



## SAFETY DATA SHEET

### SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

**Product identifier:** BOSS Transmission Drive Train Oil TO-4M  
**Recommended use:** Drive Train Oil  
**Recommended restrictions:** None known.  
**Manufacturer/Importer/Supplier/Distributor information**  
**Manufacturer:** BOSS Lubricants  
**Address:** 6303 30 St SE  
Calgary, Alberta  
T2C 1R4  
**Telephone:** 1-800-844-9457  
**Website:** www.bosslubricants.com  
**Emergency phone number:** Chemtrec (Within US) 1-800-424-9300  
Chemtrec (International) 1-703-527-3887  
**Issue Date:** February 22, 2016

### SECTION 2: HAZARDS IDENTIFICATION

**Physical hazards:** This mixture does not meet the classification criteria according to OSHA HazCom 2012.  
**Health hazards:** This mixture does not meet the classification criteria according to OSHA HazCom 2012.  
**Environmental hazards:** This mixture does not meet the classification criteria according to OSHA HazCom 2012.

#### OSHA defined hazards

**Label elements:** This mixture does not meet the classification criteria according to OSHA HazCom 2012.  
**Hazard symbol:** None.  
**Signal word:** None.

#### Hazard statement

**Precautionary statement:** The mixture does not meet the criteria for classification.

**Prevention:** None required according to OSHA HazCom 2012.

**Response:** None required according to OSHA HazCom 2012.

**Storage:** None required according to OSHA HazCom 2012.

**Disposal:** None required according to OSHA HazCom 2012.

**Hazard(s) not otherwise classified (HNOC):** No OSHA defined hazard classes.

Other hazards which do not result in classification: May cause mild skin and eye irritation. May cause respiratory irritation. May cause discomfort if swallowed. Prolonged overexposure may cause slight liver and kidney effects, such as increased organ weights.

**Supplemental information:** None.

### SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

#### Mixtures

Chemical name	CAS number	%
Distillates, (petroleum),Hydrotreated Heavy Paraffinic	64742-54-7	60 - 100
Diisononyl Adipate	33703-08-1	7 - 13
Zinc, Dithiophosphate Di-c1-14-alkyl Esters	68649-42-3	1 - 5

\*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.



#### SECTION 4: FIRST AID MEASURES

- Inhalation:** Move to fresh air. If breathing is difficult, give oxygen. If breathing stops, provide artificial respiration. Get medical attention if symptoms persist.
- Skin contact:** Wash off with plenty of water. Duration of rinsing should be at least 15 minutes. Get medical attention if irritation develops and persists.
- Eye contact:** Flush with large amounts of water for 15 minutes. Get medical attention if irritation persists after washing.
- Ingestion:** Do not induce vomiting. Never give anything by mouth to a victim who is unconscious or is having convulsions. Get medical attention if any discomfort continues.
- Most important symptoms/effects, acute and delayed:** May be mildly irritating to the skin and eyes. Symptoms may include redness, edema, drying, defatting and cracking of the skin. Symptoms may include stinging and tearing. May cause respiratory irritation. Symptoms may include upper respiratory irritation, coughing, and breathing difficulties. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.
- Indication of immediate medical attention and special treatment needed:** Treat symptomatically.
- General information:** Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

#### SECTION 5: FIRE FIGHTING MEASURES

- Suitable extinguishing media:** Water fog. Foam. Dry chemical powder. Carbon dioxide (CO<sub>2</sub>).
- Unsuitable extinguishing media:** Do not use water jet as an extinguisher, as this will spread the fire.
- Specific hazards arising from the chemical:** During fire, gases hazardous to health may be formed.
- Special protective equipment and precautions for firefighters:** Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
- Firefighting equipment/instructions:** Firefighters should wear full protective gear. Remove all sources of ignition. Use water spray to cool unopened containers. Move containers from fire area if you can do so without risk. Prevent fire extinguishing water from contaminating surface water or the ground water system.
- Specific methods:** Use standard firefighting procedures and consider the hazards of other involved materials.
- General fire hazards:** No unusual fire or explosion hazards noted.
- Hazardous combustion products:** Carbon oxides. Hydrocarbons.

#### SECTION 6: ACCIDENTAL RELEASE MEASURES

- Personal precautions, protective equipment and emergency procedures:** Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. For personal protection, see section 8 of the SDS.
- Methods and materials for containment and cleaning up:** Extinguish all flames in the vicinity. Stop the flow of material, if this is without risk. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Contaminated absorbent material may pose the same hazards as the spilled product. Prevent entry into waterways, sewer, basements or confined areas. Following product recovery, flush area with water. Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS. In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.
- Environmental precautions:** Avoid discharge into drains, water courses or onto the ground.

#### SECTION 7: HANDLING AND STORAGE

- Precautions for safe handling:** Eliminate all sources of ignition. Avoid breathing mist or vapor. Avoid contact with eyes, skin, and clothing. When using, do not eat, drink or smoke. Should be handled in closed systems, if possible. Do not use in areas without adequate ventilation. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Observe good industrial hygiene practices.
- Conditions for safe storage, including any incompatibilities:** Keep away from heat, sparks and open flame. Store in original tightly closed container. Store in a well-ventilated place. Store in a cool, dry place out of direct sunlight. Store away from incompatible materials (see Section 10 of the SDS).



**Occupational exposure limits**

**U.S. - OSHA**

Components	Type	Value	Form
Zinc, Dithiophosphate	Di-c1-14-alkyl Esters (CAS68649-42-3)	TWA	None

**Appropriate engineering controls:** Ensure adequate ventilation, especially in confined areas. Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

**Biological limit values:** No biological exposure limits noted for the ingredient(s).

**SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

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

**Eye/face protection:** Where contact is likely, safety glasses with side shields are recommended. Eye wash fountain and emergency showers are recommended.

**Hand protection:** Wear appropriate chemical resistant gloves. Advice should be sought from glove suppliers.

**Skin protection:** Wear suitable protective clothing.

**Respiratory protection:** Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fume at levels exceeding the exposure limits. Advice should be sought from respiratory protection specialists.

**Thermal hazards:** Wear appropriate thermal protective clothing, when necessary.

**General hygiene considerations:** Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

**SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**

<b>Physical state:</b>	Liquid.	<b>Form:</b>	Liquid.
<b>Color:</b>	Amber.	<b>Odor:</b>	Mild petroleum odor.
<b>Odor threshold:</b>	Not available.	<b>pH:</b>	Not available.
<b>Melting point/freezing point:</b>	Not available.	<b>Initial boiling point and boiling range:</b>	> 300 °C (572 °F)
<b>Flash point:</b>	> 200.0 °C (392 °F)	<b>Evaporation rate:</b>	Not available.
<b>Flammability (solid, gas):</b>	Not available.	<b>Specific gravity:</b>	0.88
<b>Upper/lower flammability or explosive limits</b>			
<b>Flammability limit - lower (%):</b>	Not available.	<b>Flammability limit - upper (%):</b>	Not available.
<b>Explosive limit - lower (%):</b>	Not available.	<b>Explosive limit - upper (%):</b>	Not available.
<b>Vapor pressure:</b>	Not available.	<b>Vapor density:</b>	> 10
<b>Relative density:</b>	Not available.	<b>Solubility (water):</b>	Insoluble
<b>Partition coefficient (n-octanol/water):</b>	Not available.	<b>Auto-ignition temperature:</b>	Not available.
<b>Decomposition temperature:</b>	Not available.	<b>Viscosity:</b>	Not available.
<b>Percent volatile:</b>	Negligible		



## SECTION 10: STABILITY AND REACTIVITY

<b>Reactivity:</b>	The product is stable and non-reactive under normal conditions of use, storage and transport.
<b>Chemical stability:</b>	Material is stable under normal conditions.
<b>Possibility of hazardous reactions:</b>	Hazardous polymerization does not occur.
<b>Conditions to avoid:</b>	Keep away from heat, sparks and open flame. Avoid temperatures exceeding the flash point. Contact with incompatible materials. Do not use in areas without adequate ventilation.
<b>Incompatible materials</b>	Strong oxidizing agents.
<b>Hazardous decomposition products:</b>	None known, refer to hazardous combustion products in Section 5.

## SECTION 11: TOXICOLOGICAL INFORMATION

### Information on likely routes of exposure

<b>Inhalation:</b>	May cause irritation to the respiratory system.
<b>Skin contact:</b>	May cause mild skin irritation.
<b>Eye contact:</b>	May cause mild eye irritation.
<b>Ingestion:</b>	May cause discomfort if swallowed.
<b>Most important:</b>	May be mildly irritating to the skin and eyes. Symptoms may include redness, edema, drying, symptoms/effects, acute and defatting and cracking of the skin. Symptoms may include stinging and tearing. May cause delayed respiratory irritation. Symptoms may include upper respiratory irritation, coughing, and breathing difficulties. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

### Information on toxicological effects

**Acute toxicity:** This product is not classified as an acute toxicity hazard.

The below product data is the calculated ATE values for this mixture. Individual ingredient component data appears below the product mixture ATE values.

#### Product

BOSS Transmission Drive Train Oil TO-4M

Acute	Species	Test Results
<i>Dermal</i> LD50	Rabbit	> 5000 mg/kg
<i>Inhalation</i> LC50	Rat	5.63 mg/l, 4 hours
<i>Oral</i> LD50	Rat	13425 mg/kg

#### Components

Diisononyl Adipate (CAS 33703-08-1)

Acute	Species	Test Results
<i>Dermal</i> LD50	Rabbit	No data in literature
<i>Inhalation</i> LC50	Rat	> 5.7 mg/l, 4 Hours
<i>Oral</i> LD50	Rat	> 5000 mg/kg

#### Components

Distillates, (petroleum), Hydrotreated Heavy Paraffinic (CAS 64742-54-7)

Acute	Species	Test Results
<i>Dermal</i> LD50	Rabbit	> 5000 mg/kg
<i>Inhalation</i> LC50	Rat	> 5 mg/l, 4 Hours (Mist)
<i>Oral</i> LD50	Rat	> 15000 mg/kg

#### Components

Zinc, Dithiophosphate Di-c1-14-alkyl Esters (CAS 68649-42-3)

Acute	Species	Test Results
<i>Dermal</i> LC50	Rabbit	No data in literature
<i>Inhalation</i> LC50	Rat	No data in literature



Oral LD50 Rat 26100 mg/kg

\* Estimates for product may be based on additional component data not shown.

**Skin corrosion/irritation** May cause mild skin irritation.

**Eye damage/eye Irritation:** May cause mild eye irritation.

**Respiratory sensitization:** This product is not expected to cause respiratory sensitization.

**Skin sensitizer:** This product is not expected to cause skin sensitization.

**Germ cell mutagenicity:** No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

**Carcinogenicity:** No components present at greater than 0.1% are considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

**OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):** Not listed.

**Reproductive toxicity:** This product is not expected to cause reproductive or developmental effects.

**Specific target organ toxicity**

**Single exposure:** Not classified as a specific target organ toxicity -single exposure

**Repeated exposure:** Not classified as a specific target organ toxicity -repeated exposure.

**Aspiration toxicity:** Not expected to be an aspiration hazard.

**Chronic effects:** Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis. Prolonged overexposure may cause slight liver and kidney effects, such as increased organ weights.

**Further information:** This product has no known adverse effect on human health.

**SECTION 12: ECOLOGICAL INFORMATION**

**Ecotoxicity:** Components of this product are hazardous to aquatic life.

Components	Aquatic	Species	Test Results
Distillates, (petroleum), Hydrotreated Heavy Paraffinic (CAS 64742-54-7)			
<i>Acute</i>			
	Crustacea	EC50 Water flea (Daphnia magna)	> 10000 mg/l, 48 hours
	Fish	LC50 Fathead minnow (Pimephales promelas)	> 100 mg/l, 96 hours
<i>Chronic</i>			
	Crustacea	NOEC Water flea (Daphnia magna)	10 mg/l, 21 days
Zinc, Dithiophosphate Di-c1-14-alkyl Esters (CAS 68649-42-3)			
<i>Acute</i>			
	Algae	EC50 Green algae (Selenastrum capricornutum)	1 - 5 mg/l, 96 hours
	Crustacea	EC50 Water flea (Daphnia magna)	1 - 1.5 mg/l, 48 hours
	Fish	LC50 Fathead minnow (Pimephales promelas)	1 - 5 mg/l, 96 hours
<i>Chronic</i>			
	Algae	NOEC Green algae (Selenastrum capricornutum)	1 mg/l, 96 hours

\* Estimates for product may be based on additional component data not shown.

**Persistence and degradability** No data is available on the degradability of this product.

**Bioaccumulative potential** No data available. **Mobility in soil** No data available.

**Other adverse effects** No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.



### SECTION 13: DISPOSAL CONSIDERATIONS

**Disposal instructions:** Collect and reclaim or dispose in sealed containers at licensed waste disposal site.

**Local disposal regulations:** Dispose in accordance with all applicable regulations.

**Hazardous waste code:** The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

**Waste from residues / unused products:** Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

**Contaminated packaging:** Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

### SECTION 14: TRANSPORT INFORMATION

**DOT:** Not regulated as dangerous goods.

**IATA:** Not regulated as dangerous goods.

**IMDG:** Not regulated as dangerous goods.

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code:** This substance/mixture is not intended to be transported in bulk.

### SECTION 15: REGULATORY INFORMATION

**Canada Domestic Substances List (DSL)\*:** Yes

**Canada Non-Domestic Substances List (NDSL)\*:** No

**US federal regulations:** All components are on the U.S. EPA TSCA Inventory List. This product is not known to be a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

**TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D):** Not regulated.

**CERCLA Hazardous Substance List (40 CFR 302.4):** Zinc, Dithiophosphate Di-c1-14-alkyl Esters (CAS Listed. 68649-42-3)

**SARA 304 Emergency release notification:** Not regulated.

**OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):** Not listed.

**Superfund Amendments and Reauthorization Act of 1986 (SARA)**

**Hazard categories**

Immediate Hazard: No

Delayed Hazard: No

Fire Hazard: No

Pressure Hazard: No

Reactivity Hazard: No

**SARA 302 Extremely hazardous substance:** Not listed.

**SARA 311/312 Hazardous chemical:** No

**SARA 313 (TRI reporting)**

Chemical name	CAS number	% by wt.
Zinc, Dithiophosphate Di-c1-14-alkyl Esters	68649-42-3	1 - 5

**Other federal regulations**

**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List:** Not regulated.

**Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):** Not regulated.

**Safe Drinking Water Act: (SDWA)** Not regulated.

**US state regulations**

**US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)** Not listed.





**US. Massachusetts RTK - Substance List:** Not regulated.  
**US. New Jersey Worker and Community Right-to-Know Act:** Zinc, Dithiophosphate Di-c1-14-alkyl Esters (CAS 68649-42-3)  
**US. Pennsylvania Worker and Community Right-to-Know Law:** Not listed.  
**US. Rhode Island RTK:** Zinc, Dithiophosphate Di-c1-14-alkyl Esters (CAS 68649-42-3)  
**US. California Proposition 65:** California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.  
**United States & Puerto Rico Toxic Substances Control Act (TSCA) Inventory\*:** Yes  
\*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)  
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

## SECTION 16: OTHER INFORMATION

**Disclaimer:** The information and recommendations contained herein are, to the best of Boss Lubricants' knowledge and belief, accurate and reliable as of the date issued. You can contact Boss Lubricants to insure that this document is the most current available from Boss Lubricants. The information and recommendations are offered for the user's consideration and examination. It is the user's responsibility to satisfy itself that the product is suitable for the intended use. If buyer repackages this product, it is the user's responsibility to insure proper health, safety and other necessary information is included with and/or on the container. Appropriate warnings and safe-handling procedures should be provided to handlers and users. Alteration of this document is strictly prohibited. Except to the extent required by law, re-publication or retransmission of this document, in whole or in part, is not permitted.

**Bibliography:** Not available.