



MATERIAL SAFETY DATA SHEET

1. Product and Company Identification

Material name Bel-Ray EXP Synthetic Ester Blend 4T Engine Oil 20W-50
Product Code 99131
MSDS Number 6694
Version # 4.0
Revision date 08-30-2013
Product use 4T Motorcycle Engine Oil

2. Hazards Identification

Potential health effects Inhalation. Ingestion. Skin contact. Eye contact.
Routes of exposure Avoid contact with eyes.
Eyes Avoid contact with the skin.
Skin Prolonged inhalation may be harmful. Avoid breathing dust/fume/gas/mist/vapors/spray.
Inhalation Components of the product may be absorbed into the body by ingestion. Do not ingest.
Ingestion Eyes. RESPIRATORY SYSTEM. Skin.
Target organs May cause long-term adverse effects in the environment.
Potential environmental effects

3. Composition / Information on Ingredients

Non-hazardous components	CAS #	Percent
OIL, MINERAL	64741-88-4	0 - 100
OIL, MINERAL	64742-01-4	0 - 100
OIL, MINERAL	64742-52-5	0 - 100
OIL, MINERAL	64742-54-7	0 - 100
OIL, MINERAL	64742-71-8	0 - 100
OIL, MINERAL	8042-47-5	0 - 100
Other components below reportable levels		10 - 30

Composition comments Not applicable to consumer products. IP 346: < 3.0% DMSO extract for all base oil substances.

4. First Aid Measures

First aid procedures
Eye contact Rinse with water. Get medical attention if irritation develops and persists.
Skin contact Rinse skin with water/shower. Get medical attention if irritation develops and persists.
Inhalation If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. Call a physician if symptoms develop or persist.
Ingestion Do not induce vomiting. Never give liquid to an unconscious person.

General advice If you feel unwell, seek medical advice (show the label where possible). Show this safety data sheet to the doctor in attendance.

5. Fire Fighting Measures

Flammable properties Not flammable by WHMIS criteria.

Extinguishing media

Suitable extinguishing media Water fog. Foam. Dry powder. Carbon dioxide (CO₂).

Unsuitable extinguishing media Do not use water jet as an extinguisher, as this will spread the fire. Water.

Fire fighting equipment/instructions Not available.

Explosion data

Sensitivity to static discharge Not available.

Sensitivity to mechanical impact Not available.

Hazardous combustion products May include oxides of nitrogen. Carbon monoxide and carbon dioxide.

6. Accidental Release Measures

Environmental precautions Prevent further leakage or spillage if safe to do so. Do not contaminate water.

Methods for containment Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Use water spray to reduce vapors or divert vapor cloud drift.

Methods for cleaning up Should not be released into the environment. 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.

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 of the MSDS.

7. Handling and Storage

Handling Avoid prolonged exposure. Avoid release to the environment.

Storage Store in original tightly closed container. Store in accordance with local/regional/national/international regulation.

8. Exposure Controls / Personal Protection

Occupational exposure limits

ACGIH Components	Type	Value	Form
Distillates (petroleum), Hydrotreated Heavy Naphthenic (64742-52-5)	TWA	5 mg/m ³	Inhalable Fraction.
US. ACGIH Threshold Limit Values			
Components	Type	Value	Form
Paraffin Oils (petroleum), Catalytic Dewaxed Light (64742-71-8)	TWA	5 mg/m ³	Inhalable fraction.
White Mineral Oil (petroleum) (8042-47-5)	TWA	5 mg/m ³	Inhalable fraction.

Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2)

Components	Type	Value	Form
Distillates (petroleum), Solvent-refined Heavy Paraffinic (64741-88-4)	STEL	10 mg/m3	Mist.
Residual Oils (petroleum), Solvent-refined (64742-01-4)	STEL	10 mg/m3	Mist.
Distillates (petroleum), Hydrotreated Heavy Paraffinic (64742-54-7)	STEL	10 mg/m3	Mist.
Paraffin Oils (petroleum), Catalytic Dewaxed Light (64742-71-8)	STEL	10 mg/m3	Mist.
White Mineral Oil (petroleum) (8042-47-5)	STEL	10 mg/m3	Mist.
Distillates (petroleum), Hydrotreated Heavy Naphthenic (64742-52-5)	STEL	10 mg/m3	Mist.
Paraffin Oils (petroleum), Catalytic Dewaxed Light (64742-71-8)	TWA	5 mg/m3	Mist.
Distillates (petroleum), Solvent-refined Heavy Paraffinic (64741-88-4)	TWA	5 mg/m3	Mist.
White Mineral Oil (petroleum) (8042-47-5)	TWA	5 mg/m3	Mist.
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.
Residual Oils (petroleum), Solvent-refined (64742-01-4)	TWA	5 mg/m3	Mist.

Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended)

Components	Type	Value	Form
White Mineral Oil (petroleum) (8042-47-5)	TWA	1 mg/m3	Mist.

Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents)

Components	Type	Value	Form
White Mineral Oil (petroleum) (8042-47-5)	STEL	10 mg/m3	Mist.
Paraffin Oils (petroleum), Catalytic Dewaxed Light (64742-71-8)	STEL	10 mg/m3	Mist.
White Mineral Oil (petroleum) (8042-47-5)	TWA	5 mg/m3	Mist.
Paraffin Oils (petroleum), Catalytic Dewaxed Light (64742-71-8)	TWA	5 mg/m3	Mist.
Distillates (petroleum), Solvent-refined Heavy Paraffinic (64741-88-4)	TWA	5 mg/m3	Mist.

Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment)

Components	Type	Value	Form
Distillates (petroleum), Solvent-refined Heavy Paraffinic (64741-88-4)	STEL	10 mg/m3	Mist.

Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment)

Components	Type	Value	Form
Residual Oils (petroleum), Solvent-refined (64742-01-4)	STEL	10 mg/m3	Mist.
Distillates (petroleum), Hydrotreated Heavy Paraffinic (64742-54-7)	STEL	10 mg/m3	Mist.
Paraffin Oils (petroleum), Catalytic Dewaxed Light (64742-71-8)	STEL	10 mg/m3	Mist.
White Mineral Oil (petroleum) (8042-47-5)	STEL	10 mg/m3	Mist.
Distillates (petroleum), Hydrotreated Heavy Naphthenic (64742-52-5)	STEL	10 mg/m3	Mist.
Paraffin Oils (petroleum), Catalytic Dewaxed Light (64742-71-8)	TWA	5 mg/m3	Mist.
Distillates (petroleum), Solvent-refined Heavy Paraffinic (64741-88-4)	TWA	5 mg/m3	Mist.
White Mineral Oil (petroleum) (8042-47-5)	TWA	5 mg/m3	Mist.
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.
Residual Oils (petroleum), Solvent-refined (64742-01-4)	TWA	5 mg/m3	Mist.

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value	Form
Paraffin Oils (petroleum), Catalytic Dewaxed Light (64742-71-8)	PEL	5 mg/m3	Mist.
Distillates (petroleum), Solvent-refined Heavy Paraffinic (64741-88-4)	PEL	5 mg/m3	Mist.
Distillates (petroleum), Hydrotreated Heavy Paraffinic (64742-54-7)	PEL	5 mg/m3	Mist.
Residual Oils (petroleum), Solvent-refined (64742-01-4)	PEL	5 mg/m3	Mist.
White Mineral Oil (petroleum) (8042-47-5)	PEL	5 mg/m3	Mist.
Distillates (petroleum), Hydrotreated Heavy Naphthenic (64742-52-5)	PEL	5 mg/m3	Mist.
Distillates (petroleum), Solvent-refined Heavy Paraffinic (64741-88-4)	PEL	2000 mg/m3 2000 mg/m3	
Distillates (petroleum), Hydrotreated Heavy Naphthenic (64742-52-5)	PEL	500 ppm 500 ppm	

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.
Personal protective equipment	
Eye / face protection	Chemical goggles are recommended.
Skin protection	Wear appropriate chemical resistant clothing.
Respiratory protection	When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

9. Physical & Chemical Properties

Appearance	Oily. Oily.
Physical state	Liquid.
Form	Liquid. Liquid.
Color	Amber. Amber.
Odor	Petroleum Petroleum
Odor threshold	Not available.
pH	Not available.
Vapor pressure	0.000011 hPa estimated
Density	890.00 kg/m ³ @ 25 °C
Vapor density	Not available.
Boiling point	> 564.8 °F (> 296 °C)
Melting point/Freezing point	Not available.
Solubility (water)	Negligible
Solubility (other)	Oil
Specific gravity	0.89
Relative density	Not available.
Flash point	384.80 °F (196.00 °C) Pensky-Martens Closed Cup
Flammability limits in air, upper, % by volume	50 % estimated
Flammability limits in air, lower, % by volume	1 % estimated
Auto-ignition temperature	500 °F (260 °C) estimated
VOC	0.0846 % estimated
Viscosity	160.7 cSt ASTM D445
Percent volatile	0.0846 % estimated
Other data	
Flammability class	Combustible IIIB estimated
Kinematic viscosity	19 cSt
Kinematic viscosity temp	212 °F (100 °C)
Viscosity temperature	104 °F (40 °C)

10. Chemical Stability & Reactivity Information

Chemical stability	Material is stable under normal conditions.
Conditions to avoid	Avoid temperatures exceeding the flash point.
Incompatible materials	Not available.
Hazardous decomposition products	Nitrogen oxides (NOx). At thermal decomposition temperatures, carbon monoxide and carbon dioxide.

11. Toxicological Information

Toxicological data

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.

Chronic effects Prolonged inhalation may be harmful. Not expected to be hazardous by WHMIS criteria.

Carcinogenicity Due to lack of data the classification is not possible.

ACGIH Carcinogens

OIL, MINERAL MINERAL OIL, EXCLUDING METAL WORKING FLUIDS, PURE, HIGHLY AND SEVERELY REFINED, INHALABLE FRACTION (CAS 64741-88-4)	A4 Not classifiable as a human carcinogen.
OIL, MINERAL MINERAL OIL, EXCLUDING METAL WORKING FLUIDS, PURE, HIGHLY AND SEVERELY REFINED, INHALABLE FRACTION (CAS 64742-52-5)	A4 Not classifiable as a human carcinogen.
OIL, MINERAL MINERAL OIL, EXCLUDING METAL WORKING FLUIDS, PURE, HIGHLY AND SEVERELY REFINED, INHALABLE FRACTION (CAS 64742-71-8)	A4 Not classifiable as a human carcinogen.
OIL, MINERAL MINERAL OIL, EXCLUDING METAL WORKING FLUIDS, PURE, HIGHLY AND SEVERELY REFINED, INHALABLE FRACTION (CAS 8042-47-5)	A4 Not classifiable as a human carcinogen.

IARC Monographs. Overall Evaluation of Carcinogenicity

MINERAL OILS, HIGHLY-REFINED (CAS 8042-47-5)	3 Not classifiable as to carcinogenicity to humans.
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Mutagenicity Due to lack of data the classification is not possible.

Reproductive effects Due to lack of data the classification is not possible.

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 Contains a substance which causes risk of hazardous effects to the environment.

Environmental effects An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Persistence and degradability Not available.

Mobility in environmental media This product is miscible in water.

13. Disposal Considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Dispose in accordance with all applicable regulations.

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

14. Transport Information

TDG

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

15. Regulatory Information

Canadian regulations

This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

WHMIS status

Non-controlled

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

Further information

HMIS® is a registered trade and service mark of the NPCA.

HMIS® ratings

Health: 1*
Flammability: 1
Physical hazard: 0

NFPA ratings

Health: 1
Flammability: 1
Instability: 0

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.

This data sheet contains changes from the previous version in section(s):

This document has undergone significant changes and should be reviewed in its entirety.