

**SECTION 1 Identification****1.1. GHS Product identifier**

Product name : Synthetic Brake Fluid DOT 3  
Part Number : 20825

**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](mailto:sds@lucasoil.com) - [www.LucasOil.com](http://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.

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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	< 100	Eye Dam. 1, H318

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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)et hanol / 2- hydroxyethyl ether / 3-oxa-1,5- pentanediol / 3- oxapentamethyle ne-1,5-diol / 3- oxapentane-1,5- diol / beta,beta'- dihydroxydiethyl ether / beta,beta- dihydroxydiethyl ether / bis(2- hydroxyethyl)ethe r / bis(beta- hydroxyethyl)ethe r / 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 / glycoethyl 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
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Name	Chemical name / Synonyms	Product identifier	%	Classification (GHS CA)
Polyethylene glycol monobutyl ether	$\alpha$ -Butyl- $\omega$ -hydroxypoly(oxy-1,2-ethanediyl) butoxypolyglycol / DCP 208 / Drilling fluid Additive DCP208 / GEM GP / GLYDRIL MC / NLP Butyl Heavies / poly(oxy-1,2-ethanediyl), $\alpha$ -butyl- $\omega$ -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
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	< 100	Eye Irrit. 2, H319 STOT SE 3, H336 STOT RE 2, H373
3,6,9,12-Tetraoxahexadecane-1-ol	Tetraethylene glycol butyl ether 3,6,9,12-tetraoxahexadecan-1-ol	CAS-No.: 1559-34-8	< 100	Eye Irrit. 2, H319

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Name	Chemical name / Synonyms	Product identifier	%	Classification (GHS CA)
Diethylene glycol monomethyl ether	2-(2-Methoxyethoxy)ethanol / 2-(2-methoxyethoxy)ethanol / 2-(beta-methoxyethoxy)ethanol / 3,6-dioxo-1-decanol / beta-methoxy-beta-hydroxydiethyl ether / DEGME / diethylene glycol methyl ether / diethylene glycol monomethyl ether / diglycolmonomethyl ether / ethanol, 2-(2-methoxyethoxy)- / ethylenediglycolmonomethyl ether / MDGE / methoxydiglycol / methylcarbitol / methyldiglycol / methyldigol	CAS-No.: 111-77-3	1 - 5*	Flam. Liq. 4, H227 Repr. 1B, H360 STOT SE 3, H336 STOT RE 2, H373

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Diethyleneglycolmonoethyl ether	2-(2-Ethoxyethoxy)ethanol / 2-(2-ethoxyethoxy)ethanol / 2-(beta-ethoxyethoxy)ethanol / 2-ethoxyethoxyethanol / 3,6-dioxo-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 / diethyleneglycolet hyl 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
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Name	Chemical name / Synonyms	Product identifier	%	Classification (GHS CA)
	/ solvosol / transcutol			

Full text of hazard classes and H-statements : see section 16

**\*Chemical name, CAS number and/or exact concentration have been withheld as CBI**

### 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 aid workers will be equipped with suitable personal protective equipment.

#### 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.
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### 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.

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### 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 : Store always 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)	
<b>Canada (Manitoba) - Occupational Exposure Limits</b>	
Local name	Diethylene glycol monobutyl ether
OEL TWA	67.5 mg/m <sup>3</sup> (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
<b>Canada (Newfoundland and Labrador) - Occupational Exposure Limits</b>	
Local name	Diethylene glycol monobutyl ether
OEL TWA	67.5 mg/m <sup>3</sup> (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

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Diethylene glycol monobutyl ether (112-34-5)	
<b>Canada (Nova Scotia) - Occupational Exposure Limits</b>	
Local name	Diethylene glycol monobutyl ether
OEL TWA	67.5 mg/m <sup>3</sup> (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
<b>Canada (Ontario) - Occupational Exposure Limits</b>	
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
<b>Canada (Prince Edward Island) - Occupational Exposure Limits</b>	
Local name	Diethylene glycol monobutyl ether
OEL TWA	67.5 mg/m <sup>3</sup> (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
<b>Diethyleneglycolmonoethyl ether (111-90-0)</b>	
<b>Canada (Ontario) - Occupational Exposure Limits</b>	
Local name	Diethylene glycol monoethyl ether
OEL TWAEV	165 mg/m <sup>3</sup>
	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

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### 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 Colourless to light yellow Light yellow Solid: white On exposure to air: yellow to light brown
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 Ether-like odour Characteristic odour Pleasant odour Fruity odour Unpleasant odour Irritating/pungent odour Ammonia odour
Odour threshold	: No data available
pH	: No data available
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	: $\geq 93.1$ °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.

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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

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
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

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<b>Diethylene glycol monobutyl ether (112-34-5)</b>	
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
<b>3,6,9,12-Tetraoxahexadecane-1-ol (1559-34-8)</b>	
LD50 oral rat	2630 mg/kg bodyweight (BASF test, Rat, Male / female, Experimental value, Oral, 7 day(s))
LD50 dermal rat	> 4000 mg/kg (Rat, Dermal)
LD50 dermal rabbit	3540 mg/kg bodyweight Animal: rabbit, Animal sex: male, 95% CL: 1050 - 11800
ATE CA (oral)	2630 mg/kg bodyweight
ATE CA (Dermal)	3540 mg/kg bodyweight
<b>Diethylene glycol monomethyl ether (111-77-3)</b>	
LD50 oral rat	7128 mg/kg
LD50 oral	7128 – 8188 mg/kg bodyweight (Equivalent or similar to OECD 401, Mouse, Male, Experimental value, Oral, 14 day(s))
LD50 dermal rabbit	9404 mg/kg bodyweight (Equivalent or similar to OECD 402, 24 h, Rabbit, Male, Experimental value, Skin, 14 day(s))
LD50 dermal	9284 mg/kg
LC50 Inhalation - Rat (Dust/Mist)	50 mg/l/4h
ATE CA (oral)	7128 mg/kg bodyweight
ATE CA (Dermal)	9284 mg/kg bodyweight
ATE CA (dust,mist)	50 mg/l/4h
<b>Diethyleneglycolmonoethyl ether (111-90-0)</b>	
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
<b>Triethylene glycol butyl ether (143-22-6)</b>	
pH	No data available in the literature

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<b>Diethylene glycol (111-46-6)</b>	
pH	5 – 8 (50 %)
<b>Polyethylene glycol monobutyl ether (9004-77-7)</b>	
pH	7
<b>Diethylene glycol monobutyl ether (112-34-5)</b>	
pH	No data available in the literature
<b>Diethylene glycol monomethyl ether (111-77-3)</b>	
pH	No data available in the literature
<b>Diethyleneglycolmonoethyl ether (111-90-0)</b>	
pH	No data available in the literature
Serious eye damage/irritation	: Causes serious eye damage.
<b>Triethylene glycol butyl ether (143-22-6)</b>	
pH	No data available in the literature
<b>Diethylene glycol (111-46-6)</b>	
pH	5 – 8 (50 %)
<b>Polyethylene glycol monobutyl ether (9004-77-7)</b>	
pH	7
<b>Diethylene glycol monobutyl ether (112-34-5)</b>	
pH	No data available in the literature
<b>Diethylene glycol monomethyl ether (111-77-3)</b>	
pH	No data available in the literature
<b>Diethyleneglycolmonoethyl ether (111-90-0)</b>	
pH	No data available in the literature
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
<b>Diethylene glycol (111-46-6)</b>	
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.
<b>Diethylene glycol monobutyl ether (112-34-5)</b>	
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
<b>Diethylene glycol monobutyl ether (112-34-5)</b>	
STOT-single exposure	May cause drowsiness or dizziness.
<b>Diethylene glycol monomethyl ether (111-77-3)</b>	
STOT-single exposure	May cause drowsiness or dizziness.

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

<b>Triethylene glycol butyl ether (143-22-6)</b>	
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:
<b>Diethylene glycol (111-46-6)</b>	
LOAEL (oral, rat, 90 days)	40000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 407 (Repeated Dose 28-Day Oral Toxicity Study in Rodents)
<b>Polyethylene glycol monobutyl ether (9004-77-7)</b>	
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)
<b>Diethylene glycol monobutyl ether (112-34-5)</b>	
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.
<b>Diethylene glycol monomethyl ether (111-77-3)</b>	
LOAEL (oral, rat, 90 days)	1800 mg/kg bodyweight Animal: rat, Animal sex: male, Guideline: OECD Guideline 407 (Repeated Dose 28-Day Oral Toxicity Study in Rodents)
LOAEL (dermal, rat/rabbit, 90 days)	40 mg/kg bw/day
NOAEL (oral, rat, 90 days)	900 mg/kg bodyweight Animal: rat, Animal sex: male, Guideline: OECD Guideline 407 (Repeated Dose 28-Day Oral Toxicity Study in Rodents)
NOAEC (inhalation, rat, vapour, 90 days)	> 1.06 mg/l air Animal: rat, Guideline: OECD Guideline 413 (Subchronic Inhalation Toxicity: 90-Day Study)
STOT-repeated exposure	May cause damage to organs through prolonged or repeated exposure.
<b>Diethyleneglycolmonoethyl ether (111-90-0)</b>	
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
<b>Triethylene glycol butyl ether (143-22-6)</b>	
Viscosity, kinematic	9.2 mm <sup>2</sup> /s (25 °C)
<b>Diethylene glycol (111-46-6)</b>	
Viscosity, kinematic	No data available in the literature
<b>Polyethylene glycol monobutyl ether (9004-77-7)</b>	
Viscosity, kinematic	9.2 mm <sup>2</sup> /s (25 °C)

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Diethylene glycol monobutyl ether (112-34-5)	
Viscosity, kinematic	No data available in the literature
Diethylene glycol monomethyl ether (111-77-3)	
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

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'

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<b>Polyethylene glycol monobutyl ether (9004-77-7)</b>	
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)
<b>Diethylene glycol monobutyl ether (112-34-5)</b>	
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)
<b>3,6,9,12-Tetraoxahexadecane-1-ol (1559-34-8)</b>	
LC50 - Fish [1]	> 1409 mg/l (96 h, Salmo gairdneri, Similar product)
EC50 - Crustacea [1]	> 1000 mg/l (48 h, Daphnia magna, Similar product)
EC50 72h - Algae [1]	780 mg/l Test organisms (species): Raphidocelis subcapitata (previous names: Pseudokirchneriella subcapitata, Selenastrum capricornutum)
EC50 72h - Algae [2]	840 mg/l Test organisms (species): Raphidocelis subcapitata (previous names: Pseudokirchneriella subcapitata, Selenastrum capricornutum)
EC50 96h - Algae [1]	> 1000 mg/l (Selenastrum capricornutum, Similar product)
<b>Diethylene glycol monomethyl ether (111-77-3)</b>	
LC50 - Fish [1]	5741 mg/l (EPA method, Equivalent or similar to OECD 203, 96 h, Pimephales promelas, Static system, Fresh water, Experimental value, Nominal concentration)
EC50 - Crustacea [1]	1192 mg/l (US EPA, 48 h, Daphnia magna, Static system, Fresh water, Experimental value, Lethal)
EC50 96h - Algae [1]	> 1000 mg/l (Equivalent or similar to OECD 201, Pseudokirchneriella subcapitata, Static system, Fresh water, Experimental value, Biomass)
<b>Diethyleneglycolmonoethyl ether (111-90-0)</b>	
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

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### 12.2. Persistence and degradability

Synthetic Brake Fluid DOT 3	
Persistence and degradability	Not rapidly degradable
Triethylene glycol butyl ether (143-22-6)	
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 <sub>2</sub> /g substance
Chemical oxygen demand (COD)	1.51 g O <sub>2</sub> /g substance
ThOD	1.51 g O <sub>2</sub> /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.
3,6,9,12-Tetraoxahexadecane-1-ol (1559-34-8)	
Persistence and degradability	Readily biodegradable in water.
ThOD	2.05 g O <sub>2</sub> /g substance
Diethylene glycol monomethyl ether (111-77-3)	
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 <sub>2</sub> /g substance
Chemical oxygen demand (COD)	1.85 g O <sub>2</sub> /g substance
ThOD	1.9078849 g O <sub>2</sub> /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)
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).

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<b>Polyethylene glycol monobutyl ether (9004-77-7)</b>	
Partition coefficient n-octanol/water (Log Pow)	0.436 (Experimental value, EU Method A.8: Partition Coefficient, 25.5 °C)
<b>Diethylene glycol monobutyl ether (112-34-5)</b>	
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)
<b>3,6,9,12-Tetraoxahexadecane-1-ol (1559-34-8)</b>	
Bioaccumulative potential	Not bioaccumulative.
Partition coefficient n-octanol/water (Log Pow)	-0.26 (QSAR, 25 °C)
<b>Diethylene glycol monomethyl ether (111-77-3)</b>	
Bioaccumulative potential	Not bioaccumulative.
Partition coefficient n-octanol/water (Log Pow)	-0.47 (Experimental value, Equivalent or similar to OECD 117, 20 °C)
<b>Diethyleneglycolmonoethyl ether (111-90-0)</b>	
Bioaccumulative potential	Not bioaccumulative.
Partition coefficient n-octanol/water (Log Pow)	-0.54 (Literature, 20 °C)
<b>12.4. Mobility in soil</b>	
<b>Triethylene glycol butyl ether (143-22-6)</b>	
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)
<b>Diethylene glycol (111-46-6)</b>	
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)
<b>Polyethylene glycol monobutyl ether (9004-77-7)</b>	
Surface tension	61.4 mN/m (20 °C)
Ecology - soil	Low potential for adsorption in soil.
<b>Diethylene glycol monobutyl ether (112-34-5)</b>	
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)
<b>3,6,9,12-Tetraoxahexadecane-1-ol (1559-34-8)</b>	
Ecology - soil	No (test)data on mobility of the substance available.

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Diethylene glycol monomethyl ether (111-77-3)	
Surface tension	64.5 mN/m (25 °C, 1 g/l)
Ecology - soil	Low potential for adsorption in soil.
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.

## SECTION 14 Transport information

In accordance with TDG / DOT / IMDG / IATA

TDG	DOT	IMDG	IATA
<b>14.1. UN Number</b>			
Not regulated for transport			
<b>14.2. UN Proper Shipping Name</b>			
Not regulated	Not regulated	Not regulated	Not regulated
<b>14.3. Transport hazard class(es)</b>			
Not regulated	Not regulated	Not regulated	Not regulated
<b>14.4. Packing group, if applicable</b>			
Not regulated	Not regulated	Not regulated	Not regulated
<b>14.5. Environmental hazards</b>			
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

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### IATA

Not regulated

### 14.7. Transport in bulk according to Annex II of MARPOL 73/78<sup>9</sup> and the IBC Code<sup>10</sup>

Not applicable

## SECTION 15 Regulatory information

### Triethylene glycol butyl ether (143-22-6)

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)

### 3,6,9,12-Tetraoxahexadecane-1-ol (1559-34-8)

Listed on the Canadian DSL (Domestic Substances List)

### Diethylene glycol monomethyl ether (111-77-3)

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

### 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)

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### 3,6,9,12-Tetraoxahexadecane-1-ol (1559-34-8)

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

### Diethylene glycol monomethyl ether (111-77-3)

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 : 06/12/2025  
Revision date : 09/08/2025  
Supersedes : 09/05/2025

### Full text of hazard classes and H-statements:

H227	Combustible liquid
H318	Causes serious eye damage
H319	Causes serious eye irritation
H320	Causes eye irritation
H332	Harmful if inhaled
H336	May cause drowsiness or dizziness
H360	May damage fertility or the unborn child
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.