



MATERIAL SAFETY DATA SHEET

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Material name Bel-Ray Brake & Contact Cleaner
Product code 99070
SDS Number 6424
Recommended use Cleaner
Version No. 3.1
Revision date 04-December-2013
Manufacturer

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2. HAZARDS IDENTIFICATION

HAZARDOUS SUBSTANCE. DANGEROUS GOODS.

Classification Repr. Cat. 3;R62, Xn;R65-48/20, Xi;R38, R67, N;R51/53
Risk phrase(s) R38 Irritating to skin.
R48/20 Harmful: danger of serious damage to health by prolonged exposure through inhalation.
R62 Possible risk of impaired fertility.
R65 Harmful: May cause lung damage if swallowed.
R67 Vapours may cause drowsiness and dizziness.
R51/53 Toxic to aquatic organisms, May cause long-term adverse effects in the aquatic environment.
Safety phrase(s) S1/2 Keep locked up and out of the reach of children.
S23 Do not breathe gas/fumes/vapour/spray.
S29 Do not empty into drains.
S36/37 Wear suitable protective clothing and gloves.
S38 In case of insufficient ventilation, wear suitable respiratory equipment.
S51 Use only in well-ventilated areas.
S62 If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS #	Percent
N-HEXANE	110-54-3	30 - 60
3-Methylpentane	96-14-0	10 - < 30
2,2-dimethylbutane	75-83-2	< 10
2,3-dimethylbutane	79-29-8	< 10
2-methylpentane	107-83-5	< 10
Carbon dioxide	124-38-9	< 10
Cyclohexane	110-82-7	< 10
Other components below reportable levels		10 - < 30

Composition comments IP 346: < 3.0% DMSO extract for all base oil substances. Note L: The classification as a carcinogen for all base oils does not apply as it can be shown that the substance contains less than 3% DMSO extract as measured by IP 346.

4. FIRST-AID MEASURES

Inhalation Move to fresh air. Oxygen or artificial respiration if needed. Do not use mouth-to-mouth method if victim inhaled the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Get medical attention immediately.

Skin contact Wash off immediately with plenty of water. Take off contaminated clothing and wash before reuse.

Eye contact Flush eyes immediately with large amounts of water.

Ingestion If swallowed, seek medical advice immediately and show this container or label. Rinse mouth thoroughly. Do not induce vomiting. Do not use mouth-to-mouth method if victim ingested the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Never give liquid to an unconscious person.

General advice 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). In case of shortness of breath, give oxygen. Keep victim warm. Keep victim under observation.

Notes to physician Oxygen, if needed. Keep victim warm. Keep victim under observation. Symptoms may be delayed.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media Water. Foam. Carbon dioxide (CO₂). Powder.

Specific methods Cool containers exposed to flames with water until well after the fire is out.

Hazchem Code None

Hazardous combustion products Carbon monoxide and carbon dioxide.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions Keep unnecessary personnel away. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep upwind. Keep out of low areas. Ventilate closed spaces before entering them. Avoid inhalation of vapours and spray mists.

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.

Containment procedures ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop leak if you can do so without risk. Move the cylinder to a safe and open area if the leak is irreparable. This material is classified as a water pollutant under the Clean Water Act and should be prevented from contaminating soil or from entering sewage and drainage systems which lead to waterways.

Methods for cleaning up This product is miscible in water. Stop the flow of material, if this is without risk. Prevent product from entering drains. Isolate area until gas has dispersed. Following product recovery, flush area with water. For waste disposal, see section 13.

7. HANDLING AND STORAGE

Handling In case of insufficient ventilation, wear suitable respiratory equipment. Pressurised container: Do not pierce or burn, even after use. Do not spray on a naked flame or any other incandescent material. Do not smoke while using or until sprayed surface is thoroughly dry. Do not cut, weld, solder, drill, grind, or expose containers to heat, flame, sparks, or other sources of ignition. Ground and bond containers when transferring material. Do not use if spray button is missing or defective. Do not re-use empty containers. Do not breathe dust/fume/gas/mist/vapors/spray. Use only in well-ventilated areas. Avoid prolonged exposure. Do not empty into drains.

Storage Level 1 Aerosol.

Keep locked up. Contents under pressure. Do not expose to heat or store at temperatures above 120°F/49°C as can may burst. Do not puncture, incinerate or crush. Do not handle or store near an open flame, heat or other sources of ignition. Avoid exposure to long periods of sunlight. Refrigeration recommended. Store in a well-ventilated place. Keep out of the reach of children.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational exposure limits

US. ACGIH Threshold Limit Values

Components	Type	Value
2,2-dimethylbutane (75-83-2)	STEL	1000 ppm

US. ACGIH Threshold Limit Values

Components	Type	Value
2,3-dimethylbutane (79-29-8)	TWA	500 ppm
	STEL	1000 ppm
2-methylpentane (107-83-5)	TWA	500 ppm
	STEL	1000 ppm
3-Methylpentane (96-14-0)	TWA	500 ppm
	STEL	1000 ppm
Carbon dioxide (124-38-9)	TWA	500 ppm
	STEL	30000 ppm
Cyclohexane (110-82-7)	TWA	5000 ppm
N-HEXANE (110-54-3)	TWA	100 ppm
	TWA	50 ppm

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

Components	Type	Value
2,2-dimethylbutane (75-83-2)	STEL	3500 mg/m3
	TWA	1000 ppm 1760 mg/m3 500 ppm
2,3-dimethylbutane (79-29-8)	STEL	3500 mg/m3
	TWA	1000 ppm 1760 mg/m3 500 ppm
2-methylpentane (107-83-5)	STEL	3500 mg/m3
	TWA	1000 ppm 1760 mg/m3 500 ppm
3-Methylpentane (96-14-0)	STEL	3500 mg/m3
	TWA	1000 ppm 1760 mg/m3 500 ppm
Carbon dioxide (124-38-9)	STEL	54000 mg/m3 30000 ppm
	TWA	22500 mg/m3 12500 ppm
Cyclohexane (110-82-7)	STEL	1050 mg/m3 300 ppm
	TWA	350 mg/m3 100 ppm
N-HEXANE (110-54-3)	TWA	72 mg/m3 20 ppm

Recommended monitoring procedures

Additional exposure data Not available.

Engineering measures 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

Respiratory protection If permissible levels are exceeded use NIOSH mechanical filter / organic vapor cartridge or an air-supplied respirator. In case of insufficient ventilation, wear suitable respiratory equipment.

Hand protection Wear suitable gloves.

Eye protection Not normally needed.

Skin and body protection Wear suitable protective clothing. Wear protective gloves.

Environmental exposure controls Environmental manager must be informed of all major releases.

Hygiene measures When using, do not eat, drink or smoke. Handle in accordance with good industrial hygiene and safety practices.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Oily. Oily.
Physical state	Gas.
Form	Aerosol Aerosol
Colour	Colourless. Colourless.
Odour	Hydrocarbon-like. Hydrocarbon-like.
Odour threshold	Not available.
pH	Not available.
Vapour pressure	3270.636662142 hPa estimated
Density	680.00 kg/m3
Vapour density	Not available.
Boiling point	68 °C (154.4 °F) estimated
Melting point/freezing point	-162.9 °C (-261.2 °F) estimated
Solubility (water)	Negligible
Solubility (other)	Oil
Specific gravity	0.68
Flash point	-23.00 °C (-9.40 °F) concentrate
Flammability limits in air, upper, % by volume	7.3 % estimated
Flammability limits in air, lower, % by volume	1.2 % estimated
Auto-ignition temperature	290 °C (554 °F) estimated
VOC	95.2 %
Viscosity	0.42 cSt Petroleum naphtha
Percent volatile	100 % estimated
Other data	
Flammability class	Flammable IB estimated
Flash point class	Flammable IA
Viscosity temperature	40 °C (104 °F)

10. STABILITY AND REACTIVITY

Chemical stability	Material is stable under normal conditions.
Conditions to avoid	Avoid temperatures exceeding the flash point.
Materials to avoid	Strong oxidizing agents.
Hazardous decomposition products	Toxic gas. Irritants. At thermal decomposition temperatures, carbon monoxide and carbon dioxide.

11. TOXICOLOGICAL INFORMATION

Toxicological data

Product	Species	Test results
Bel-Ray Brake & Contact Cleaner (Mixture)		
Acute		
<i>Inhalation</i>		
LC50	Mouse	40016.0078 mg/l, estimated
<i>Oral</i>		
LD50	Rat	20.008 mg/kg, estimated
	Wistar rat	40.8497 mg/kg, estimated

Components	Species	Test results
Cyclohexane (110-82-7)		
Acute		
<i>Inhalation</i>		
NOEL	Monkey	1243 mg/l, 6 Hours
<i>Oral</i>		
LD50	Mouse	1300 mg/kg
	Rat	29820 mg/kg
N-HEXANE (110-54-3)		
Acute		
<i>Inhalation</i>		
LC50	Mouse	48000 mg/l, 4 Hours
<i>Oral</i>		
LD50	Rat	24 mg/kg
	Wistar rat	49 mg/kg

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

Routes of exposure	Inhalation. Ingestion. Skin contact.
Chronic toxicity	Prolonged inhalation may be harmful. Prolonged or repeated exposure may cause lung injury.
Sensitisation	
US ACGIH Threshold Limit Values: Skin designation	
N-HEXANE (CAS 110-54-3)	Can be absorbed through the skin.
Carcinogenicity	Not classifiable as to carcinogenicity to humans.
Mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Reproductivity	Possible reproductive hazard.
Epidemiology	No epidemiological data is available for this product.
Local effects	Harmful by inhalation. Irritating to eyes. Irritating to skin.
Symptoms and target organs	Irritating to mouth, throat, and stomach. Skin irritation.

12. ECOLOGICAL INFORMATION

Ecotoxicological data			
Product		Species	Test results
Bel-Ray Brake & Contact Cleaner (Mixture)			
Fish	LC50	Fish	95.9442 mg/l, 96 hours, estimated
Components		Species	Test results
Cyclohexane (110-82-7)			
Aquatic			
Fish	LC50	Fathead minnow (Pimephales promelas)	3.961 - 5.181 mg/l, 96 hours
N-HEXANE (110-54-3)			
Aquatic			
Fish	LC50	Fathead minnow (Pimephales promelas)	2.101 - 2.981 mg/l, 96 hours

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

Ecotoxicity	Expected to be toxic to aquatic organisms. May cause long-term adverse effects in the environment.
Mobility	This product is miscible in water.
Bioaccumulation	
Bioaccumulative potential	
Octanol/water partition coefficient log Kow	
2,3-dimethylbutane	3.42
Cyclohexane	3.44
3-Methylpentane	3.6
2-methylpentane	3.74

Bioaccumulative potential**Octanol/water partition coefficient log K_{ow}**

2,2-dimethylbutane	3.82
N-HEXANE	3.9

Aquatic toxicity

May cause long-term adverse effects in the aquatic environment.

13. DISPOSAL CONSIDERATIONS**Disposal instructions**

Contents under pressure. Do not puncture, incinerate or crush. This material and its container must be disposed of as hazardous waste. Must be incinerated in a suitable incineration plant holding a permit delivered by the competent authorities. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose in accordance with all applicable regulations.

Waste from residues / unused products

Dispose of in accordance with local regulations. Avoid discharge into water courses or onto the ground.

Contaminated packaging

Empty containers should be taken to an approved waste handling site for recycling or disposal. Do not re-use empty containers.

14. TRANSPORT INFORMATION**ADG**

UN number	UN1950
Proper shipping name	AEROSOLS, flammable
Hazard class	2.1

IATA

UN number	UN1950
Proper shipping name	Aerosols, flammable
Hazard class	2.1
Special precautions	IMDG Regulated Marine Pollutant.
ERG Code	10L

IMDG

UN number	UN1950
Proper shipping name	AEROSOLS, flammable
Hazard class	2.1
Special precautions	IMDG Regulated Marine Pollutant.

ADG**IATA; IMDG****Hazchem Code**

None

General

IMDG Regulated Marine Pollutant.

15. REGULATORY INFORMATION**National regulations**

This Material Safety Data Sheet was prepared in accordance with the Australia National Code of Practice for the Preparation of Material Safety Data Sheets (NOHSC: 2011.)

Australia HVIC: Listed substance

Carbon dioxide (CAS 124-38-9)	Listed.
N-HEXANE (CAS 110-54-3)	Listed.

Australia Medicines & Poisons Schedule 5: Use/Concentration/Exceptions

2,2-dimethylbutane (CAS 75-83-2)	Exception may apply, see the regulation for relevance.
2,3-dimethylbutane (CAS 79-29-8)	Exception may apply, see the regulation for relevance.
2-methylpentane (CAS 107-83-5)	Exception may apply, see the regulation for relevance.
3-Methylpentane (CAS 96-14-0)	Exception may apply, see the regulation for relevance.
Cyclohexane (CAS 110-82-7)	Exception may apply, see the regulation for relevance.
N-HEXANE (CAS 110-54-3)	Exception may apply, see the regulation for relevance.

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
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)

16. OTHER INFORMATION**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

16-June-2010

Revision date

04-December-2013

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

COMPOSITION/INFORMATION ON INGREDIENTS: Composition comments
Physical & Chemical Properties: Multiple Properties