SAFETY DATA SHEET

1. Product and company identification

Product name **Bel-Ray Silicone DOT 5 Brake Fluid**

Product code 99450

SDS number 6420

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Recommended use and Limitations on use

Recommended use

Hydraulic fluids

2. Hazards identification

GHS classification

Physical hazards	Not classified.	
Health hazards	Skin corrosion/irritation	Category 3
	Carcinogenicity	Category 2
	Specific target organ toxicity following repeated exposure	Category 2 (bladder, nervous system, testes)
Environmental hazards	Hazardous to the aquatic environment, acute hazard	Category 3 (97.75% of the mixture consists of ingredient(s) of unknown hazards to the aquatic environment.)

Label elements

Symbols

Signal word Warning

Hazard statement Causes mild skin irritation. Suspected of causing cancer. May cause damage to organs (bladder, nervous system, testes) through prolonged or repeated exposure. Harmful 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 dust/fume/gas/mist/vapors/spray. Avoid release to the environment. Use personal protective equipment as required.

Response If medical advice is needed, have product container or label at hand. IF exposed or concerned: Get medical advice/attention. Get medical advice/attention if you feel unwell. If skin irritation occurs: Get medical advice/attention. 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.

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 (%)
Tributyl Phosphate	126-73-8	1 - < 3
Other components below reportable levels		90 - 100

4. First aid measures

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

Skin contact Wash off with warm water and soap. If skin irritation occurs: Get medical advice/attention.

Eye contact Rinse with water. 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 IF exposed or concerned: Get medical advice/attention.

Notes to physician Keep victim under observation. Symptoms may be delayed.

5. Fire-fighting measures

Extinguishing media Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).

Extinguishing media to avoid Water. Do not use water jet as an extinguisher, as this will spread the fire.

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 Carbon monoxide and carbon dioxide.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures Keep unnecessary personnel away. Local authorities should be advised if significant spillages cannot be contained. Keep people away from and upwind of spill/leak. Ensure adequate ventilation. In case of spills, beware of slippery floors and surfaces.

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 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. 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 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. Room temperature - normal conditions. 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
Tributyl Phosphate (126-73-8)	TWA	2.2 mg/m3
		0.2 ppm

US. ACGIH Threshold Limit Values

Components	Type	Value
Tributyl Phosphate (126-73-8)	TWA	0.2 ppm

UK. EH40 Workplace Exposure Limits (WELs)

Components	Type	Value
Tributyl Phosphate (126-73-8)	STEL	5 mg/m3
	TWA	5 mg/m3

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

Components	Type	Value
Tributyl Phosphate (126-73-8)	TWA	2.2 mg/m3
		0.2 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. 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 Use personal protective equipment as required.

Eye/face protection Use personal protective equipment as required.

Radioactive or thermal hazards Not available.

Hygiene measures Wash hands before breaks and immediately after handling the product. Handle in accordance with good industrial hygiene and safety practices.

9. Physical and chemical properties

Appearance

Physical state Liquid.

Form Liquid.
Liquid.

Colour Purple
Purple

Odour Odourless.
Odourless.

pH Not available.

Odour threshold Not available.

Melting point/freezing point -80 °C (-112 °F) estimated

Boiling point, Initial boiling point, and boiling range 289 °C (552.2 °F) estimated

Flash point 206.00 °C (402.80 °F)

Auto-ignition temperature Not available.

Flammability (solid, gas) Not available.

Flammability limit - lower (%) Not available.

Flammability limit - upper (%) Not available.

Explosive limit Not available.

Vapour pressure	< 0.1 mm Hg
Density	958.00 kg/m3
Vapour density	Not available.
Evaporation rate	Not available.
Relative density	Not available.
Solubility	Not available.
Solubility (other)	Not available.
Partition coefficient (n-octanol/water)	Not available.
Decomposition temperature	Not available.
Viscosity	42 - 43 cSt
Other data	
Flammability class	Combustible IIIB estimated
Specific gravity	0.958
Viscosity temperature	25 °C (77 °F)

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	At thermal decomposition temperatures, carbon monoxide and carbon dioxide.
Possibility of hazardous reactions	None.

11. Toxicological information

Product	Species	Test results
Bel-Ray Silicone DOT 5 Brake Fluid (Mixture)		
Acute		
Inhalation		
LC50	Cat	10088.8887 mg/l, estimated
	Rat	5466.6665 mg/l, estimated
Oral		
LD50	Hen	82800 mg/kg, estimated
	Mouse	52844.4453 mg/kg, estimated
	Rat	133.3333 g/kg, estimated
Other		
LD50	Mouse	7044.4443 mg/kg, estimated
	Rat	4444.4443 mg/kg, estimated
		35.5556 g/kg, estimated

Components	Species	Test results
Tributyl Phosphate (126-73-8)		
Acute		
Dermal		
LD50	Rabbit	> 3100 mg/kg
Inhalation		
LC50	Cat	227 mg/l, 4 Hours
	Rat	123 mg/l, 6 Hours
Oral		
LD50	Hen	1863 mg/kg
	Mouse	1189 mg/kg
	Rat	3 g/kg

Components	Species	Test results
Other		
LD50	Mouse	158.5 mg/kg
	Rat	100 mg/kg
		0.8 g/kg

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

Routes of exposure Inhalation. Skin contact. Eye contact.

Symptoms Narcosis. Decrease in motor functions. Behavioural changes. Irritant effects.

Skin corrosion / irritation Causes mild skin irritation.

Serious eye damage / irritation Not available.

Respiratory sensitiser Not available.

Skin sensitiser Not available.

Germ cell mutagenicity Not available.

Carcinogenicity Suspected of causing cancer.

Toxic to reproduction Not available.

Specific target organ toxicity - single exposure Not available.

Specific target organ toxicity - repeated exposure May cause damage to organs. bladder, nervous system, testes.

Aspiration hazard Not available.

Chronic effects Prolonged inhalation may be harmful.

Relevant negative data Not available.

12. Ecological information

Ecotoxicological data

Product		Species	Test results
Bel-Ray Silicone DOT 5 Brake Fluid (Mixture)			
Fish	LC50	Fish	336.8889 mg/l, 96 hours, estimated

Components		Species	Test results
Tributyl Phosphate (126-73-8)			
Aquatic			
Fish	LC50	Fathead minnow (Pimephales promelas)	1 - 10 mg/l, 96 hours

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

Ecotoxicity Harmful to aquatic life.

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

Bioaccumulation Not available.

Mobility Not available.

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 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.

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

Tributyl Phosphate (CAS 126-73-8) HSNO Approved

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
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	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)

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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