraction and vapor)
Notations and remarks	TLV® Basis: Hematologic, liver & kidney eff
Regulatory reference	ACGIH 2025
Canada (Nova Scotia) - Occupational Exposure Limits	
Local name	Diethylene glycol monobutyl ether
OEL TWA	67.5 mg/m³ (IFV - Inhalable fraction and vapor)
	10 ppm (IFV - Inhalable fraction and vapor)
Notations and remarks	TLV® Basis: Hematologic, liver & kidney eff
Regulatory reference	ACGIH 2025
Canada (Ontario) - Occupational Exposure Limits	
Local name	Diethylene glycol monobutyl ether
OEL TWAEV	10 ppm (IFV - Inhalable fraction and vapour)
Regulatory reference	Occupational Health and Safety Act, R.S.O. 1990, c. O.1 - R.R.O. 1990, Reg. 833: Control of exposure to biological or chemical agents
Canada (Prince Edward Island) - Occupational Exposure Limits	
Local name	Diethylene glycol monobutyl ether
OEL TWA	67.5 mg/m³ (IFV - Inhalable fraction and vapor)
	10 ppm (IFV - Inhalable fraction and vapor)
Notations and remarks	TLV® Basis: Hematologic, liver & kidney eff
Regulatory reference	ACGIH 2025

Diethyleneglycolmonoethyl ether (111-90-0)	
Canada (Ontario) - Occupational Exposure Limits	
Local name	Diethylene glycol monoethyl ether
OEL TWAEV	165 mg/m³
	30 ppm
Regulatory reference	Occupational Health and Safety Act, R.S.O. 1990, c. O.1 - R.R.O. 1990, Reg. 833: Ontario table of occupational exposure limits

8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.
Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures, such as personal protective equipment (PPE)

Personal protective equipment:
Wear recommended personal protective equipment.

Hand protection:
Protective gloves

Eye protection:
Safety glasses

Skin and body protection:
Wear suitable protective clothing

Respiratory protection:
[In case of inadequate ventilation] wear respiratory protection.

Personal protective equipment symbol(s):

SECTION 9 Physical and chemical properties

9.1. Basic physical and chemical properties

Physical state	:	Liquid
Appearance	:	No data available
Colour	:	Mixture contains one or more component(s) which have the following colour(s): Colourless Light brown Solid: white On exposure to air: yellow to light brown Colourless to light yellow Colourless to white
Odour	:	There may be no odour warning properties, odour is subjective and inadequate to warn of overexposure. Mixture contains one or more component(s) which have the following odour: Mild odour Almost odourless Unpleasant odour Irritating/pungent odour Ammonia odour Ether-like odour Pleasant odour Fruity odour Repulsive odour Smell of fish
Odour threshold	:	No data available
pH	:	> 9 – ≤ 11
Relative evaporation rate (butylacetate=1)	:	No data available
Relative evaporation rate (ether=1)	:	No data available
Melting point	:	Not applicable
Freezing point	:	No data available
Boiling point	:	No data available
Flash point	:	> 203 °C
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Flammability (solid, gas)	:	Not applicable
Vapour pressure	:	No data available
Relative vapour density at 20°C	:	No data available
Relative density	:	No data available
Solubility	:	No data available
Partition coefficient n-octanol/water (Log Pow)	:	No data available
Viscosity, kinematic	:	No data available
Explosive limits	:	No data available
Particle characteristics	:	No data available

9.2. Data relevant with regard to physical hazard classes (supplemental)

No additional information available

SECTION 10 Stability and reactivity

Reactivity	:	The product is non-reactive under normal conditions of use, storage and transport.
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	No dangerous reactions known under normal conditions of use.
Conditions to avoid	:	None under recommended storage and handling conditions (see section 7).
Incompatible materials	:	No additional information available
Hazardous decomposition products	:	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Hardening time:	:	No additional information available

SECTION 11 Toxicological information

11.1. Likely routes of exposure

Acute toxicity (oral)	:	Not classified
Acute toxicity (dermal)	:	Not classified
Acute toxicity (inhalation)	:	Not classified

Triethylene glycol butyl ether (143-22-6)	
LD50 oral rat	5170 mg/kg bodyweight (according to BASF-internal standards, Rat, Male / female, Experimental value, Oral, 14 day(s))
LD50 oral	5170 mg/kg
LD50 dermal rabbit	3540 mg/kg bodyweight (24 h, Rabbit, Male, Experimental value, Dermal, 14 day(s))
LD50 dermal	3540 mg/kg
LC50 Inhalation - Rat (Dust/Mist)	50 mg/l/4h
ATE CA (oral)	5170 mg/kg bodyweight
ATE CA (Dermal)	3540 mg/kg bodyweight
ATE CA (dust,mist)	50 mg/l/4h

Triethylene glycol monomethyl ether borate ester (30989-05-0)	
LD50 oral rat	> 2000 mg/kg bodyweight (OECD 401: Acute Oral Toxicity, Rat, Male / female, Experimental value, Oral, 14 day(s))
LD50 dermal rat	> 2000 mg/kg bodyweight (OECD 402: Acute Dermal Toxicity, 24 h, Rat, Male / female, Experimental value, Dermal)

Diethylene glycol (111-46-6)	
LD50 oral rat	16500 mg/kg bodyweight (Rat, Male / female, Experimental value, Oral, 5 day(s))
LD50 oral	15600 mg/kg
LD50 dermal rabbit	13300 mg/kg bodyweight (Rabbit, Experimental value, Dermal, 14 day(s))
LD50 dermal	13300 mg/kg
LC50 Inhalation - Rat	> 4.6 mg/l air (4 h, Rat, Experimental value, (maximum achievable concentration), Inhalation (aerosol), 14 day(s))
ATE CA (oral)	15600 mg/kg bodyweight

Diethylene glycol (111-46-6)	
ATE CA (Dermal)	13300 mg/kg bodyweight
ATE CA (dust,mist)	1.5 mg/l/4h

Polyethylene glycol monobutyl ether (9004-77-7)	
LD50 oral rat	> 2000 mg/kg bodyweight (OECD 401: Acute Oral Toxicity, Rat, Male / female, Experimental value, Oral, 14 day(s))
LD50 dermal rabbit	3540 mg/kg bodyweight (Modification of Draize 1959 method, 24 h, Rabbit, Male, Read-across, Dermal, 14 day(s))
ATE CA (Dermal)	3540 mg/kg bodyweight

Diethylene glycol monobutyl ether (112-34-5)	
LD50 oral rat	5660 mg/kg
LD50 oral	2410 – 5530 mg/kg bodyweight (Equivalent or similar to OECD 401, Mouse, Male, Experimental value, Oral, 14 day(s))
LD50 dermal rabbit	2764 mg/kg bodyweight (Equivalent or similar to OECD 402, 24 h, Rabbit, Male, Experimental value, Dermal, 14 day(s))
LD50 dermal	2764 mg/kg
ATE CA (oral)	3970 mg/kg bodyweight
ATE CA (Dermal)	2764 mg/kg bodyweight

Diethyleneglycolmonoethyl ether (111-90-0)	
LD50 oral rat	5490 mg/kg Source: GESTIS
LD50 oral	6031 mg/kg bodyweight (Equivalent or similar to OECD 401, Mouse, Male, Experimental value, Oral, 14 day(s))
LD50 dermal rabbit	9143 mg/kg bodyweight (Equivalent or similar to OECD 402, 24 h, Rabbit, Male, Experimental value, Dermal, 14 day(s))
LD50 dermal	4200 mg/kg
LC50 Inhalation - Rat (Dust/Mist)	5.24 mg/l/4h
ATE CA (oral)	5490 mg/kg bodyweight
ATE CA (Dermal)	4200 mg/kg bodyweight
ATE CA (dust,mist)	5.24 mg/l/4h

Skin corrosion/irritation : Not classified.
pH: > 9 – ≤ 11

Triethylene glycol butyl ether (143-22-6)	
pH	No data available in the literature

Triethylene glycol monomethyl ether borate ester (30989-05-0)	
pH	7 (17 %, OECD 117: Partition Coefficient (n-octanol/water), HPLC method)

Diethylene glycol (111-46-6)	
pH	5 – 8 (50 %)

Polyethylene glycol monobutyl ether (9004-77-7)	
pH	7

Diethylene glycol monobutyl ether (112-34-5)	
pH	No data available in the literature

Diethyleneglycolmonoethyl ether (111-90-0)	
pH	No data available in the literature

Serious eye damage/irritation : Causes serious eye damage.
pH: > 9 – ≤ 11

Triethylene glycol butyl ether (143-22-6)	
pH	No data available in the literature

Triethylene glycol monomethyl ether borate ester (30989-05-0)	
pH	7 (17 %, OECD 117: Partition Coefficient (n-octanol/water), HPLC method)

Diethylene glycol (111-46-6)	
pH	5 – 8 (50 %)

Polyethylene glycol monobutyl ether (9004-77-7)	
pH	7

Diethylene glycol monobutyl ether (112-34-5)	
pH	No data available in the literature

Diethyleneglycolmonoethyl ether (111-90-0)	
pH	No data available in the literature

Respiratory or skin sensitization : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified

Diethylene glycol (111-46-6)	
NOAEL (chronic, oral, animal/male, 2 years)	1210 mg/kg bodyweight Animal: rat, Animal sex: male
NOAEL (chronic, oral, animal/female, 2 years)	1160 mg/kg bodyweight Animal: rat, Animal sex: female

Reproductive toxicity : Suspected of damaging fertility or the unborn child.

Diethylene glycol monobutyl ether (112-34-5)	
NOAEL (animal/male, F0/P)	> 452 mg/kg bodyweight Animal: rat, Animal sex: male, Guideline: other:
NOAEL (animal/female, F0/P)	> 470 mg/kg bodyweight Animal: rat, Animal sex: female, Guideline: other:

STOT-single exposure : Not classified

Diethylene glycol monobutyl ether (112-34-5)	
STOT-single exposure	May cause drowsiness or dizziness.

STOT-repeated exposure : May cause damage to organs through prolonged or repeated exposure.

Triethylene glycol butyl ether (143-22-6)	
LOAEL (oral, rat, 90 days)	1200 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents)
NOAEL (oral, rat, 90 days)	400 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents)
NOAEL (dermal, rat/rabbit, 90 days)	4000 mg/kg bodyweight Animal: rat, Guideline: other:

Triethylene glycol monomethyl ether borate ester (30989-05-0)	
NOAEL (oral, rat, 90 days)	≥ 1000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents), Guideline: EU Method B.26 (Sub-Chronic Oral Toxicity Test: Repeated Dose 90-Day Oral Toxicity Study in Rodents), Guideline: EPA OPPTS 870.3100 (90-Day Oral Toxicity in Rodents)

Diethylene glycol (111-46-6)	
LOAEL (oral, rat, 90 days)	40000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 407 (Repeated Dose 28-Day Oral Toxicity Study in Rodents)

Polyethylene glycol monobutyl ether (9004-77-7)	
LOAEL (oral, rat, 90 days)	1200 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents)
NOAEL (oral, rat, 90 days)	400 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents)

Diethylene glycol monobutyl ether (112-34-5)	
NOAEL (oral, rat, 90 days)	250 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents), Guideline: EU Method B.26 (Sub-Chronic Oral Toxicity Test: Repeated Dose 90-Day Oral Toxicity Study in Rodents), Guideline: EPA OPPTS 870.3100 (90-Day Oral Toxicity in Rodents)
NOAEL (dermal, rat/rabbit, 90 days)	< 200 mg/kg bodyweight Animal: rat, Guideline: other:, Guideline: OECD Guideline 411 (Subchronic Dermal Toxicity: 90-Day Study)
STOT-repeated exposure	May cause damage to organs through prolonged or repeated exposure.

Diethyleneglycolmonoethyl ether (111-90-0)	
NOAEL (dermal, rat/rabbit, 90 days)	300 mg/kg bodyweight Animal: rabbit, Guideline: OECD Guideline 410 (Repeated Dose Dermal Toxicity: 21/28-Day Study)

Aspiration hazard : Not classified

Triethylene glycol butyl ether (143-22-6)	
Viscosity, kinematic	9.2 mm²/s (25 °C)

Triethylene glycol monomethyl ether borate ester (30989-05-0)	
Viscosity, kinematic	16.2 mm²/s (20 °C, OECD 114: Viscosity of Liquids)

Diethylene glycol (111-46-6)	
Viscosity, kinematic	No data available in the literature

Polyethylene glycol monobutyl ether (9004-77-7)	
Viscosity, kinematic	9.2 mm²/s (25 °C)

Diethylene glycol monobutyl ether (112-34-5)	
Viscosity, kinematic	No data available in the literature

Diethyleneglycolmonoethyl ether (111-90-0)	
Viscosity, kinematic	No data available in the literature

Symptoms/effects after inhalation : None under normal conditions.

Symptoms/effects after skin contact : None under normal conditions.

Symptoms/effects after eye contact : Serious damage to eyes.

Symptoms/effects after ingestion : None under normal conditions.

SECTION 12 Ecological information

12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.

Hazardous to the aquatic environment, short–term (acute) : Not classified.

Hazardous to the aquatic environment, long–term (chronic) : Not classified.

Triethylene glycol butyl ether (143-22-6)	
LC50 - Fish [1]	2200 – 4600 mg/l (DIN 38412-15, 96 h, Leuciscus idus, Static system, Fresh water, Experimental value, Nominal concentration)
LC50 - Fish [2]	2400 mg/l Test organisms (species): Pimephales promelas
EC50 - Crustacea [1]	> 500 mg/l (EU Method C.2, 48 h, Daphnia magna, Static system, Fresh water, Experimental value, Locomotor effect)
ErC50 algae	840 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Pseudokirchneriella subcapitata, Static system, Fresh water, Experimental value, Nominal concentration)
EC50 72h - Algae [1]	1589 mg/l Test organisms (species): Raphidocelis subcapitata (previous names: Pseudokirchneriella subcapitata, Selenastrum capricornutum)
EC50 72h - Algae [2]	3211 mg/l Test organisms (species): Raphidocelis subcapitata (previous names: Pseudokirchneriella subcapitata, Selenastrum capricornutum)
NOEC chronic crustacea	100 mg/l
NOEC chronic algae	86 mg/l

Triethylene glycol monomethyl ether borate ester (30989-05-0)	
LC50 - Fish [1]	> 222.2 mg/l (OECD 203: Fish, Acute Toxicity Test, 96 h, Oncorhynchus mykiss, Semi-static system, Fresh water, Experimental value, GLP)
LC50 - Fish [2]	> 1010 mg/l Test organisms (species): Oncorhynchus mykiss (previous name: Salmo gairdneri)
EC50 - Crustacea [1]	< 211.2 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Static system, Fresh water, Experimental value, GLP)
EC50 - Crustacea [2]	> 960 mg/l Test organisms (species): Daphnia magna
ErC50 algae	> 224.4 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Pseudokirchneriella subcapitata, Static system, Fresh water, Experimental value, GLP)
EC50 72h - Algae [1]	> 224.4 mg/l Test organisms (species): other:
EC50 72h - Algae [2]	> 1020 mg/l Test organisms (species): other:
EC50 96h - Algae [1]	430 mg/l Source: IUCLID

Diethylene glycol (111-46-6)	
LC50 - Fish [1]	75200 mg/l (96 h, Pimephales promelas, Flow-through system, Experimental value, Lethal)
EC50 - Crustacea [1]	> 10000 mg/l (DIN 38412-11, 24 h, Daphnia magna, Static system, Fresh water, Experimental value, Locomotor effect)
EC50 96h - Algae [1]	9362 mg/l (ECOSAR, Algae, QSAR)
EC50 96h - Algae [2]	9362 mg/l Test organisms (species): other:
NOEC (chronic)	≥ 1000 mg/l Test organisms (species): Americamysis bahia (previous name: Mysidopsis bahia) Duration: '23 d'

Polyethylene glycol monobutyl ether (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, GLP)
EC50 - Crustacea [1]	> 3200 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Semi-static system, Fresh water, Experimental value, GLP)
EC50 72h - Algae [1]	391 mg/l (ISO 10253, Skeletonema costatum, Salt water, Experimental value, Growth rate)

Diethylene glycol monobutyl ether (112-34-5)	
LC50 - Fish [1]	1300 mg/l (Equivalent or similar to OECD 203, 96 h, Lepomis macrochirus, Static system, Fresh water, Experimental value, Nominal concentration)
EC50 - Crustacea [1]	> 100 mg/l (EU Method C.2, 48 h, Daphnia magna, Static system, Fresh water, Experimental value, Locomotor effect)
ErC50 algae	> 100 mg/l (OECD 201: Alga, Growth Inhibition Test, 96 h, Desmodesmus subspicatus, Static system, Fresh water, Experimental value, Nominal concentration)
EC50 96h - Algae [1]	> 100 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)

Diethyleneglycolmonoethyl ether (111-90-0)	
LC50 - Fish [1]	6010 mg/l (Equivalent or similar to OECD 203, 96 h, Ictalurus punctatus, Flow-through system, Fresh water, Experimental value, Lethal)
EC50 - Crustacea [1]	3340 mg/l
ErC50 algae	14861 mg/l (Equivalent or similar to OECD 201, 72 h, Pseudokirchneriella subcapitata, Static system, Fresh water, Experimental value, Nominal concentration)
EC50 72h - Algae [1]	14861 mg/l Test organisms (species): Raphidocelis subcapitata (previous names: Pseudokirchneriella subcapitata, Selenastrum capricornutum)
NOEC chronic crustacea	7.38 mg/l

12.2. Persistence and degradability

Synthetic Brake Fluid DOT 4	
Persistence and degradability	Not rapidly degradable

Triethylene glycol butyl ether (143-22-6)	
Persistence and degradability	Readily biodegradable in water.

Triethylene glycol monomethyl ether borate ester (30989-05-0)	
Persistence and degradability	Readily biodegradable in water.

Diethylene glycol (111-46-6)	
Persistence and degradability	Biodegradable in the soil, Readily biodegradable in water.
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

Polyethylene glycol monobutyl ether (9004-77-7)	
Persistence and degradability	Readily biodegradable in water.

Diethylene glycol monobutyl ether (112-34-5)	
Persistence and degradability	Readily biodegradable in water.

Diethyleneglycolmonoethyl ether (111-90-0)	
Persistence and degradability	Readily biodegradable in water.
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 (Calculated value)

12.3. Bioaccumulative potential

Triethylene glycol butyl ether (143-22-6)	
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).
Partition coefficient n-octanol/water (Log Pow)	0.51 (Experimental value, OECD 107: Partition Coefficient (n-octanol/water): Shake Flask Method, 25 °C)

Triethylene glycol monomethyl ether borate ester (30989-05-0)	
Bioaccumulative potential	Not bioaccumulative.
Partition coefficient n-octanol/water (Log Pow)	-0.62 – -0.55 (Experimental value, Equivalent or similar to OECD 117)

Diethylene glycol (111-46-6)	
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).
BCF - Fish [1]	100 l/kg (3 day(s), Leuciscus melanotus, Static system, Fresh water, Experimental value)
Partition coefficient n-octanol/water (Log Pow)	-1.98 (Calculated)

Polyethylene glycol monobutyl ether (9004-77-7)	
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).
Partition coefficient n-octanol/water (Log Pow)	0.436 (Experimental value, EU Method A.8: Partition Coefficient, 25.5 °C)

Diethylene glycol monobutyl ether (112-34-5)	
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).
Partition coefficient n-octanol/water (Log Pow)	1 (Experimental value, OECD 117: Partition Coefficient (n-octanol/water), HPLC method, 20 °C)

Diethyleneglycolmonoethyl ether (111-90-0)	
Bioaccumulative potential	Not bioaccumulative.
Partition coefficient n-octanol/water (Log Pow)	-0.54 (Literature, 20 °C)

12.4. Mobility in soil

Triethylene glycol butyl ether (143-22-6)	
Surface tension	61.2 mN/m (20 °C, 0.1 g/l)
Ecology - soil	Highly mobile in soil.
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	0.25 – 1 (log Koc, SRC PCKOCWIN v2.0, Calculated value)

Triethylene glycol monomethyl ether borate ester (30989-05-0)	
Mobility in soil	0.007477 Source: EPISUITE
Ecology - soil	Highly mobile in soil.
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	-2.1 (log Koc, Calculated value)

Diethylene glycol (111-46-6)	
Surface tension	48.5 mN/m
Ecology - soil	Highly mobile in soil.
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	0 (log Koc, SRC PCKOCWIN v2.0, QSAR)

Polyethylene glycol monobutyl ether (9004-77-7)	
Surface tension	61.4 mN/m (20 °C)
Ecology - soil	Low potential for adsorption in soil.

Diethylene glycol monobutyl ether (112-34-5)	
Surface tension	67.5 mN/m (20 °C, 1 g/l, OECD 115: Surface Tension of Aqueous Solutions)
Ecology - soil	Highly mobile in soil.
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	0.64 – 1 (log Koc, SRC PCKOCWIN v2.0, Calculated value)

Diethyleneglycolmonoethyl ether (111-90-0)	
Surface tension	71.5 mN/m (20 °C, 0.1 %, OECD 115: Surface Tension of Aqueous Solutions)
Ecology - soil	Highly mobile in soil.

12.5. Other adverse effects

Ozone : Not classified

Fluorinated greenhouse gases : No

SECTION 13 Disposal considerations

Regional waste regulation : Disposal must be done according to official regulations.

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

Sewage disposal recommendations : Disposal must be done according to official regulations.

Product/Packaging disposal recommendations : Disposal must be done according to official regulations.

Additional information : Do not re-use empty containers.

Ecological waste information : The waste of the product should be considered as hazardous as the product itself, with the likelihood of impacting the environment in the same way. Consider the handling and disposal of the waste as defined by the product itself.

SECTION 14 Transport information

In accordance with TDG / DOT / IMDG / IATA

TDG	DOT	IMDG	IATA
14.1. UN Number			
Not regulated for transport			

TDG	DOT	IMDG	IATA
14.2. UN Proper Shipping Name			
Not regulated	Not regulated	Not regulated	Not regulated
14.3. Transport hazard class(es)			
Not regulated	Not regulated	Not regulated	Not regulated
14.4. Packing group, if applicable			
Not regulated	Not regulated	Not regulated	Not regulated
14.5. Environmental hazards			
Not regulated	Not regulated	Not regulated	Not regulated
No supplementary information available			

14.6. Special precautions for user

TDG
Not regulated

DOT
Not regulated

IMDG
Not regulated

IATA
Not regulated

14.7. Transport in bulk according to Annex II of MARPOL 73/78[9] and the IBC Code[10]

Not applicable

SECTION 15 Regulatory information

Triethylene glycol butyl ether (143-22-6)

Listed on the Canadian DSL (Domestic Substances List)

Triethylene glycol monomethyl ether borate ester (30989-05-0)

Listed on the Canadian DSL (Domestic Substances List)

Diethylene glycol (111-46-6)

Listed on the Canadian DSL (Domestic Substances List)

Polyethylene glycol monobutyl ether (9004-77-7)

Listed on the Canadian DSL (Domestic Substances List)

Diethylene glycol monobutyl ether (112-34-5)

Listed on the Canadian DSL (Domestic Substances List)

Diethyleneglycolmonoethyl ether (111-90-0)

Listed on the Canadian DSL (Domestic Substances List)

Triethylene glycol butyl ether (143-22-6)

Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active

Triethylene glycol monomethyl ether borate ester (30989-05-0)

Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active

Diethylene glycol (111-46-6)

Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active
Listed on INSQ (Mexican National Inventory of Chemical Substances)

Polyethylene glycol monobutyl ether (9004-77-7)

Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active

Diethylene glycol monobutyl ether (112-34-5)

Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active
Listed on INSQ (Mexican National Inventory of Chemical Substances)

Diethyleneglycolmonoethyl ether (111-90-0)

Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active
Listed on INSQ (Mexican National Inventory of Chemical Substances)

SECTION 16 Other Information

Issue date	:	08/12/2025
Revision date	:	01/14/2026
Supersedes	:	09/08/2025

Full text of hazard classes and H-statements:

H318	Causes serious eye damage
H319	Causes serious eye irritation
H320	Causes eye irritation
H332	Harmful if inhaled
H336	May cause drowsiness or dizziness
H361	Suspected of damaging fertility or the unborn child
H373	May cause damage to organs through prolonged or repeated exposure.

Safety Data Sheet (SDS), Canada

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.