



# Material Safety Data Sheet

## 31367941

Volvo Cars of North America, LLC  
1 Volvo Drive  
P.O. Box 914  
Rockleigh, NJ 07647

Emergency  
Telephone No.: **1-800-467-8583 (US)**  
**1-613-996-6666 (CAN)**

Revision Date: 2014-12-16  
Printed: 2014-12-23  
Supersedes:

**NOTE:** Use the 24-Hour Emergency Telephone Numbers **only in the event of a chemical emergency involving a spill, leak, fire, exposure, or accident involving chemicals.** All non-emergency questions should be directed to Volvo Cars of North America, LLC at (201) 768-7300 (U.S.) or (416) 498-3700 (Canada) for assistance.

### 1. IDENTIFICATION

**PRODUCT NAME: TRANSMISSION OIL**

**PART NO: 31367941**

**SUPPLIER:** Volvo Cars of North America, LLC  
1 Volvo Drive  
P.O. Box 914  
Rockleigh, NJ 07647

**PHONE No:** 201-768-7300  
**E-MAIL ADDRESS:** sds@volvo.com  
websds.volvo.com

### 2. HAZARDS IDENTIFICATION

**OSHA/HCS status:** This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

**Classification of the substance or mixture:** SKIN SENSITIZATION - Category 1

**GHS label elements**

**Hazard pictograms:**



**Signal word:** Warning

**Hazard statements:** May cause an allergic skin reaction.

**Precautionary statements**

**General:** Keep out of reach of children.

**Prevention:** Wear protective gloves.

**Response:** IF ON SKIN: Wash with plenty of soap and water. Wash contaminated clothing before reuse. If skin irritation or rash occurs: Get medical attention.

**Storage:** Not applicable.

**Disposal:** Not applicable.



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**Other hazards which do not result in classification:**

Defatting to the skin.

**Supplemental label elements:**

If ingested, do not induce vomiting. Seek medical advice immediately. Minimise skin contact. Dispose of used oil at designated sites. Do not mix used oil with solvents, brake fluids or coolants.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Substance/mixture:** Mixture

**CAS number/other identifiers**

**Product code:** 31367941

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

### 4. FIRST-AID MEASURES

**Description of first aid measures**

**Inhalation:** If inhaled, remove to fresh air.  
**Skin contact:** Wash contaminated skin with soap and water.  
**Eye contact:** In case of contact with eyes, rinse immediately with plenty of water.  
**Ingestion:** If ingested, do not induce vomiting.

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

**Potential acute health effects**

**Inhalation:** Inhalation of oil mist or vapors at elevated temperatures may cause respiratory irritation. Long term exposure to high concentrations of oil mist or vapors may cause lung damage.  
**Skin contact:** Defatting to the skin.  
**Eye contact:** May cause slight transient irritation.  
**Ingestion:** Ingestion may cause gastrointestinal irritation and diarrhea.

**Symptoms related to the physical, chemical and toxicological characteristics**

**Inhalation:** Long term exposure to high concentrations of oil mist or vapors may cause lung damage.  
**Skin:** Repeated or prolonged contact with the mixture may cause removal of natural fat from the skin, resulting in non-allergic contact dermatitis and absorption through the skin.  
**Eyes:** May cause slight transient irritation (redness).  
**Ingestion:** Ingestion may cause gastrointestinal irritation and diarrhea.

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

**Specific treatments:** No specific treatment.  
**Notes to physician:** Treat symptomatically.  
**Protection of first-aiders:** Refer to protective measures listed in sections 7 and 8. No action shall be taken involving any personal risk or without suitable training.

See toxicological information (Section 11)

**31367941****Material Safety Data Sheet****PRODUCT NAME: Transmission oil****REVISION DATE: 2014-12-16****5. FIRE-FIGHTING MEASURES****Extinguishing media****Suitable:** Recommended: alcohol-resistant foam, CO<sub>2</sub>, powders.**Not suitable:** Do not use water jet.**Specific hazards arising from the chemical:**

In a fire or if heated, a pressure increase will occur and the container may burst.

**Hazardous thermal decomposition products:**Decomposition products may include the following materials:  
sulfur oxides  
phosphorus oxides  
carbon oxides**Special precautions for fire-fighters:**

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

**6. ACCIDENTAL RELEASE MEASURES****Personal precautions, protective equipment and emergency procedures****For non-emergency personnel:** Refer to protective measures listed in sections 7 and 8.**For emergency responders:** If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".**Environmental precautions:** Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).**Methods and materials for containment and cleaning up****Spill:** Stop leak if without risk. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations.**Reference to other sections:** See Section 1 for emergency contact information.  
See Section 8 for information on appropriate personal protective equipment.  
See Section 13 for additional waste treatment information.**7. HANDLING AND STORAGE****Precautions for safe handling****Protective measures:** Put on appropriate personal protective equipment (see Section 8). Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Wash contaminated clothing before reuse.**Advice on general occupational hygiene:**

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Wash contaminated clothing before reuse.



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**Conditions for safe storage, including any incompatibilities:** Do not store in unlabeled containers. Keep container tightly closed. Keep container in a cool, well-ventilated area.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

#### Occupational exposure limits

| <u>Ingredient name</u> | <u>Occupational exposure limits</u> |
|------------------------|-------------------------------------|
| None                   |                                     |

#### **Appropriate engineering controls:**

Use only with adequate ventilation. Where reasonably practicable, this should be achieved by the use of local exhaust ventilation and good general extraction. If workers are exposed to concentrations above the exposure limit, they must use appropriate, certified respirators.

#### **Environmental exposure controls:**

Do not allow to enter drains or watercourses.

### Individual protection measures

#### **Hygiene measures:**

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period.

### Personal protective equipment

#### **Respiratory protection:**

Provide adequate ventilation.

#### **Hand protection:**

For prolonged or repeated handling, use gloves.

#### **Eye protection:**

Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Appearance

#### **Physical state:**

Liquid.

#### **Color:**

Brownish.

#### **Odor:**

Oil faint odor.

#### **Odor threshold:**

Not available.

#### **pH:**

Not applicable.

#### **Melting point:**

Not available.

#### **Pour point:**

Not available.

#### **Boiling point:**

Not available.

#### **Flash point:**

Open cup: 208°C (406,4°F) [ISO 2592]

#### **Burning time:**

Not applicable.

#### **Burning rate:**

Not applicable.

#### **Evaporation rate:**

Not available.

#### **Flammability (solid, gas)**

Not available.

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|  |   |
|--|---|
| <b>Lower and upper explosive (flammable) limits:</b> | Not available.  |
| <b>Vapor pressure:</b>                               | <0,01 kPa (<0,075 mm Hg) [room temperature]   |
| <b>Solubility:</b>                                   | Partially soluble in the following materials: n-octanol.<br>Very slightly soluble in the following materials: cold water and hot water. |
| <b>Vapor density:</b>                                | Not available.  |
| <b>Density:</b>                                      | 0,866 g/cm <sup>3</sup> [15°C]  |
| <b>Relative density:</b>                             | 0,866   |
| <b>Partition coefficient: n-octanol/ water:</b>      | >3  |
| <b>Auto-ignition temperature:</b>                    | Not available.  |
| <b>Decomposition temperature:</b>                    | Not available.  |
| <b>Viscosity:</b>                                    | Kinematic (40°C (104°F)): 0,285 cm <sup>2</sup> /s (28,5 cSt)   |
| <b>Molecular weight:</b>                             | Not applicable.   |
| <b>SADT:</b>   | Not available.  |

**10. STABILITY AND REACTIVITY**

|  |  |
|--|--|
| <b>Reactivity:</b>                         | No specific test data related to reactivity available for this product or its ingredients.           |
| <b>Chemical stability:</b>                 | Stable under recommended storage and handling conditions (see Section 7).                            |
| <b>Possibility of hazardous reactions:</b> | Under normal conditions of storage and use, hazardous reactions will not occur.                      |
| <b>Conditions to avoid:</b>                | No specific data.  |
| <b>Incompatible materials:</b>             | Reactive or incompatible with the following materials:<br>oxidizing materials                        |
| <b>Hazardous decomposition products:</b>   | Under normal conditions of storage and use, hazardous decomposition products should not be produced. |

**11. TOXICOLOGICAL INFORMATION****Information on toxicological effects****A. Information on the likely routes of exposure****Potential acute health effects**

|                      |  |
|----------------------|--|
| <b>Inhalation:</b>   | Inhalation of oil mist or vapors at elevated temperatures may cause respiratory irritation. Long term exposure to high concentrations of oil mist or vapors may cause lung damage. |
| <b>Skin contact:</b> | Defatting to the skin.   |
| <b>Eye contact:</b>  | May cause slight transient irritation.   |
| <b>Ingestion:</b>    | Ingestion may cause gastrointestinal irritation and diarrhea.  |



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**Symptoms related to the physical, chemical and toxicological characteristics**

- Inhalation:** Long term exposure to high concentrations of oil mist or vapors may cause lung damage.
- Skin:** Repeated or prolonged contact with the mixture may cause removal of natural fat from the skin, resulting in non-allergic contact dermatitis and absorption through the skin.
- Eyes:** May cause slight transient irritation (redness).
- Ingestion:** Ingestion may cause gastrointestinal irritation and diarrhea.

Relevant information for the mixture and/or the ingredients is presented below.

**B. Health hazards**

**Acute toxicity**

| Product/ingredient name     | Result    | Species | Dose       | Exposure |
|-----------------------------|-----------|---------|------------|----------|
| Zinc dialkyldithiophosphate | LD50 Oral | Rat     | 3100 mg/kg | -        |

**Irritation/Corrosion**

| Product/ingredient name     | Result          | Species | Score | Exposure | Observation |
|-----------------------------|-----------------|---------|-------|----------|-------------|
| Zinc dialkyldithiophosphate | Eyes - Irritant | Rat     | -     | -        | -           |

**Sensitization**

| Product/ingredient name  | Route of exposure | Species | Result      |
|--|-------------------|---------|-------------|
| C14-18 alpha-olefin epoxide, reaction products with boric acid | Skin              | -       | Sensitizing |

- General:** Contains small percentage of substances which can cause allergic reactions. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels. Repeated or prolonged contact with the mixture may cause removal of natural fat from the skin, resulting in non-allergic contact dermatitis and absorption through the skin.
- Mutagenicity:** Not applicable.
- Other information:** Not available.

**12. ECOLOGICAL INFORMATION**

- A. Ecotoxicity:** Ecotoxicological data on the substances included in this product show that the product is not classified as harmful to the environment. This product shows a low bioaccumulation potential.

Relevant information for the mixture and/or the ingredients is presented below.

**Aquatic and terrestrial toxicity**

| Product/ingredient name     | Result                   | Species | Exposure |
|-----------------------------|--------------------------|---------|----------|
| Zinc dialkyldithiophosphate | Acute EC50 1 to 1,5 mg/l | Daphnia | 48 hours |

**B. Persistence/degradability**

| Product/ingredient name     | Aquatic half-life | Photolysis | Biodegradability |
|-----------------------------|-------------------|------------|------------------|
| Zinc dialkyldithiophosphate | -                 | -          | Not readily      |



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### C. Bioaccumulative potential

| Product/ingredient name     | LogP <sub>ow</sub> | BCF  | Potential |
|-----------------------------|--------------------|------|-----------|
| Zinc dialkyldithiophosphate | 3,59               | 91,2 | low       |

### D. Mobility in soil

**Soil/water partition coefficient (K<sub>oc</sub>):**

Not available.

**Mobility:**

Non water-soluble liquid

This product is not likely to volatilize rapidly into the air because of its low vapor pressure.

**E. Other adverse effects:**

No known significant effects or critical hazards.

## 13. DISPOSAL CONSIDERATIONS

**A. Disposal methods:**

Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements.

## 14. TRANSPORT INFORMATION

|                                   | DOT Classification | TDG Classification | ADR/RID        | IMDG           | IATA           |
|-----------------------------------|--------------------|--------------------|----------------|----------------|----------------|
| <b>UN number</b>                  | Not regulated.     | Not regulated.     | Not regulated. | Not regulated. | Not regulated. |
| <b>UN proper shipping name</b>    | -                  | -                  | -              | -              | -              |
| <b>Transport hazard class(es)</b> | -                  | -                  | -              | -              | -              |
| <b>Packing group</b>              | -                  | -                  | -              | -              | -              |
| <b>Environmental hazards</b>      | No.                | No.                | No.            | No.            | No.            |

**Special precautions for user:**

**Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code:**

Not available.

## 15. REGULATORY INFORMATION

**U.S. Federal regulation:**

This product is in compliance with TSCA inventory.  
**Clean Water Act (CWA) 307:** Applicable.

**Clean Air Act Section 602 Class I Substances:**

Not listed.

**Clean Air Act Section 602 Class II Substances:**

Not listed.

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## SARA 302/304

### Composition/information on ingredients

| Name                    | % | EHS | SARA 302 TPQ |           | SARA 304 RQ |           |
|-------------------------|---|-----|--------------|-----------|-------------|-----------|
|                         |   |     | (lbs)        | (gallons) | (lbs)       | (gallons) |
| No products were found. |   |     |              |           |             |           |

## SARA 311/312

**Classification:** Immediate (acute) health hazard

### Composition/information on ingredients

| Name   | %   | Fire hazard | Sudden release of pressure | Reactive | Immediate (acute) health hazard | Delayed (chronic) health hazard |
|--|-----|-------------|----------------------------|----------|---------------------------------|---------------------------------|
| Zinc dialkyldithiophosphate                                    | 1-5 | No.         | No.                        | No.      | Yes.                            | No.                             |
| C14-18 alpha-olefin epoxide, reaction products with boric acid | 0-1 | No.         | No.                        | No.      | Yes.                            | No.                             |

## SARA 313

### **Form R - Reporting**

**requirements:** Zinc dialkyldithiophosphate

**Supplier notification:** Zinc dialkyldithiophosphate

SARA 313 notifications must not be detached from the MSDS and any copying and redistribution of the MSDS shall include copying and redistribution of the notice attached to copies of the MSDS subsequently redistributed.

### State regulations

**Massachusetts:** Applicable.

**New York:** None of the components are listed.

**New Jersey:** Applicable.

**Pennsylvania:** Applicable.





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16. OTHER INFORMATION

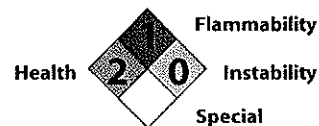
Date of issue/Date of revision: 12/16/2014

Version: 1

Hazardous Material Information System (U.S.A.)

|                  |   |   |
|------------------|---|---|
| Health           | * | 2 |
| Flammability     |   | 1 |
| Physical hazards |   | 0 |
|                  |   |   |

National Fire Protection Association (U.S.A.)



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Notice to Reader

Conforms to US HCS (29 CFR 1910.1200).

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