



# SAFETY DATA SHEET

## Section 1: Identification of the substance/mixture and of the company/undertaking

### Product identifier

**Trade name or designation of the mixture** Synthetic Transmission Oil TO-4 60

**Product code** 65994

**SDS number** 6346

**Registration number** -

**Synonyms** Fully Synthetic TL-4 SAE 60

**Date of first issue** 05-October-2011

**Version number** 1,1

**Revision date** 20-December-2011

**Supersedes date** 12-November-2011

### Relevant identified uses of the substance or mixture and uses advised against

**Identified uses** Not available.

**Uses advised against** None known.

### Details of the supplier of the safety data sheet

Bel-Ray Company, Inc.  
Bel-Ray Europe S.A.  
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CHEMTREC: 800-424-9300 (USA)  
CHEMTREC: +1 703-527-3887 (outside USA - call collect)  
Europe Emergency: 112

## Section 2: Hazards identification

### Classification of the substance or mixture

The mixture has been assessed and/or tested for its physical, health and environmental hazards and the following classification applies.

### Classification according to Directive 67/548/EEC or 1999/45/EC as amended

This preparation does not meet the criteria for classification according to Directive 1999/45/EC as amended.

### Classification according to Regulation (EC) No 1272/2008 as amended

#### Health hazards

Skin corrosion/irritation	Category 2	Causes skin irritation.
Serious eye damage/eye irritation	Category 1	Causes serious eye damage.

#### Environmental hazards

Hazardous to the aquatic environment - long-term hazard	Category 3 (% of the mixture consists of ingredient(s) of unknown hazards to the aquatic environment.)	Harmful to aquatic life with long lasting effects.
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### Hazard summary

**Physical hazards** Not classified for physical hazards.

**Health hazards** Not classified for health hazards. However, occupational exposure to the mixture or substance(s) may cause adverse health effects.

**Environmental hazards** Not classified for hazards to the environment.

**Specific hazards** Not available.  
**Main symptoms** Irritation of eyes and mucous membranes. Permanent eye damage including blindness could result. Symptoms may include stinging, tearing, redness, swelling, and blurred vision.

#### Label elements

#### Label according to Regulation (EC) No. 1272/2008 as amended

**Contains:** Zinc, Dithiophosphate Di-c1-14-alkyl Esters



**Signal word** Danger  
**Hazard statements** Causes skin irritation. Causes serious eye damage. Harmful to aquatic life with long lasting effects.

#### Precautionary statements

**Prevention** Do not breathe vapour. Wash thoroughly after handling. Avoid release to the environment. Wear eye/face protection. Wear protective gloves.

**Response** IF ON SKIN: Wash with plenty of soap and water. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician. Specific treatment (see on this label). If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash before reuse.

**Storage** Not available.

**Disposal** Dispose of contents/container in accordance with local/regional/national/international regulations.

**Supplemental label information** Contains Calcium Petroleum Sulfonate. May produce an allergic reaction.

**Other hazards** Not assigned.

### Section 3: Composition/information on ingredients

#### Mixture

#### General information

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	INDEX No.	Notes
Zinc, Dithiophosphate Di-c1-14-alkyl Esters	5 - < 10	68649-42-3 272-028-3	-	-	#

**Classification:** **DSD:** Xi;R38-41, N;R51/53

**CLP:** Skin Irrit. 2;H315, Eye Dam. 1;H318, Aquatic Chronic 2;H411

Distillates (petroleum), solvent-refined heavy paraffinic	1 - < 3	64741-88-4 265-090-8	-	649-454-00-7	#
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**Classification:** **DSD:** -

**CLP:** -

Other components below reportable levels 80 - < 90

CLP: Regulation No. 1272/2008.

DSD: Directive 67/548/EEC.

#: This substance has workplace exposure limit(s).

PBT: persistent, bioaccumulative and toxic substance.

vPvB: very persistent and very bioaccumulative substance.

**Composition comments** The full text for all R- and H-phrases is displayed in section 16.

### Section 4: First aid measures

**General information** Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. If you feel unwell, seek medical advice (show the label where possible). Wash contaminated clothing before reuse.

#### Description of first aid measures

**Inhalation** Move to fresh air. Call a physician if symptoms develop or persist.

**Skin contact** Remove contaminated clothing. Wash off with soap and plenty of water. If skin irritation occurs: Get medical advice/attention.

<b>Eye contact</b>	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control centre immediately.
<b>Ingestion</b>	Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth. Do not induce vomiting. Never give liquid to an unconscious person.
<b>Most important symptoms and effects, both acute and delayed</b>	Irritation of eyes and mucous membranes. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Irritant effects. May cause temporary blindness and severe eye damage.
<b>Indication of any immediate medical attention and special treatment needed</b>	In case of shortness of breath, give oxygen. Keep victim warm. Keep victim under observation. Symptoms may be delayed.

## Section 5: Firefighting measures

<b>General fire hazards</b>	Not available.
<b>Extinguishing media</b>	
<b>Suitable extinguishing media</b>	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO <sub>2</sub> ).
<b>Unsuitable extinguishing media</b>	Water. Do not use water jet as an extinguisher, as this will spread the fire.
<b>Special hazards arising from the substance or mixture</b>	Not available.
<b>Advice for firefighters</b>	
<b>Special protective equipment for firefighters</b>	Wear suitable protective equipment.
<b>Special firefighting procedures</b>	Water runoff can cause environmental damage.

## Section 6: Accidental release measures

### Personal precautions, protective equipment and emergency procedures

<b>For non-emergency personnel</b>	Keep unnecessary personnel away. Local authorities should be advised if significant spillages cannot be contained. Do not touch or walk through spilled material. Keep people away from and upwind of spill/leak. Ensure adequate ventilation.
<b>For emergency responders</b>	Keep unnecessary personnel away. Use personal protection recommended in Section 8 of the MSDS.

**Environmental precautions** Prevent further leakage or spillage if safe to do so. Do not contaminate water. Contact local authorities in case of spillage to drain/aquatic environment. Avoid discharge into drains, water courses or onto the ground.

**Methods and material for containment and cleaning up** This product is miscible in water.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water. Prevent product from entering drains.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills in original containers for re-use.

**Reference to other sections** For personal protection, see section 8. For waste disposal, see section 13.

## Section 7: Handling and storage

<b>Precautions for safe handling</b>	Do not get this material in contact with eyes. Avoid contact with skin. Avoid prolonged exposure. Wash hands thoroughly after handling. Avoid release to the environment. Do not empty into drains. Hydrogen sulphide (H <sub>2</sub> S) may be given off when this material is heated. Do not depend on sense of smell for warning.
<b>Conditions for safe storage, including any incompatibilities</b>	Keep container tightly closed. Keep out of the reach of children.
<b>Specific end use(s)</b>	Not available.

## Section 8: Exposure controls/personal protection

### Control parameters

## Occupational exposure limits

### Austria

No exposure limits noted for the ingredient(s).

### Belgium. Exposure Limit Values.

Components	Type	Value	Form
Distillates (petroleum), solvent-refined heavy paraffinic (64741-88-4)	STEL	10 mg/m <sup>3</sup>	Mist.
	TWA	5 mg/m <sup>3</sup>	Mist.

### Bulgaria. OELs. Regulation No 13 of Ministry of Labor & Social Policy, with Ministry of Health, on protection of workers related to exposure to chemical agents at work

Components	Type	Value
Distillates (petroleum), solvent-refined heavy paraffinic (64741-88-4)	TWA	5 mg/m <sup>3</sup>

### Cyprus

No exposure limits noted for the ingredient(s).

### Czech Republic

No exposure limits noted for the ingredient(s).

### Denmark. Exposure Limit Values

Components	Type	Value	Form
Distillates (petroleum), solvent-refined heavy paraffinic (64741-88-4)	TLV	1 mg/m <sup>3</sup>	Mist.

### Estonia

No exposure limits noted for the ingredient(s).

### Finland

No exposure limits noted for the ingredient(s).

### France

No exposure limits noted for the ingredient(s).

### Germany. DFG MAK List (advisory OELs). Commission for the Investigation of Health Hazards of Chemical Compounds in the Work Area (DFG)

Components	Type	Value	Form
Zinc, Dithiophosphate Di-c1-14-alkyl Esters (68649-42-3)	TWA	2 mg/m <sup>3</sup>	Inhalable fraction.
		0,1 mg/m <sup>3</sup>	Respirable fraction.

### Germany - TRGS 900

No exposure limits noted for the ingredient(s).

### Greece. OELs (Decree No. 90/1999, as amended)

Components	Type	Value	Form
Distillates (petroleum), solvent-refined heavy paraffinic (64741-88-4)	TWA	5 mg/m <sup>3</sup>	Mist.

### Hungary. OELs. Joint Decree on Chemical Safety of Workplaces

Components	Type	Value	Form
Distillates (petroleum), solvent-refined heavy paraffinic (64741-88-4)	Ceiling	5 mg/m <sup>3</sup>	Mist.

### Iceland. OELs. Regulation 154/1999 on occupational exposure limits

Components	Type	Value	Form
Distillates (petroleum), solvent-refined heavy paraffinic (64741-88-4)	TWA	1 mg/m <sup>3</sup>	Mist.

### Ireland. Occupational Exposure Limits

Components	Type	Value	Form
Distillates (petroleum), solvent-refined heavy paraffinic (64741-88-4)	TWA	0,2 mg/m <sup>3</sup>	Inhalable fraction.

**Italy. OELs Components**

Components	Type	Value	Form
Distillates (petroleum), solvent-refined heavy paraffinic (64741-88-4)	TWA	5 mg/m3	Inhalable fraction.

**Latvia**

No exposure limits noted for the ingredient(s).

**Lithuania. OELs. Occupational Exposure Limit Values for Hazardous Chemical Substance Concentration, General Requirements (No. 645/169)**

Components	Type	Value	Form
Distillates (petroleum), solvent-refined heavy paraffinic (64741-88-4)	STEL	3 mg/m3	Fume and mist.
	TWA	1 mg/m3	Fume and mist.

**Luxembourg**

No exposure limits noted for the ingredient(s).

**Malta**

No exposure limits noted for the ingredient(s).

**Netherlands. OELs (binding)**

Components	Type	Value	Form
Distillates (petroleum), solvent-refined heavy paraffinic (64741-88-4)	TWA	5 mg/m3	Mist.

**Norway. Administrative Norms for Contaminants in the Workplace**

Components	Type	Value	Form
Distillates (petroleum), solvent-refined heavy paraffinic (64741-88-4)	TLV	1 mg/m3	Mist.

**Poland. MACs. Minister of Labour and Social Policy Regarding Maximum Allowable Concentrations and Intensities in Working Environment**

Components	Type	Value	Form
Distillates (petroleum), solvent-refined heavy paraffinic (64741-88-4)	STEL	10 mg/m3	Aerosol
	TWA	5 mg/m3	Aerosol

**Portugal. VLEs. Norm on occupational exposure to chemical agents (NP 1796)**

Components	Type	Value	Form
Distillates (petroleum), solvent-refined heavy paraffinic (64741-88-4)	STEL	10 mg/m3	Aerosol
	TWA	5 mg/m3	Aerosol

**Romania. OELs. Protection of workers from exposure to chemical agents at the workplace**

Components	Type	Value
Distillates (petroleum), solvent-refined heavy paraffinic (64741-88-4)	STEL	10 mg/m3
	TWA	5 mg/m3

**Slovakia**

No exposure limits noted for the ingredient(s).

**Slovenia**

No exposure limits noted for the ingredient(s).

**Spain. Occupational Exposure Limits**

Components	Type	Value	Form
Distillates (petroleum), solvent-refined heavy paraffinic (64741-88-4)	STEL	10 mg/m3	Mist.
	TWA	5 mg/m3	Mist.

**Sweden. Occupational Exposure Limit Values**

Components	Type	Value	Form
Distillates (petroleum), solvent-refined heavy paraffinic (64741-88-4)	STEL	3 mg/m3	Mist.

**Sweden. Occupational Exposure Limit Values**

Components	Type	Value	Form
	TWA	1 mg/m <sup>3</sup>	Mist.

**Switzerland**

No exposure limits noted for the ingredient(s).

**United Kingdom**

No exposure limits noted for the ingredient(s).

**EU, 91/322/EEC, 2000/39/EC, 2006/15/EC**

No exposure limits noted for the ingredient(s).

**Biological limit values****EU, 91/322/EEC, 2000/39/EC, 2006/15/EC**

No biological exposure limits noted for the ingredient(s).

**Finland**

No biological exposure limits noted for the ingredient(s).

**France**

No biological exposure limits noted for the ingredient(s).

**Luxembourg**

No biological exposure limits noted for the ingredient(s).

**Spain**

No biological exposure limits noted for the ingredient(s).

**United Kingdom**

No biological exposure limits noted for the ingredient(s).

**Recommended monitoring procedures** Follow standard monitoring procedures.

**DNEL** Not available.

**PNEC** Not available.

**Exposure controls**

**Appropriate engineering controls** 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. Provide adequate general and local exhaust ventilation.

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

**General information** Eye wash fountain is recommended.

**Eye/face protection** Wear eye/face protection.

**Skin protection**

**- Hand protection** Wear protective gloves.

**- Other** Wear suitable protective clothing. Wear protective gloves. Personal protection equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment.

**Respiratory protection** When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

**Thermal hazards** Not available.

**Hygiene measures** Do not get in eyes. Avoid contact with skin. Keep away from food and drink. Handle in accordance with good industrial hygiene and safety practices.

**Environmental exposure controls** Contain spills and prevent releases and observe national regulations on emissions. Environmental manager must be informed of all major releases.

**Section 9: Physical and chemical properties****Information on basic physical and chemical properties**

**Appearance** Oily.

**Physical state** Liquid.

**Form** Liquid.

**Colour** Amber.

**Odour** Petroleum

**Odour threshold** Not available.

**pH** Not applicable.

<b>Melting point/freezing point</b>	Not available.
<b>Boiling point, initial boiling point, and boiling range</b>	282 °C (539,6 °F) estimated
<b>Flash point</b>	180 °C (356 °F) Pensky-Martens Closed Cup
<b>Auto-ignition temperature</b>	260 °C (500 °F) estimated
<b>Flammability (solid, gas)</b>	Not available.
<b>Flammability limit - lower (%)</b>	Not available.
<b>Flammability limit - upper (%)</b>	Not available.
<b>Oxidising properties</b>	Not applicable.
<b>Explosive properties</b>	Not applicable.
<b>Explosive limit</b>	Not applicable.
<b>Vapour pressure</b>	0 hPa estimated
<b>Density</b>	871 kg/m <sup>3</sup>
<b>Vapour density</b>	Not applicable.
<b>Evaporation rate</b>	Not applicable.
<b>Relative density</b>	Not available.
<b>Solubility (water)</b>	Negligible
<b>Solubility (other)</b>	Oil

#### Information on basic physical and chemical properties

<b>Partition coefficient (n-octanol/water)</b>	Not available.
<b>Decomposition temperature</b>	Not available.
<b>Bulk density</b>	Not applicable.
<b>Pour point</b>	-44 °C (-47,2 °F) ASTM D97
<b>Viscosity</b>	217,24 cSt ASTM D445
<b>Viscosity temperature</b>	40 °C (104 °F)
<b>VOC (Weight %)</b>	9,9 % estimated
<b>Percent volatile</b>	Not available.

#### Other data

<b>Flammability class</b>	Combustible III B estimated
<b>Specific gravity</b>	0,87

**Other information** No relevant additional information available.

## Section 10: Stability and reactivity

<b>Reactivity</b>	None known. Strong oxidizing agents.
<b>Chemical stability</b>	Material is stable under normal conditions.
<b>Possibility of hazardous reactions</b>	Not available.
<b>Conditions to avoid</b>	Avoid temperatures exceeding the flash point.
<b>Incompatible materials</b>	None known.
<b>Hazardous decomposition products</b>	No dangerous reaction known under conditions of normal use. At thermal decomposition temperatures, carbon monoxide and carbon dioxide. Hydrogen sulfide. Mercaptans.

## Section 11: Toxicological information

<b>General information</b>	Not available.
<b>Information on likely routes of exposure</b>	
<b>Ingestion</b>	Not available.
<b>Inhalation</b>	Not available.
<b>Skin contact</b>	Causes skin irritation.
<b>Eye contact</b>	Causes serious eye damage.

**Symptoms** Permanent eye damage including blindness could result. Irritant effects.

**Information on toxicological effects**

**Acute toxicity** Not available.

**Product**

**Test results**

Synthetic Transmission Oil TO-4 60 (Mixture)

Acute Dermal LD50 Rabbit: 4683,8408 mg/kg estimated  
Acute Oral LD50 Rat: 5128,2051 mg/kg estimated

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

**Skin corrosion/irritation** Causes skin irritation.

**Serious eye damage/eye irritation** Causes serious eye damage.

**Respiratory sensitisation** Not available.

**Skin sensitisation** Not available.

**Germ cell mutagenicity** Not available.

**Carcinogenicity** Not available.

**Reproductive toxicity** Not available.

**Specific target organ toxicity - single exposure** Not available.

**Specific target organ toxicity - repeated exposure** Not available.

**Aspiration hazard** Not available.

**Mixture versus substance information** Not available.

**Other information** Not available.

**Section 12: Ecological information**

**Toxicity** No toxicity data noted for the ingredient(s).

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

**Bioaccumulative potential** Not available.

**Mobility** Not available.

**Environmental fate - Partition coefficient** Not available.

**Mobility in soil** Not available.

**Results of PBT and vPvB assessment** Not available.

**Other adverse effects** Not available.

**Section 13: Disposal considerations**

**Waste treatment methods**

**Residual waste** 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.

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

**Disposal methods/information** Collect and reclaim or dispose in sealed containers at licensed waste disposal site. This material and its container must be disposed of as hazardous waste. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

**Section 14: Transport information**

**ADR**

Not regulated as dangerous goods.



**RID**

Not regulated as dangerous goods.

**ADN**

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** No information available.

**Section 15: Regulatory information****Safety, health and environmental regulations/legislation specific for the substance or mixture****EU regulations****Commission Decision 2000/479/EC on the implementation of a European pollutant emission register (EPER)**

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

**Other regulations** The product is classified and labelled in accordance with EC directives or respective national laws  
This Safety Data Sheet complies with the requirements of Regulation (EC) No 1907/2006.

**National regulations** Not available.

**Chemical safety assessment** No Chemical Safety Assessment has been carried out.

**Section 16: Other information**

**List of abbreviations** Not available.

**References** Not available.

**Information on evaluation method leading to the classification of mixture** Not available.

**Full text of any statements or R-phrases and H-phrases under Sections 2 to 15** R38 Irritating to skin.  
R41 Risk of serious damage to eyes.  
R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.  
H315 - Causes skin irritation.  
H318 - Causes serious eye damage.  
H411 - Toxic to aquatic life with long lasting effects.

**Revision information** IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING: Bel Ray Custom Labels

**Training information** Not available.

**Disclaimer** Bel-Ray Company cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use.

**Issue date** 20-December-2011

**Revision date** 20-December-2011

**Print date** 20-December-2011

**Inventory status**

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
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)