



SAFETY DATA SHEET

1. Product and company identification

Product name Bel-Ray EXP Synthetic Ester Blend 4T Engine Oil 20W-50
Product code 99131
SDS number 6694

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Recommended use and Limitations on use

Not available.

2. Hazards identification

GHS classification

Physical hazards	Not classified.	
Health hazards	Skin corrosion/irritation	Category 2
	Serious eye damage/eye irritation	Category 2A
	Specific target organ toxicity following single exposure	Category 2 (Lung)
	Specific target organ toxicity following repeated exposure	Category 1 (Lung, skin)
Environmental hazards	Hazardous to the aquatic environment, acute hazard	Category 3 (90.6% of the mixture consists of ingredient(s) of unknown hazards to the aquatic environment.) (<@1> % of the mixture consists of component(s) of unknown hazards to the aquatic environment.)
	Hazardous to the aquatic environment, long-term hazard	Category 4 (27.81% of the mixture consists of ingredient(s) of unknown hazards to the aquatic environment.) (<@1> % of the mixture consists of component(s) of unknown hazards to the aquatic environment.)

Label elements

Symbols



Signal word

Danger

Hazard statement

Causes skin irritation. Causes serious eye irritation. Causes eye irritation. Suspected of causing genetic defects. May cause damage to organs (Lung). Causes damage to organs (Lung, skin) through prolonged or repeated exposure. Harmful to aquatic life. May cause long lasting harmful effects to aquatic life.

Precautionary statement

Prevention

Keep out of reach of children. Read label before use. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe mist or vapour. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Avoid release to the environment. Wear eye/face protection. Wear protective gloves. Use personal protective equipment as required.

Response	If medical advice is needed, have product container or label at hand. 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. IF exposed or concerned: Get medical advice/attention. IF exposed or if you feel unwell: Call a POISON CENTRE or doctor/physician. Specific treatment (see this label). If skin irritation occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. Take off contaminated clothing and wash before reuse.
Storage	Store locked up.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.

3. Composition/information on ingredients

Substance or mixture	Mixture		
Chemical property		CAS Number	Concentration (%)
Distillates (petroleum), Hydrotreated Heavy Naphthenic		64742-52-5	0 - < 100
Distillates (petroleum), Hydrotreated Heavy Paraffinic		64742-54-7	0 - < 100
Distillates (petroleum), Solvent-refined Heavy Paraffinic		64741-88-4	0 - < 100
Lubricating Oils (petroleum), C20-50, Hydrotreated Neutral Oil-based		72623-87-1	0 - < 100
Paraffin oils (petroleum), catalytic de-waxed light		64742-71-8	0 - < 100
Paraffin Oils (petroleum), Catalytic Dewaxed Light			
Residual Oils (petroleum), Solvent-refined		64742-01-4	0 - < 100
White mineral oil (petroleum)		8042-47-5	0 - < 100
White Mineral Oil (petroleum)			
Decanoic acid, Ester With 2-ethyl-2-(hydroxymethyl)-1,3-propanediol Octanoate		11138-60-6	3 - < 5
Decanoic Acid, Ester With 2-ethyl-2-(hydroxymethyl)-1,3-propanediol Octanoate			
Zinc, Dithiophosphate Di-c1-14-alkyl Esters		68649-42-3	< 1
Other components below reportable levels			3 - < 5

4. First aid measures

Inhalation	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.
Eye contact	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.
Ingestion	Call a POISON CENTRE or doctor/physician if you feel unwell. Rinse mouth. Do not induce vomiting. Never give liquid to an unconscious person.
Potential delayed effects	Not available.
Personal protection for first-aid responders	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. IF exposed or concerned: Get medical advice/attention. Wash contaminated clothing before reuse.
Notes to physician	Not available.

5. Fire-fighting measures

Extinguishing media	Water fog. Foam. Dry powder. Carbon dioxide (CO2).
Extinguishing media to avoid	Do not use water jet as an extinguisher, as this will spread the fire. Water.
HAZCHEM Code Number	None.
Specific hazards during fire fighting	None.
Special fire fighting procedures	None.
Protection of fire-fighters	Water runoff can cause environmental damage.
Hazards from combustion products	May include oxides of Nitrogen. Carbon monoxide and carbon dioxide.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures Keep unnecessary personnel away. Do not touch or walk through spilled material. Keep people away from and upwind of spill/leak. Ensure adequate ventilation.

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.

Spill cleanup methods Remove sources of ignition. 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. For waste disposal, see section 13.

7. Handling and storage

Handling

Precautions Obtain special instructions before use. Use personal protective equipment as required. Wash hands thoroughly after handling. Avoid release to the environment. Do not empty into drains.

Safe handling advice Do not handle until all safety precautions have been read and understood. Avoid contact with skin. Avoid contact with eyes. Avoid prolonged exposure. Use personal protection recommended in Section 8 of the MSDS.

Prevention of fire and explosion No specific recommendations.

Storage

Suitable storage conditions Store locked up. Keep container tightly closed. Keep out of the reach of children.

Incompatible materials None known.

Safe packaging materials Keep in original container.

8. Exposure controls/personal protection

Exposure limits

New Zealand. WES. (Workplace Exposure Standards)

Components	Type	Value	Form
Distillates (petroleum), Hydrotreated Heavy Naphthenic (64742-52-5)	STEL	10 mg/m ³	Mist.
	TWA	5 mg/m ³	Mist.
Distillates (petroleum), Hydrotreated Heavy Paraffinic (64742-54-7)	STEL	10 mg/m ³	Mist.
	TWA	5 mg/m ³	Mist.
Distillates (petroleum), Solvent-refined Heavy Paraffinic (64741-88-4)	STEL	10 mg/m ³	Mist.
	TWA	5 mg/m ³	Mist.
Paraffin oils (petroleum), catalytic de-waxed light (64742-71-8)	STEL	10 mg/m ³	Mist.
	TWA	5 mg/m ³	Mist.
Residual Oils (petroleum), Solvent-refined (64742-01-4)	STEL	10 mg/m ³	Mist.
	TWA	5 mg/m ³	Mist.
White mineral oil (petroleum) (8042-47-5)	STEL	10 mg/m ³	Mist.
	TWA	5 mg/m ³	Mist.

ACGIH

Components	Type	Value	Form
Distillates (petroleum), Hydrotreated Heavy Naphthenic (64742-52-5)	TWA	5 mg/m3	Inhalable fraction.

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Paraffin oils (petroleum), catalytic de-waxed light (64742-71-8)	TWA	5 mg/m3	Inhalable fraction.
White mineral oil (petroleum) (8042-47-5)	TWA	5 mg/m3	Inhalable fraction.

Australia. OELs. (Adopted National Exposure Standards for Atmospheric Contaminants in the Occupational Environment)

Components	Type	Value	Form
Distillates (petroleum), Hydrotreated Heavy Naphthenic (64742-52-5)	TWA	5 mg/m3	Mist.
Distillates (petroleum), Hydrotreated Heavy Paraffinic (64742-54-7)	TWA	5 mg/m3	Mist.
Distillates (petroleum), Solvent-refined Heavy Paraffinic (64741-88-4)	TWA	5 mg/m3	Mist.
Paraffin oils (petroleum), catalytic de-waxed light (64742-71-8)	TWA	5 mg/m3	Mist.
Residual Oils (petroleum), Solvent-refined (64742-01-4)	TWA	5 mg/m3	Mist.
White mineral oil (petroleum) (8042-47-5)	TWA	5 mg/m3	Mist.

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.

Personal protective equipment

Respiratory protection	When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.
Skin protection	Wear suitable protective clothing. Wear protective gloves.
Eye/face protection	Wear eye/face protection.
Radioactive or thermal hazards	Not available.
Hygiene measures	Avoid contact with eyes. Avoid contact with skin. Keep away from food and drink. Handle in accordance with good industrial hygiene and safety practices.

9. Physical and chemical properties**Appearance**

Physical state	Liquid.
Form	Liquid. Liquid.
Colour	Amber. Amber.

Odour Petroleum
Petroleum

pH Not available.

Odour threshold Not available.

Melting point/freezing point Not available.

Boiling point, Initial boiling point, and boiling range > 296 °C (> 564.8 °F)

Flash point 196.00 °C (384.80 °F) Pensky-Martens Closed Cup

Auto-ignition temperature 260 °C (500 °F) estimated

Flammability limit - lower (%)	1 % estimated
Flammability limit - upper (%)	50 % estimated
Explosive limit	Not available.
Vapour pressure	0.000011 hPa estimated
Density	890.00 kg/m3 @ 25 °C
Vapour density	Not available.
Evaporation rate	Not available.
Relative density	Not available.
Solubility	Negligible
Solubility (other)	Oil
Partition coefficient (n-octanol/water)	Not available.
Decomposition temperature	Not available.
Viscosity	160.7 cSt ASTM D445
Percent volatile	0.0846 % estimated
Kinematic viscosity	19 cSt
Other data	
Flammability class	Combustible IIIB estimated
Kinematic viscosity temp	100 °C (212 °F)
Specific gravity	0.89
Viscosity temperature	40 °C (104 °F)
VOC (Weight %)	0.0846 % estimated

10. Stability and reactivity

Stability	Material is stable under normal conditions.
Conditions to avoid	Avoid temperatures exceeding the flash point.
Incompatible materials	None known.
Hazardous decomposition products	Nitrogen oxides (NOx). At thermal decomposition temperatures, carbon monoxide and carbon dioxide.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.

11. Toxicological information

Product	Species	Test results
Bel-Ray EXP Synthetic Ester Blend 4T Engine Oil 20W-50 (Mixture)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	2620.5452 mg/kg, estimated
<i>Inhalation</i>		
LC50	Rat	1545 mg/l, estimated
<i>Oral</i>		
LD50	Rat	2912.0559 mg/kg, estimated 1182.0331 g/kg, estimated

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

Routes of exposure	Inhalation. Skin contact. Eye contact.
Symptoms	Discomfort in the chest. Shortness of breath. Coughing. Defatting of the skin. Skin irritation. Irritant effects. Rash.
Skin corrosion/irritation	Causes skin irritation.
Serious eye damage/irritation	Causes serious eye irritation.
Respiratory sensitiser	Due to lack of data the classification is not possible.
Skin sensitiser	Due to lack of data the classification is not possible.

Germ cell mutagenicity	Suspected of causing genetic defects.
Carcinogenicity	Due to lack of data the classification is not possible.
Toxic to reproduction	Due to lack of data the classification is not possible.
Specific target organ toxicity - single exposure	May cause damage to organs (Lung). Due to lack of data the classification is not possible.
Specific target organ toxicity - repeated exposure	Causes damage to organs. Lung, skin. Causes damage to organs (Lung, skin) through prolonged or repeated exposure. Due to lack of data the classification is not possible.
Aspiration hazard	Due to lack of data the classification is not possible.
Chronic effects	Prolonged inhalation may be harmful.
Relevant negative data	Not available.

12. Ecological information

Ecotoxicological data

Product	Species	Test results
Bel-Ray EXP Synthetic Ester Blend 4T Engine Oil 20W-50 (Mixture)		
Crustacea	EC50	Daphnia
		579.1962 mg/l, 48 hours, estimated
Fish	LC50	Fish
		336.9877 mg/l, 96 hours, estimated

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

Ecotoxicity	Accumulation in aquatic organisms is expected. Harmful to aquatic life. May cause long lasting harmful effects to aquatic life.
Persistence and degradability	No data is available on the degradability of this product.
Bioaccumulation	Not available.
Mobility	This product is miscible in water.
Other hazardous effects	Not available.

13. Disposal considerations

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 contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.
Special precautions	Not available.

14. Transport information

International regulations

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

15. Regulatory information

Applicable regulations

New Zealand Inventory of Chemicals (NZIoC): Registration status

Decanoic acid, Ester With 2-ethyl-2-(hydroxymethyl)-1,3-propanediol Octanoate (CAS 11138-60-6)	May be used as a single component chemical under an appropriate group standard
Distillates (petroleum), Hydrotreated Heavy Naphthenic (CAS 64742-52-5)	May be used as a single component chemical under an appropriate group standard
Distillates (petroleum), Hydrotreated Heavy Paraffinic (CAS 64742-54-7)	May be used as a single component chemical under an appropriate group standard
Distillates (petroleum), Solvent-refined Heavy Paraffinic (CAS 64741-88-4)	May be used as a single component chemical under an appropriate group standard
Lubricating Oils (petroleum), C20-50, Hydrotreated Neutral Oil-based (CAS 72623-87-1)	May be used as a single component chemical under an appropriate group standard
Paraffin oils (petroleum), catalytic de-waxed light (CAS 64742-71-8)	May be used as a component in a product covered by a group standard but it is not approved for use as a chemical in its own right.
Residual Oils (petroleum), Solvent-refined (CAS 64742-01-4)	May be used as a single component chemical under an appropriate group standard

White mineral oil (petroleum) (CAS 8042-47-5)

May be used as a single component chemical under an appropriate group standard

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

May be used as a component in a product covered by a group standard but it is not approved for use as a chemical in its own right.

Inventory status

Country(s) or region	Inventory name	On inventory (yes/no)*
Canada	Domestic Substances List (DSL)	Yes
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	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)

16. Other information

References Not available.

Issued by
Not available.

Prepared by
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.

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