



MATERIAL SAFETY DATA SHEET

1. Product and Company Identification

Material name Bel-Ray Chain Lube
Product Code 92400
Version # 1.0
Revision date 02-10-2012
Product use Aerosol 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

CONTENTS UNDER PRESSURE.
Flammable aerosol. Aerosol. Pressurized container may explode when exposed to heat or flame.
Yields a flame projection at full valve opening or a flashback at any degree of valve opening.

Will be easily ignited by heat, spark or flames. May be fatal if inhaled. TOXIC. Irritating to eyes and skin.

Prolonged exposure may cause chronic effects.

Potential health effects

Routes of exposure Inhalation. Ingestion. Skin contact. Eye contact.

Eyes Contact with eyes may cause irritation. Avoid contact with eyes.

Skin May cause skin irritation. Avoid contact with the skin.

Inhalation Very toxic by inhalation. Intentional misuse by concentrating and inhaling the product can be harmful or fatal. Prolonged inhalation may be harmful. Do not breathe vapor.

Ingestion Harmful if swallowed. Exposure by ingestion of an aerosol is unlikely. Components of the product may be absorbed into the body by ingestion. Irritating. May cause nausea, stomach pain and vomiting. Do not ingest.

Target organs Central nervous system. Eyes. Kidneys. Liver. RESPIRATORY SYSTEM. Skin.

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. Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis.

Signs and symptoms Symptoms are prostration, gasping, pallor, and uncoordinated movements. Symptoms may include redness, edema, drying, defatting and cracking of the skin. Narcosis. Decrease in motor functions. Behavioral changes. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.

Potential environmental effects May cause long-term adverse effects in the environment.

3. Composition / Information on Ingredients

Hazardous components	CAS #	Percent
N-HEXANE	110-54-3	7 - 13
Propane	74-98-6	3 - 7
BUTANE	106-97-8	1 - 5
HEXANE, ALL ISOMERS	96-14-0	1 - 5

Isobutane	75-28-5	1 - 5
Methylcyclopentane	96-37-7	1 - 5
STODDARD SOLVENT	8052-41-3	1 - 5
Non-hazardous components	CAS #	Percent
TRIMETHYLBENZENE	95-63-6	0.1 - 1
Other components below reportable levels		60 - 100

4. First Aid Measures

First aid procedures

Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. If a contact lens is present, DO NOT delay irrigation or attempt to remove the lens. Continue rinsing. Call a physician or poison control center immediately.
Skin contact	Remove and isolate contaminated clothing and shoes. Immediately flush skin with plenty of water. Call a physician or poison control center immediately. For minor skin contact, avoid spreading material on unaffected skin. Wash clothing separately before reuse.
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. Call a physician or poison control center immediately.
Ingestion	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Never give anything by mouth to a victim who is unconscious or is having convulsions. Rinse mouth thoroughly. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. 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.

Notes to physician

General advice	Symptoms may be delayed. 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). Show this safety data sheet to the doctor in attendance.
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5. Fire Fighting Measures

Flammable properties	Flammable by WHMIS criteria. Heat may cause the containers to explode. Ruptured cylinders may rocket. Vapors may travel considerable distance to a source of ignition and flash back.
Extinguishing media	
Suitable extinguishing media	Water. Foam. Carbon dioxide (CO2). Powder.
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	Contents under pressure. Pressurized container may explode when exposed to heat or flame.
Protective equipment for firefighters	Firefighters should wear full protective clothing including self contained breathing apparatus.
Fire fighting equipment/instructions	Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Containers should be cooled with water to prevent vapor pressure build up. Use water spray to cool unopened containers. For massive fire in cargo area, use unmanned hose holder or monitor nozzles, if possible. If not, withdraw and let fire burn out.
Specific methods	Cool containers exposed to flames with water until well after the fire is out.
Explosion data	
Sensitivity to static discharge	Not available.

Sensitivity to mechanical impact Not available.

Hazardous combustion products Carbon monoxide and carbon dioxide.

6. Accidental Release Measures

Personal precautions Keep unnecessary personnel away. Consider initial downwind evacuation for at least 500 meters (1/3 mile). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep people away from and upwind of spill/leak. Keep upwind. Keep out of low areas. Pay attention to flashback. Ventilate closed spaces before entering them.

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. Many gases are heavier than air and will spread along ground and collect in low or confined areas (sewers, basements, tanks). Keep out of low areas. 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 Should not be released into the environment. Stop the flow of material, if this is without risk. Isolate area until gas has dispersed. Following product recovery, flush area with water. Clean up in accordance with all applicable regulations. For waste disposal, see section 13 of the MSDS.

Other information Clean up in accordance with all applicable regulations.

7. Handling and Storage

Handling 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 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. Do not breathe mist or vapor. Do not get this material in contact with eyes. Do not get this material in contact with skin. Do not get this material on clothing. Do not use in areas without adequate ventilation. Avoid prolonged exposure. When using do not eat or drink. Wash thoroughly after handling. Avoid release to the environment.

Storage Level 1 Aerosol.

Keep locked up. 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.

8. Exposure Controls / Personal Protection

Occupational exposure limits

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

Components	Type	Value
BUTANE (106-97-8)	STEL	750 ppm
	TWA	600 ppm
HEXANE, ALL ISOMERS (96-14-0)	TWA	200 ppm
Isobutane (75-28-5)	TWA	1000 ppm
N-HEXANE (110-54-3)	TWA	20 ppm
Propane (74-98-6)	TWA	1000 ppm
STODDARD SOLVENT (8052-41-3)	STEL	580 mg/m3
	TWA	290 mg/m3
TRIMETHYLBENZENE (95-63-6)	TWA	25 ppm

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

Components	Type	Value
HEXANE, ALL ISOMERS (96-14-0)	STEL	3520 mg/m3
		1000 ppm
	TWA	1760 mg/m3
		500 ppm
N-HEXANE (110-54-3)	TWA	176 mg/m3
		50 ppm
Propane (74-98-6)	TWA	1000 ppm
STODDARD SOLVENT (8052-41-3)	TWA	525 mg/m3
TRIMETHYLBENZENE (95-63-6)	TWA	123 mg/m3
		25 ppm

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

Components	Type	Value
BUTANE (106-97-8)	TWA	1900 mg/m3
		800 ppm
HEXANE, ALL ISOMERS (96-14-0)	STEL	3500 mg/m3
		1000 ppm
	TWA	1760 mg/m3
		500 ppm
N-HEXANE (110-54-3)	TWA	176 mg/m3
		50 ppm
Propane (74-98-6)	TWA	1800 mg/m3
		1000 ppm
STODDARD SOLVENT (8052-41-3)	TWA	525 mg/m3
		100 ppm
TRIMETHYLBENZENE (95-63-6)	TWA	123 mg/m3
		25 ppm

Engineering controls

Ensure adequate ventilation, especially in confined areas.

Personal protective equipment**Eye / face protection**

Chemical goggles are recommended.

Skin protection

Chemical resistant gloves. Wear appropriate chemical resistant clothing. It may provide little or no thermal protection.

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.

9. Physical & Chemical Properties

Appearance	Oily.
Physical state	Gas.
Form	Aerosol.
Color	Dark brown.
Odor	Hydrocarbon-like.
Odor threshold	Not available.
pH	Not available.
Vapor pressure	124.35 hPa estimated
Density	876 kg/m ³
Vapor density	Not available.
Boiling point	-25.29 °F (-31.83 °C) estimated
Melting point/Freezing point	-305.68 °F (-187.6 °C) estimated
Solubility (water)	Not available.
Solubility (other)	Not available.

Specific gravity	0.88
Relative density	Not available.
Flash point	-155.2 °F (-104 °C)
Flammability limits in air, upper, % by volume	50 % estimated
Flammability limits in air, lower, % by volume	0.9 % estimated
Auto-ignition temperature	420.01 °F (215.56 °C) estimated
VOC	11.25 % estimated
Percent volatile	0.04 % estimated
Other data	
Flammability class	Flammable IA estimated
Flash point class	Flammable IA

10. Chemical Stability & Reactivity Information

Chemical stability	Risk of explosion. Risk of ignition.
Conditions to avoid	Heat, flames and sparks. Aerosol containers are unstable at temperatures above 49°C. Avoid temperatures exceeding the flash point.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	Toxic gas. 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 Chain Lube (Mixture)	Acute Dermal LD50 Rabbit: 85421.78 mg/kg estimated Acute Dermal LD50 Rabbit: 27777.79 g/kg estimated Acute Inhalation LC50 Mouse: 1924.45 mg/l estimated Acute Inhalation LC50 Rat: 14252.4 mg/l estimated Acute Oral LD50 Rat: 3560.25 g/kg estimated Acute Oral LD50 Rat: 105.72 mg/kg estimated Acute Oral LD50 Wistar rat: 216.05 mg/kg estimated
Components	Test Results
BUTANE (106-97-8)	Acute Inhalation LC50 Mouse: 680 mg/l 2 Hours
N-HEXANE (110-54-3)	Acute Inhalation LC50 Rat: 658 mg/l 4 Hours Acute Inhalation LC50 Mouse: 48000 mg/l 4 Hours Acute Oral LD50 Rat: 24 mg/kg Acute Oral LD50 Wistar rat: 49 mg/kg
Propane (74-98-6)	Acute Inhalation LC50 Rat: > 1442.85 mg/l 15 Minutes
Isobutane (75-28-5)	Acute Inhalation LC50 Mouse: 52 mg/l 1 Hours
TRIMETHYLBENZENE (95-63-6)	Acute Dermal LD50 Rabbit: > 3160 mg/kg Acute Inhalation LC50 Rat: > 2000 mg/l 48 Hours Acute Oral LD50 Rat: 6 g/kg
Acute effects	Respiratory tract irritation.
Sensitization	
US ACGIH Threshold Limit Values: Skin designation	
N-HEXANE (CAS 110-54-3)	Can be absorbed through the skin.
Local effects	Very toxic by inhalation.
Chronic effects	Prolonged inhalation may be harmful. Repeated absorption may cause disorder of central nervous system, liver, kidneys and blood. Not expected to be hazardous by WHMIS criteria.

Carcinogenicity

IARC Monographs. Overall Evaluation of Carcinogenicity

PETROLEUM SOLVENTS (CAS 8052-41-3)

3 Not classifiable as to carcinogenicity to humans.

12. Ecological Information

Ecotoxicological data

Product

Test Results

Bel-Ray Chain Lube (Mixture)

EC50 Daphnia: 22392.2 mg/l 48 hours estimated

LC50 Fish: 458.9 mg/l 96 hours estimated

Components

Test Results

N-HEXANE (110-54-3)

LC50 Fathead minnow (Pimephales promelas): 2.1 - 2.98 mg/l 96 hours

TRIMETHYLBENZENE (95-63-6)

LC50 Fathead minnow (Pimephales promelas): 7.19 - 8.28 mg/l 96 hours

* 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.

13. Disposal Considerations

Disposal instructions

Collect and reclaim or dispose in sealed containers at licensed waste disposal site. 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.

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

TDG

Proper shipping name AEROSOLS, flammable
Hazard class 2.1
UN number UN1950
Marine pollutant D
Special provisions 80

IATA

Proper shipping name Aerosols, flammable
Hazard class 2.1
UN number 1950
ERG code 10L

IMDG

Proper shipping name AEROSOLS
Hazard class 2.1
Subsidiary hazard class 5T
UN number 1950



TDG



IATA



IMDG

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

Controlled

WHMIS classification

B5 - Flammable/Combustible
D1B - Immediate/Serious-TOXIC
D2A - Other Toxic Effects-VERY TOXIC
D2B - Other Toxic Effects-TOXIC

WHMIS labeling



Inventory status

Country(s) or region

Australia

Canada

Europe

Korea

United States & Puerto Rico

Inventory name

Australian Inventory of Chemical Substances (AICS)

Domestic Substances List (DSL)

European Inventory of Existing Commercial Chemical Substances (EINECS)

Existing Chemicals List (ECL)

Toxic Substances Control Act (TSCA) Inventory

On inventory (yes/no)*

Yes

Yes

Yes

Yes

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: 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.

Issue date

02-10-2012

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

Product and Company Identification: Product Uses
Composition / Information on Ingredients: Ingredients
Physical & Chemical Properties: Multiple Properties
Transport Information: Product Shipping Name/Packing Group