



MATERIAL SAFETY DATA SHEET

1. Product and Company Identification

Material name Bel-Ray Super Clean Chain Lube
Product Code 99470
MSDS Number 6436
Version # 1.0
Revision date 06-16-2010
Product use Lubricant
Manufacturer information Bel-Ray Company, Inc.
P.O. Box 526
Farmingdale, NJ 07727
United States of America
+1 732 938 2421
CHEMTREC: +1 703-527-3887 (outside USA)
CHEMTREC: 800-424-9300 (USA)

2. Hazards Identification

Emergency overview DANGER

EXTREMELY FLAMMABLE LIQUID AND VAPOR.
CONTENTS UNDER PRESSURE.
Aerosol. Pressurized container may explode when exposed to heat or flame. Vapors may cause a flash fire or ignite explosively. Will be easily ignited by heat, spark or flames.

Irritating to eyes and skin. Irritating to respiratory system. This is a consumer care product that is safe for consumers when used according to the label directions. Like many consumer products, a small number of individuals may experience reactions such as redness, rash and / or swelling upon prolonged or repeated skin contact or eye contact.

OSHA regulatory status This product is considered hazardous under 29 CFR 1910.1200 (Hazard Communication).

Potential health effects

Routes of exposure Inhalation. Skin contact. Eye contact.

Eyes Causes eye irritation.

Skin Irritating to skin.

Inhalation Intentional misuse by concentrating and inhaling the product can be harmful or fatal. Irritating to respiratory system. Prolonged inhalation may be harmful.

Ingestion Exposure by ingestion of an aerosol is unlikely. Do not ingest.

Target organs Central nervous system.

Chronic effects May cause central nervous system disorder (e.g., narcosis involving a loss of coordination, weakness, fatigue, mental confusion and blurred vision) and/or damage.

Signs and symptoms Narcosis. Decrease in motor functions. Behavioral changes. Upper respiratory tract irritation. Irritation of nose and throat. Irritation of eyes and mucous membranes.

Potential environmental effects Components of this product are hazardous to aquatic life. May cause long-term adverse effects in the environment.

3. Composition / Information on Ingredients

Components	CAS #	Percent
N-HEXANE	110-54-3	20 - 40
HEXANE; MIXTURE OF ISOMERS (EXCL N-HEXANE)	Proprietary	10 - 20
PROPANE	74-98-6	10 - 20
Interchangeable base oils, one or more: 64742-01-4, 64742-52-5, 64741-88-4		3 - 10
BUTANE	106-97-8	2.5 - 10

ISOBUTANE	75-28-5	2.5 - 10
SOLVENT NAPHTHA (PETROLEUM), MEDIUM ALIPH.	64742-88-7	2.5 - 10
ZINC OXIDE	1314-13-2	2.5 - 10
CALCIUM CARBONATE	471-34-1	1 - 2.5
CYCLOHEXANE	110-82-7	1 - 2.5

4. First Aid Measures

First aid procedures

Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.
Skin contact	Take off immediately all contaminated clothing. Wash off immediately with plenty of water. Get medical attention if irritation develops and persists.
Inhalation	Move to fresh air. For breathing difficulties, oxygen may be necessary. Call a physician if symptoms develop or persist.
Ingestion	Rinse mouth thoroughly. Do not induce vomiting. In the unlikely event of swallowing contact a physician or poison control center.

Notes to physician

Symptoms may be delayed.

General advice

Call a physician if symptoms develop or persist. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire Fighting Measures

Flammable properties

Flammable by OSHA criteria. Heat may cause the containers to explode. Vapors may travel considerable distance to a source of ignition and flash back. Runoff to sewer may cause fire or explosion hazard.

Extinguishing media

Suitable extinguishing media	Water. Foam. Dry powder. Carbon dioxide (CO2).
Unsuitable extinguishing media	Do not use a solid water stream as it may scatter and spread fire.

Protection of firefighters

Specific hazards arising from the chemical	Fire may produce irritating, corrosive and/or toxic gases.
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Fire fighting equipment/instructions

Not available.

Specific methods

In the event of fire and/or explosion do not breathe fumes. Cool containers exposed to flames with water until well after the fire is out.

Hazardous combustion products

Carbon monoxide and carbon dioxide.

6. Accidental Release Measures

Personal precautions

Keep unnecessary personnel away. Keep upwind. Keep out of low areas. Keep people away from and upwind of spill/leak. Ventilate closed spaces before entering them. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. 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.

Methods for containment

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.

Methods for cleaning up

Should not be released into the environment. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Following product recovery, flush area with water.

7. Handling and Storage

Handling

Vapors may form explosive mixtures with air. Pressurized 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 handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Do not cut, weld, solder, drill, grind, or expose containers to heat, flame, sparks, or other sources of ignition. All equipment used when handling the product must be grounded. Ground and bond containers when transferring material. Do not use if spray button is missing or defective. Do not re-use empty containers. Avoid breathing dust/fume/gas/mist/vapors/spray. Avoid contact with skin. Avoid contact with eyes. Use only in area provided with appropriate exhaust ventilation. Avoid prolonged exposure. Wash thoroughly after handling. Avoid release to the environment.

Storage

Level 1 Aerosol.

Contents under pressure. The pressure in sealed containers can increase under the influence of heat. 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. This material can accumulate static charge which may cause spark and become an ignition source. Avoid exposure to long periods of sunlight. Refrigeration recommended. Store in a well-ventilated place. Keep in an area equipped with sprinklers. Keep away from food, drink and animal feedingstuffs. Keep out of the reach of children. Use care in handling/storage.

8. Exposure Controls / Personal Protection

Occupational exposure limits

ACGIH

Components	Type	Value	Form
BUTANE (106-97-8)	TWA	1000.0000 ppm	
CYCLOHEXANE (110-82-7)	TWA	100.0000 ppm	
Interchangeable base oils, one or more: 64742-01-4, 64742-52-5, 64741-88-4	STEL	10.0000 mg/m3	Mist.
	TWA	5.0000 mg/m3	Mist.
ISOBUTANE (75-28-5)	TWA	1000.0000 ppm	
N-HEXANE (110-54-3)	TWA	50.0000 ppm	
PROPANE (74-98-6)	TWA	1000.0000 ppm	
ZINC OXIDE (1314-13-2)	STEL	10.0000 mg/m3	Respirable fraction.
	TWA	2.0000 mg/m3	Respirable fraction.

U.S. - OSHA

Components	Type	Value	Form
BUTANE (106-97-8)	TWA	800.0000 ppm 1900.0000 mg/m3	
CALCIUM CARBONATE (471-34-1)	PEL	5.0000 mg/m3	Respirable fraction.
	TWA	15.0000 mg/m3	Total dust.
		15.0000 mg/m3	Total dust.
		5.0000 mg/m3	Respirable fraction.
CYCLOHEXANE (110-82-7)	PEL	300.0000 ppm 1050.0000 mg/m3	
	TWA	300.0000 ppm 1050.0000 mg/m3	
Interchangeable base oils, one or more: 64742-01-4, 64742-52-5, 64741-88-4	PEL	5.0000 mg/m3	Mist.
	TWA	5.0000 mg/m3	Mist.
N-HEXANE (110-54-3)	PEL	1800.0000 mg/m3	
		500.0000 ppm	
	TWA	180.0000 mg/m3	
		50.0000 ppm	
PROPANE (74-98-6)	PEL	1000.0000 ppm 1800.0000 mg/m3	

Components	Type	Value	Form
ZINC OXIDE (1314-13-2)	TWA	1800.0000 mg/m3	
	PEL	1000.0000 ppm	
		15.0000 mg/m3	Total dust.
		5.0000 mg/m3	Respirable fraction.
	STEL	5.0000 mg/m3	Fume.
		10.0000 mg/m3	Fume.
	TWA	10.0000 mg/m3	Total dust.
		5.0000 mg/m3	Respirable fraction.
		5.0000 mg/m3	Fume.

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 Avoid contact with eyes. Chemical goggles are recommended.

Skin protection Avoid contact with the skin. Wear suitable protective clothing.

Respiratory protection Wear positive pressure self-contained breathing apparatus (SCBA). If permissible levels are exceeded use NIOSH mechanical filter / organic vapor cartridge or an air-supplied respirator.

General hygiene considerations When using do not smoke. Avoid contact with eyes. Avoid contact with skin. Handle in accordance with good industrial hygiene and safety practice.

9. Physical & Chemical Properties

Appearance	Aerosol.
Color	Off-white.
Odor	Hydrocarbon-like.
Odor threshold	Not available.
Physical state	Liquid
Form	Aerosol.
pH	Not available.
Melting point/Freezing point	-310 °F (-189.7 °C) estimated / -310 °F (-189.7 °C) estimated
Boiling point	-25.6 °F (-31.8333 °C) estimated
Flash point	-155.2 °F (-104 °C) Pensky-Martens Closed Cup propellant
Evaporation rate	Not available.
Flammability limits in air, upper, % by volume	9.5 % v/v estimated
Flammability limits in air, lower, % by volume	1.2 % v/v estimated
Vapor pressure	126.689 hPa estimated
Density	1020 kg/m ³ concentrate
Vapor density	Not available.
Specific gravity	0.848993 estimated
Relative density	0.9469 g/cm ³ estimated
Solubility (water)	Not available.
Solubility (other)	Not available.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	500 °F (260 °C) estimated
Decomposition temperature	Not available.
VOC	81 %
Percent volatile	1.26544 % estimated

10. Chemical Stability & Reactivity Information

Chemical stability	Risk of explosion. Risk of ignition. Material is stable under normal conditions.
Conditions to avoid	Heat, flames and sparks.
Incompatible materials	Strong oxidizing agents. Fluorine. Chlorine. Nitrates.
Hazardous decomposition products	Irritants. Hydrogen fluoride. At thermal decomposition temperatures, carbon monoxide and carbon dioxide.
Possibility of hazardous reactions	Hazardous polymerization does not occur.

11. Toxicological Information

Toxicological data

Product	Test Results
Bel-Ray Super Clean Chain Lube (Mixture)	Acute Dermal LD50 Rabbit: 66667 mg/kg estimated Acute Inhalation LC50 Rat: 9383 mg/l estimated
Components	Test Results
BUTANE (106-97-8)	Acute Inhalation LC50 Mouse: 680 mg/l 2.00 Hours Acute Inhalation LC50 Rat: 658 mg/l 4.00 Hours
N-HEXANE (110-54-3)	Acute Inhalation LC50 Mouse: 48000 mg/l 4.00 Hours Acute Oral LD50 Rat: 24 mg/kg Acute Oral LD50 Wistar rat: 49 mg/kg
ZINC OXIDE (1314-13-2)	Acute Inhalation LC50 Mouse: > 5.7 mg/l 4.00 Hours Acute Oral LD50 Mouse: 7950 mg/kg Acute Other LD50 Rat: 240 mg/kg
CALCIUM CARBONATE (471-34-1)	Acute Oral LD50 Rat: 6450 mg/kg
ISOBUTANE (75-28-5)	Acute Inhalation LC50 Mouse: 52 mg/l 1.00 Hours

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

Sensitization

US ACGIH Threshold Limit Values: Skin designation

N-HEXANE (CAS 110-54-3) Can be absorbed through the skin.

Acute effects	Respiratory tract irritation. Causes skin and eye irritation.
Local effects	Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Irritating to respiratory system. Irritating to skin.
Chronic effects	Hazardous by OSHA criteria. Prolonged inhalation may be harmful. Repeated absorption may cause disorder of central nervous system, liver, kidneys and blood. Prolonged exposure may cause chronic effects.
Carcinogenicity	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.
Neurological effects	Hazardous by OSHA criteria.
Further information	Symptoms may be delayed.

12. Ecological Information

Ecotoxicological data

Product	Test Results
Bel-Ray Super Clean Chain Lube (Mixture)	LC50 Fish: 227 mg/l 96.00 hours estimated
Components	Test Results
N-HEXANE (110-54-3)	LC50 Fathead minnow (Pimephales promelas): 2.101 - 2.981 mg/l 96.00 hours
ZINC OXIDE (1314-13-2)	LC50 Fathead minnow (Pimephales promelas): 2246 mg/l 96.00 hours

Components	Test Results
CALCIUM CARBONATE (471-34-1)	LC50 Western mosquitofish (<i>Gambusia affinis</i>): > 56000 mg/l 96.00 hours

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

Ecotoxicity	Components of this product are hazardous to aquatic life.
Environmental effects	Harmful to aquatic organisms.
Persistence and degradability	Not available.

13. Disposal Considerations

Waste codes	D001: Waste Flammable material with a flash point <140 F D006: Waste Cadmium
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US RCRA Hazardous Waste U List: Reference

CYCLOHEXANE (CAS 110-82-7)	U056
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Disposal instructions	Contents under pressure. Do not puncture, incinerate or crush. Incinerate the material under controlled conditions in an approved incinerator. Do not allow this material to drain into sewers/water supplies. If discarded, this product is considered a RCRA ignitable waste, D001. Dispose in accordance with all applicable regulations.
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Waste from residues / unused products	Dispose of in accordance with local regulations.
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Contaminated packaging	Do not re-use empty containers.
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14. Transport Information

DOT

Basic shipping requirements:

UN number	UN1950
Proper shipping name	AEROSOLS, flammable
Hazard class	2.1
Labels required	2.2

Additional information:

ERG number	126
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IATA

Basic shipping requirements:

UN number	1950
Proper shipping name	Aerosols, flammable
Hazard class	2.1

IMDG

Basic shipping requirements:

UN number	1950
Proper shipping name	AEROSOLS, flammable
Hazard class	2.1



DOT



IATA



IMDG

15. Regulatory Information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
All components are on the U.S. EPA TSCA Inventory List.

US EPCRA (SARA Title III) Section 313 - Toxic Chemical: De minimis concentration

CYCLOHEXANE (CAS 110-82-7)	1.0 %
N-HEXANE (CAS 110-54-3)	1.0 %
ZINC OXIDE (CAS 1314-13-2)	1.0 % N982

US EPCRA (SARA Title III) Section 313 - Toxic Chemical: Listed substance

CYCLOHEXANE (CAS 110-82-7)	Listed.
N-HEXANE (CAS 110-54-3)	Listed.
ZINC OXIDE (CAS 1314-13-2)	Listed. N982

CERCLA (Superfund) reportable quantity

N-HEXANE: 100.0000
PROPANE: 100.0000
BUTANE: 100.0000
ISOBUTANE: 100.0000
CYCLOHEXANE: 100.0000

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - Yes
Delayed Hazard - Yes
Fire Hazard - Yes
Pressure Hazard - No
Reactivity Hazard - No

Section 302 extremely hazardous substance No

Section 311 hazardous chemical No

Inventory status

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Non-Domestic Substances List (NDSL)	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)

State regulations WARNING: This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm.

US - California Proposition 65 - CRT: Listed date/Carcinogenic substance

CADMIUM OXIDE (CAS 1306-19-0)	Listed: October 1, 1987 Carcinogenic.
CRYSTALLINE SILICA (CAS 14808-60-7)	Listed: October 1, 1988 Carcinogenic.
LEAD MONOXIDE (CAS 1317-36-8)	Listed: October 1, 1992 Carcinogenic.

US - California Proposition 65 - CRT: Listed date/Developmental toxin

CADMIUM OXIDE (CAS 1306-19-0)	Listed: May 1, 1997 Developmental toxin.
LEAD MONOXIDE (CAS 1317-36-8)	Listed: February 27, 1987 Developmental toxin.

US - California Proposition 65 - CRT: Listed date/Female reproductive toxin

LEAD MONOXIDE (CAS 1317-36-8)	Listed: February 27, 1987 Female reproductive toxin.
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US - California Proposition 65 - CRT: Listed date/Male reproductive toxin

CADMIUM OXIDE (CAS 1306-19-0)	Listed: May 1, 1997 Male reproductive toxin.
LEAD MONOXIDE (CAS 1317-36-8)	Listed: February 27, 1987 Male reproductive toxin.

US - New Jersey Community RTK (EHS Survey): Reportable threshold

BUTANE (CAS 106-97-8)	500 LBS
CYCLOHEXANE (CAS 110-82-7)	500 LBS
ISOBUTANE (CAS 75-28-5)	500 LBS

N-HEXANE (CAS 110-54-3)	500 LBS
PROPANE (CAS 74-98-6)	500 LBS
ZINC OXIDE (CAS 1314-13-2)	500 LBS

US - Pennsylvania RTK - Hazardous Substances: Listed substance

CALCIUM CARBONATE (CAS 471-34-1)	Listed.
CYCLOHEXANE (CAS 110-82-7)	Listed.
Interchangeable base oils, one or more: 64742-01-4, 64742-52-5, 64741-88-4 (CAS)	Listed.
ISOBUTANE (CAS 75-28-5)	Listed.
N-HEXANE (CAS 110-54-3)	Listed.
ZINC OXIDE (CAS 1314-13-2)	Listed.

16. Other Information

Further information

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

HMIS® ratings

Health: 2*
Flammability: 4
Physical hazard: 0

NFPA ratings

Health: 2
Flammability: 4
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. The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Issue date

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