# SAFETY DATA SHEET

**According to Canadian Hazardous Products Regulations (HPR) (SOR/2015/17)**

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**SDS # :** 088729

# DOT 3

**Date of the previous version:** not applicable **Revision Date:** *2018-07-13* **Version** *1*

## 1. IDENTIFICATION

**Product identifier**

**Product name** DOT 3

**Other means of identification**

**Product Code(s)** 088729

**Number** OC1
**Substance/mixture** Mixture

**Recommended use of the chemical and restrictions on use**

**Identified uses** Brake fluid

**Uses advised against** Do not use for any purpose other than the one for which it is intended.

**Details of the supplier of the safety data sheet**

**Supplier**

TOTAL CANADA INC.
220, LAFLEUR
LASALLE, QUEBEC
H8R 4C9
Tel: (514) 595-7579
Fax: (514) 595-5950

**Contact Point** service HSE

**E-mail Address** ProductSafety@total.com

**Emergency telephone number**

**Emergency telephone** 1-800-463-3955
**Company Phone Number** +1 866 928 0789 (24h/24, 7d/7)
+1 215 207 0061 (24h/24, 7d/7)

## 2. HAZARDS IDENTIFICATION

**Classification**

Reproductive toxicity - Category 2
Specific target organ toxicity (repeated exposure) - Category 2

**Label elements**

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**WARNING**

**Hazard Statements**
Suspected of damaging fertility or the unborn child
May cause damage to organs through prolonged or repeated exposure

**Precautionary Statements - Prevention**
Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Wear protective gloves/protective clothing/eye protection/face protection
Do not breathe dust/fume/gas/mist/vapors/spray

**Precautionary Statements - Response**
• IF exposed or concerned: Get medical advice/attention

**Precautionary Statements - Storage**
Store locked up

**Precautionary Statements - Disposal**
Dispose of contents/container to an approved waste disposal plant

**Other information**

**Other hazards** Harmful to aquatic life with long lasting effects

**Physical-Chemical Properties** Contaminated surfaces will be extremely slippery.

**Environmental properties** The product may form an oil film on the water surface that may stop the oxygen exchange. Should not be released into the environment.

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Mixture**

**Chemical nature** The product is made from synthetic base oils (polyalkylene glycol).

| Chemical Name | EC-No | CAS-No | Weight % |
|---|---|---|---|
| Triethylene glycol, monobutyl ether | 205-592-6 | 143-22-6 | 20<30 |
| 2-(2-butoxyethoxy)ethanol | 203-961-6 | 112-34-5 | 5<10 |

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| | | | |
|---|---|---|---|
| 2,2'-oxydiethanol | 203-872-2 | 111-46-6 | 3<5 |
| Diisopropanolamine | 203-820-9 | 110-97-4 | 1<3 |
| 2-(2-methoxyethoxy)ethanol | 203-906-6 | 111-77-3 | 0.1<1 |
| 2,6-di-tert-butyl-p-cresol | 204-881-4 | 128-37-0 | 0.25<1 |

**Additional information** Product containing mineral oil with less than 3% DMSO extract as measured by IP 346

## 4. FIRST AID MEASURES

**First aid measures for different exposure routes**

**General advice** IN CASE OF SERIOUS OR PERSISTENT CONDITIONS, CALL A DOCTOR OR EMERGENCY MEDICAL CARE.

**Eye contact** Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Keep eye wide open while rinsing. If symptoms persist, call a physician.

**Skin contact** Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Wash contaminated clothing before reuse. High pressure jets may cause skin damage. Take victim immediately to hospital.

**Inhalation** Remove casualty to fresh air and keep at rest in a position comfortable for breathing. If not breathing, give artificial respiration. If symptoms persist, call a physician.

**Ingestion** Clean mouth with water. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Call a physician or Poison Control Center immediately.

**Protection of First-aiders** First aider needs to protect himself. See Section 8 for more detail. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.

**Most important symptoms/effects, acute and delayed**

**Skin contact** Not classified based on available data. High pressure injection of the products under the skin may have very serious consequences even though no symptom or injury may be apparent.

**Eye contact** Not classified based on available data.

**Inhalation** Not classified based on available data. Inhalation of vapors in high concentration may cause irritation of respiratory system.

**Ingestion** Not classified based on available data. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

**Symptoms** No information available.

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

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**Notes to physician** Treat symptomatically.

## 5. FIRE-FIGHTING MEASURES

**Suitable Extinguishing Media** Carbon dioxide ($CO_2$). ABC powder. Foam. Water spray or fog.

**Unsuitable Extinguishing Media** Do not use a solid water stream as it may scatter and spread fire.

**Special Hazard** Incomplete combustion and thermolysis may produce gases of varying toxicity such as carbon monoxide, carbon dioxide, various hydrocarbons, aldehydes and soot. These may be highly dangerous if inhaled in confined spaces or at high concentration. Carbon monoxide (CO). Carbon dioxide. Nitrogen oxides (NOx).

**Explosion Data**

**Sensitivity to Mechanical Impact** None.
**Sensitivity to Static Discharge** None.

**Special protective equipment for fire-fighters** As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Evacuate non-essential personnel.

## 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment and emergency procedures**

**General Information** Do not touch or walk through spilled material. Contaminated surfaces will be extremely slippery. Use personal protective equipment. Ensure adequate ventilation. Remove all sources of ignition.

**Other information** See Section 12 for additional information.

**Environmental precautions**

**General Information** Do not allow material to contaminate ground water system. Prevent entry into waterways, sewers, basements or confined areas. Local authorities should be advised if significant spillages cannot be contained.

**Methods and material for containment and cleaning up**

**Methods for containment** Dike to collect large liquid spills. If necessary dike the product with dry earth, sand or similar non-combustible materials.

**Methods for cleaning up** Dispose of contents/container in accordance with local regulation. In case of soil contamination, remove contaminated soil for remediation or disposal, in accordance with local regulations.

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## 7. HANDLING AND STORAGE

**Precautions for safe handling**

**Advice on safe handling** For personal protection see section 8. Use only in well-ventilated areas. Do not breathe vapors or spray mist. Avoid contact with skin, eyes and clothing.

**Prevention of fire and explosion** Take precautionary measures against static discharges.

**Hygiene measures** Ensure the application of strict rules of hygiene by the personnel exposed to the risk of contact with the product. When using, do not eat, drink or smoke. Wash hands before breaks and immediately after handling the product. Regular cleaning of equipment, work area and clothing is recommended. Do not use abrasives, solvents or fuels. Do not dry hands with rags that have been contaminated with product. Do not put product contaminated rags into workwear pockets.

**Conditions for safe storage, including any incompatibilities**

**Technical measures/Storage conditions** Keep away from food, drink and animal feedingstuffs. Keep in a bunded area. Keep container tightly closed. Keep preferably in the original container. Otherwise reproduce all indication of the regulation label on the new container. Do not remove the hazard labels of the containers (even if they are empty). Design the installations in order to avoid accidental emissions of product (due to seal breakage, for example) onto hot casings or electrical contacts. Store at room temperature. Protect from moisture.

**Materials to Avoid** Strong oxidizing agents. Strong acids. Strong bases.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Control parameters**

**Exposure limits** .

Ingredients with workplace control parameters.

| Chemical Name | Alberta | British Columbia | Ontario | Quebec |
|---|---|---|---|---|
| 2-(2-butoxyethoxy)ethanol 112-34-5 | | | TWA 10 ppm | |
| 2,6-di-tert-butyl-p-cresol 128-37-0 | TWA 10 mg/m³ | TWA 2 mg/m³ | TWA 2 mg/m³ | STEV 10 mg/m³ |

**Legend** See section 16

**Exposure controls**

**Engineering Measures** Apply technical measures to comply with the occupational exposure limits. Ensure adequate ventilation, especially in confined areas. When working in confined spaces (tanks,

containers, etc.), ensure that there is a supply of air suitable for breathing and wear the recommended equipment.

**Individual protection measures, such as personal protective equipment**

**General Information** Protective engineering solutions should be implemented and in use before personal protective equipment is considered. The personal protective equipment (PPE) recommendations apply to the product ITSELF. In case of mixtures or formulations, it is suggested that you contact the relevant PPE suppliers.

**Eye/face protection** If splashes are likely to occur, wear safety glasses with side-shields.

**Skin and body protection** Wear suitable protective clothing. Protective shoes or boots.

**Hand Protection** Hydrocarbon-proof gloves: Fluorinated rubber. Nitrile rubber. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time.

**Respiratory protection** None under normal use conditions. When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. Respirator with combination filter for vapor/particulate. Warning ! filters have a limited use duration. The use of breathing apparatus must comply strictly with the manufacturer's instructions and the regulations governing their choices and uses.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Physical and chemical properties**

| | |
|---|---|
| **Appearance** | limpid |
| **Color** | colorless To yellow |
| **Physical State @20°C** | liquid |
| **Odor** | Ether |
| **Odor Threshold** | No information available |

| Property | Values | Remarks | Method |
|---|---|---|---|
| **pH** | | No information available | |
| **Melting point/range** | | Not applicable | |
| **Boiling point/boiling range** | **260 °C** | No information available | ASTM E1719 |
| | 500 °F | | ASTM E1719 |
| **Flash point** | **138 °C** | No information available | ASTM D93 |
| | 280 °F | | ASTM D93. |
| **Evaporation rate** | | No information available | |

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**Flammability Limits in Air**

| | | | |
|---|---|---|---|
| **upper** | | No information available | |
| **Lower** | | No information available | |
| **Vapor Pressure** | < 0.0013 kPa @ 20 °C | | |
| **Vapor density** | | No information available | |
| **Relative density** | 1.04 | @ 20 °C | ASTM D1475 |
| **Density** | 1040 kg/m³ | @ 20 °C | ASTM D1475 |
| **Water solubility** | | Insoluble | |
| **Solubility in other solvents** | | No information available | |
| **logPow** | | No information available | |
| **Autoignition temperature** | | No information available | |
| **Decomposition temperature** | | No information available | |
| **Viscosity, kinematic** | 990 mm2/s | @ -40 °C | ISO 3104 |
| **Explosive properties** | Not explosive | | |
| **Oxidizing Properties** | Not applicable | | |
| **Possibility of hazardous reactions** | None under normal processing | | |
| **Other information** | | | |

**Freezing Point** No information available

## 10. STABILITY AND REACTIVITY

**Reactivity** None under normal processing.

**Chemical stability** Stable under recommended storage conditions.

**Possibility of hazardous reactions** No dangerous reaction known under conditions of normal use.

**Conditions to avoid** Keep away from open flames, hot surfaces and sources of ignition. Keep away from heat and sparks.

**Incompatible materials** Strong oxidizing agents. Strong acids. Strong bases.

**Hazardous Decomposition Products** Incomplete combustion and thermolysis may produce gases of varying toxicity such as carbon monoxide, carbon dioxide, various hydrocarbons, aldehydes and soot. Aldehydes. Ketones. Organic acids. Nitrogen oxides (NOx).

## 11. TOXICOLOGICAL INFORMATION

**Information on likely routes of exposure**

**Symptoms** No information available.

**Skin contact** Not classified based on available data. High pressure injection of the products under the skin may have very serious consequences even though no symptom or injury may be apparent.

**Eye contact** Not classified based on available data.

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**Inhalation** Not classified based on available data. Inhalation of vapors in high concentration may cause irritation of respiratory system.

**Ingestion** Not classified based on available data. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

**Acute toxicity - Product Information**

**Oral** Not classified based on available data

**Dermal** Not classified based on available data

**Inhalation** Not classified based on available data

**Acute toxicity - Component Information**

| Chemical Name | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|---|---|---|---|
| Triethylene glycol, monobutyl ether 143-22-6 | LD50 5000 - 11300 mg/kg bw (rat) | LD50 3540 mg/kg bw (rabbit) | |
| 2-(2-butoxyethoxy)ethanol 112-34-5 | LD50 5500 mg/kg ( Rat ) | LD50 2201 mg/kg ( Rabbit ) | |
| 2,2'-oxydiethanol 111-46-6 | | LD50 13300 mg/kg bw (rabbit) | LC50 (4h) > 4.6 mg/l (rat - aerosol) |
| Diisopropanolamine 110-97-4 | > 2000 mg/kg bw ( Rat ) | 8000 mg/kg bw ( Rabbit ) | |
| 2-(2-methoxyethoxy)ethanol 111-77-3 | LD50 7128 mg/kg bw (rat - OECD 401) LD50 8188 mg/kg bw (rat - OECD 401) | LD50 9404 mg/kg bw (rabbit - OECD 402) | LC0 (6h) > 1.2 mg/l (rat - vapour - OECD 403) |
| 2,6-di-tert-butyl-p-cresol 128-37-0 | LD50 > 5000 mg/kg (Rat - OECD 401) | LD50 5001 mg/kg (Rabbit - OECD 402) | |

**Skin corrosion/irritation** Not classified based on available data.
**Serious eye damage/eye irritation** Not classified based on available data. The supplier of one or more of the components contained within this formulation has indicated that he has data on the components and/or similar mixtures, which confirms that at the concentration used, classification is not required.
**Respiratory or skin sensitization** Not classified based on available data.
**Germ cell mutagenicity** Not classified based on available data.
**Carcinogenicity** Not classified based on available data.

**Reproductive toxicity** Suspected of damaging fertility or the unborn child.
**Target Organ Effects (STOT)** None known.
**STOT - single exposure** Not classified based on available data.
**STOT - repeated exposure** May cause damage to organs through prolonged or repeated exposure.
**Aspiration hazard** Not classified based on available data.

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## 12. ECOLOGICAL INFORMATION

**Ecotoxicity**

**Acute aquatic toxicity - Product Information**

No information available

**Acute aquatic toxicity - Component Information**

| Chemical Name | Toxicity to algae | Toxicity to fish | Toxicity to daphnia and other aquatic invertebrates | Toxicity to microorganisms |
|---|---|---|---|---|
| Triethylene glycol, monobutyl ether 143-22-6 | EC50(72h) 500 - 3211 mg/l (Desmodesmus subspicatus) | LC50(96h) 2200-4600 mg/l (Leuciscus idus) | EC50(48h) 500 - 3141.3 mg/l (Daphnia magna) | |
| 2-(2-butoxyethoxy)ethanol 112-34-5 | EC50 (96h) > 100 mg/L Desmodesmus subspicatus | LC50 (96h) = 1300 mg/l (Lepomis macrochirus - static - OECD 203) | EC50 (48h) > 100 mg/L Daphnia magna EC50 (24h) = 2850 mg/L Daphnia magna | |
| 2,2'-oxydiethanol 111-46-6 | EC50 (96h) 9362 mg/l (green algae) | LC50 (96h) 75200 mg/l (Pimephales promelas) | EC100 (24h) >10000 mg/l (Daphnia magna) EC50 (24h) >10000 mg/l (Daphnia magna) | |
| Diisopropanolamine 110-97-4 | EC50 (72h) = 270 mg/L Desmodesmus subspicatus | LC50 (96h) 1466 mg/L Danio rerio (OECD 403) | EC50 (48h) = 277.7 mg/l Daphnia magna | |
| 2-(2-methoxyethoxy)ethanol 111-77-3 | EC50 (96h) > 1000 mg/l (Pseudokirchnerella subcapitata - OECD 201) EC0 (96h) 1000 mg/l (Pseudokirchnerella subcapitata - OECD 201) | LC50 (96h) 5741 mg/l (Pimephales promelas) | EC50 (48h) 1192 mg/l (Daphnia magna) EC10 (48h) 688 mg/l (Daphnia magna) | EC50 > 10000 mg/L 17 h |
| 2,6-di-tert-butyl-p-cresol 128-37-0 | EC50 (72h) 0.5 mg/L (Desmodesmus subspicatus) | LC50 (96h) > 0.57 mg/L (Danio rerio) | LC50 (48h) 0.61 mg/L (Daphnia magna - OECD 202) | |

**Chronic aquatic toxicity - Product Information**

No information available

**Chronic aquatic toxicity - Component Information**

| Chemical Name | Toxicity to algae | Toxicity to daphnia and other aquatic invertebrates | Toxicity to fish | Toxicity to microorganisms |
|---|---|---|---|---|
| 2,6-di-tert-butyl-p-cresol 128-37-0 | | NOEC (21d) 0.07 mg/L (Daphnia magna) | | |

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**Effects on terrestrial organisms** No information available.

**Persistence and degradability**

No information available

**Bioaccumulative potential**

**Product Information** No information available.

**logPow** No information available

**Component Information** .

| Chemical Name | log Pow |
|---|---|
| Triethylene glycol, monobutyl ether<br>143-22-6 | 0.51 |
| 2-(2-butoxyethoxy)ethanol<br>112-34-5 | 0.56 |
| Diisopropanolamine<br>110-97-4 | -0.79 |
| 2-(2-methoxyethoxy)ethanol<br>111-77-3 | -0.682 |
| 2,6-di-tert-butyl-p-cresol<br>128-37-0 | 5.1 |

**Mobility**

**Soil** Given its physical and chemical characteristics, the product generally shows low soil mobility

**Air** Loss by evaporation is limited

**Water** The product is insoluble and sinks in water

**Other adverse effects**

**General Information** No information available

## 13. DISPOSAL CONSIDERATIONS

**Waste treatment**

**Waste from residues/unused products** Should not be released into the environment. Do not empty into drains. Dispose of in accordance with all applicable national environmental laws and regulations. Where possible recycling is preferred to disposal or incineration. Other Regulatory Status: No Canadian federal standard; however, for general discharge guidance, federal installations limited to 15 mg/L for total oil and grease. Provincial criteria are likely and should be requested when notifying provincial authorities.

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**Contaminated packaging** Empty containers should be taken to an approved waste handling site for recycling or disposal.

## 14. TRANSPORT INFORMATION

| | |
|---|---|
| **TDG** | Not regulated |
| **DOT** | Not regulated |
| **MEX** | Not regulated |
| **ICAO/IATA** | Not regulated |
| **IMDG/IMO** | Not regulated |
| **ADR/RID** | Not regulated |
| **ADN** | Not regulated |

## 15. REGULATORY INFORMATION

This product has been classified in accordance with the hazard criteria of the Hazardous Products Regulations (HPR) (SOR/2015/17) and the Safety Data Sheet (SDS) contains all the information required by the HPR

**International Inventories** All the substances contained in this product are listed or exempted from listing in the following inventories:
Canada (DSL/NDSL)

## 16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION

| | | | | |
|---|---|---|---|---|
| **NFPA** | **Health Hazard** 1 | **Flammability** 1 | **Instability** 0 | **Special hazards** - |
| **HMIS** | **Health Hazard** 1 | **Flammability** 1 | **Physical Hazard** 0 | **Personal protection** X |

**Revision Date:** 2018-07-13
**Revision Note** Initial Release

**Abbreviations, acronyms**
ACGIH = American Conference of Governmental Industrial Hygienists
bw = body weight
bw/day = body weight/day
EC x = Effect Concentration associated with x% response

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GLP = Good Laboratory Practice
IARC = International Agency for Research of Cancer
LC50 = 50% Lethal concentration - Concentration of a chemical in air or a chemical in water which causes the death of 50% (one half) of a group of test animals
LD50 = 50% Lethal Dose - Chemical amount, given at once, which causes the death of 50% (one half) of a group of test animals
LL = Lethal Loading
NIOSH = National Institute of Occupational Safety and Health
NOAEL = No Observed Adverse Effect Level
NOEC = No Observed Effect Concentration
NOEL = No Observed Effect Level
OECD = Organization for Economic Co-operation and Development
OSHA = Occupational Safety and Health Administration
UVCB = Substance of unknown or Variable composition, Complex reaction products or Biological material
NTP = National Toxicology Program

**Section 8**

TWA - Time Weight Average
STEL - Short Term Exposure Limits

| | | | |
|---|---|---|---|
| + | Sensitizer | * | Skin designation |
| C: | Carcinogen | R: | Toxic to reproduction |
| Ceiling: | Ceiling Limit Value | | |

**This safety data sheet serves to complete but not to replace the technical product sheets. The information contained herein is given in good faith and is accurate to the best of knowledge at the date indicated above.It is understood by the user that any use of the product for purposes other than those for which it was designed entails potential risk.The information given herein in no way dispenses the user from knowing and applying all provisions regulating his activity.The user bears sole liability for the precautions required when using the product.The regulatory texts indicated herein are intended to aid the user to fulfil his obligations. This list is not to be considered complete and exhaustive.It is the user's responsibility to ensure that he is subject to no other obligations than those mentioned.**

**End of the Safety Data Sheet**