

MATERIAL SAFETY DATA SHEET

SECTION 1: IDENTIFICATION

Product identifier : **CHAIN LUBE W/MOLY**

Product Use : Lubricant

Chemical Family : Mixture.

Manufacturer part no. : L716, L716C

Supplier's name and address:

Radiator Specialty Co., of Canada

1711 Aimco Blvd.
Mississauga, ON, Canada
L4W 1H7

Manufacturer's name and address:

Refer to Supplier

Information Telephone # : (905) 625-9117 (Monday - Friday, 8 AM - 4 PM)

24 Hr. Emergency Tel # : 613-996-6666 (CANUTEC)

SECTION 2 - HAZARDS IDENTIFICATION

Classification : WHMIS information: This product is a WHMIS Controlled Product. It meets one or more of the criteria for a controlled product provided in Part IV of the Canadian Controlled Products Regulations (CPR).

WHMIS classification:

Class A (Pressurized containers);

Class B5 (Flammable Aerosols);

Class D2A (Materials Causing Other Toxic Effects, Very Toxic Material);

Class D2B (Materials Causing Other Toxic Effects, Toxic Material).

Labelling: Phrases recommended to appear on a supplier label, can be found in Section 15.

WHMIS symbols required on a supplier label:



Emergency Overview : Grey liquid. Aerosol spray. Hydrocarbon odour.
 Danger. Flammable aerosol. Contents under pressure. Containers may explode if heated. Harmful if inhaled or swallowed. May cause nausea, vomiting, headache and other central nervous system effects. May be an aspiration hazard. Causes skin irritation. May cause eye irritation. May cause respiratory irritation. Components of the product may affect the nervous system. Prolonged overexposure may cause liver and kidney effects. Possible birth defect hazard - contains material that may cause birth defects, based on animal data.

Contains material that may be harmful in the environment.

POTENTIAL HEALTH EFFECTS:

Signs and symptoms of short-term (acute) exposure

Inhalation : May cause irritation to the nose, throat and upper respiratory tract. Symptoms may include pain, headache, nausea, vomiting, dizziness, drowsiness and other central nervous system effects. In extremely high concentrations, product may act as an asphyxiant and cause increased breathing and pulse rates, fatigue and unconsciousness.

Skin : May cause moderate to severe skin irritation. May be absorbed through the skin. If product is sprayed directly on skin, symptoms of frostbite may be experienced including numbness, pricking and itching.

Eyes : May cause irritation. Symptoms include: Mild redness, watering, stinging. Spraying the product directly into the eyes may cause freezing, and could cause eye damage.

Ingestion : May cause irritation of mouth, throat, and stomach. Symptoms may include pain, headache, nausea, vomiting, dizziness, drowsiness and other central nervous system effects. Product may present an aspiration hazard, if ingested in large amounts, causing life-threatening lung injury.

Effects of long-term (chronic) exposure

: Prolonged skin contact may defat the skin and produce dermatitis. Reports have associated repeated and prolonged occupational overexposure to various organic solvents with internal organ, brain and nervous system damage. Prolonged overexposure may cause liver and kidney effects.

Carcinogenic status

: See TOXICOLOGICAL INFORMATION, Section 11.

Additional health hazards

: Potential teratogen. See TOXICOLOGICAL INFORMATION, Section 11.

Potential environmental effects

: Contains material that may be harmful in the environment. See Section 12 for more environmental information.

SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

<u>Ingredients</u>	<u>CAS #</u>	<u>Wt.%</u>
Toluene	108-88-3	30.00 - 60.00
n-Heptane	142-82-5	10.00 - 30.00
Hydrotreated naphthenic petroleum	64742-53-6	1.00 - 5.00
Propane	74-98-6	7.00 - 13.00
Isobutane	75-28-5	10.00 - 30.00

SECTION 4 - FIRST AID MEASURES

- Inhalation** : Immediately remove person to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen by qualified medical personnel only. Get medical attention.
- Skin contact** : Remove/Take off immediately all contaminated clothing. Wash off immediately with soap and plenty of water. Get medical attention.
- Eye contact** : Immediately flush eyes with running water for at least 15 minutes. If irritation persists, seek prompt medical attention.
- Ingestion** : Seek immediate medical attention/advice. Do not induce vomiting. If vomiting occurs spontaneously, keep victim's head lowered (forward) to reduce the risk of aspiration. Never give anything by mouth to an unconscious person.
- Notes For Physician** : Treat symptomatically. This product is a CNS depressant. May be an aspiration hazard.

SECTION 5 - FIRE FIGHTING MEASURES**Fire hazards/conditions of flammability**

: Flammable aerosol. Vapours are heavier than air and collect in confined and low-lying areas. Vapour can travel to ignition source and flash back. Closed containers are contained under pressure and may explode if exposed to excess heat for a prolonged period of time. Product may float, and be re-ignited at the water's surface.

Oxidizing properties

: None expected.

Explosion data: Sensitivity to mechanical impact / static discharge

: May be sensitive to static discharge. Aerosols are sensitive to mechanical impact. Contents under pressure.

Suitable extinguishing media

: Dry chemical, foam, carbon dioxide and water fog. Do not use water jet, as this may spread burning material.

Special fire-fighting procedures/equipment

: Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode. Move containers from fire area if safe to do so. Shield personnel to protect from venting or rupturing containers. Water spray may be useful in cooling equipment exposed to heat and flame.

Hazardous combustion products

: Carbon oxides; Nitrogen oxides; Sulphur oxides; Phosphorus compounds; Aldehydes; Polycyclic aromatic hydrocarbons; Other unidentified organic compounds.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

- Personal precautions** : All persons dealing with the clean-up should wear the appropriate personal protective equipment. Keep all other personnel upwind and away from the spill/release. Restrict access to area until completion of clean-up. Refer to protective measures listed in sections 7 and 8.
- Environmental precautions** : Ensure spilled product does not enter drains, sewers, waterways, or confined spaces.
- Spill response/cleanup** : Ventilate area of release. Remove all sources of ignition. Contain and absorb spilled liquid with non-combustible, inert absorbent material (e.g. sand), then place absorbent material into a container for later disposal (see Section 13). Notify the appropriate authorities as required. Use only non-sparking tools and equipment in the clean-up process.
- Prohibited materials** : Do not use combustible absorbents, such as sawdust.

SECTION 7 - HANDLING AND STORAGE

- Safe Handling procedures** : Use in a well-ventilated area. Wear suitable protective equipment during handling. Do not breathe vapours or spray mist. Avoid contact with skin, eyes and clothing. Keep away from heat, sparks, and open flames. Ground all equipment during handling. Avoid contact with incompatible materials. Do not puncture or incinerate. Wash thoroughly after handling. Always replace cap after use. Keep away from children.
- Storage requirements** : Store in a cool, dry, well-ventilated area. Keep away from direct sunlight. Inspect periodically for damage or leaks. No smoking in the area.
- Incompatible materials** : Oxidizing agents; Acids; Halogenated compounds; Bases; Reducing agents.
- Special packaging materials** : Always keep in containers made of the same materials as the supply container.

SECTION 8 - EXPOSURE CONTROLS AND PERSONAL PROTECTION**Exposure Limits**

<u>Ingredients</u>	<u>ACGIH TLV</u>		<u>OSHA PEL</u>	
	<u>TWA</u>	<u>STEL</u>	<u>PEL</u>	<u>STEL</u>
Toluene	20 ppm	N/Av	200 ppm	300 ppm (Ceiling)
n-Heptane	400 ppm	500 ppm	500 ppm	N/Av
Hydrotreated naphthenic petroleum	5 mg/m ³ (As 'Oil mist, mineral')	N/Av	5 mg/m ³ (As 'Oil mist, mineral')	N/Av
Propane	N/Av	N/Av	1000 ppm	N/Av
Isobutane	1000 ppm (as 'Butane, all isomers')	N/Av	N/Av	N/Av

Ventilation and engineering measures

- : Use general or local exhaust ventilation to maintain air concentrations below recommended exposure limits.

Respiratory protection

- : If the TLV is exceeded, a NIOSH/MSHA-approved respirator is advised. Advice should be sought from respiratory protection specialists.

Skin protection

- : Impervious gloves must be worn when using this product. Advice should be sought from glove suppliers. Depending on conditions of use, an impervious apron should be worn.

Eye / face protection

- : Chemical splash goggles are recommended.

Other protective equipment

- : An eyewash station and safety shower should be made available in the immediate working area.

General hygiene considerations

- : Do not breathe vapours or spray mist. Handle in accordance with good industrial hygiene and safety practice. Do not eat, drink, smoke or use cosmetics while working with this product. Wash thoroughly after handling. Remove and wash contaminated clothing before re-use.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Physical state	: Liquid aerosol.	Appearance	: Grey liquid
Odour	: Hydrocarbon odour.	Odour threshold	: N/Av
pH	: N/Av		
Boiling point	: 111°C	Specific gravity	: 0.83 - 0.87

Melting/Freezing point	: N/Av	Coefficient of water/oil distribution	: N/Av
Vapour pressure (mmHg @ 20° C / 68° F)	: 241 - 310 kPa	Solubility in water	: Negligible
Vapour density (Air = 1)	: > 1	Evaporation rate (n-Butyl acetate = 1)	: > 1
Volatile organic Compounds (VOC's)	: N/Av	Volatiles (% by weight)	: N/Av
Flash point	: 4°C (concentrate)	Auto-ignition temperature	: 480°C
Flash point Method	: Tag closed cup	Upper flammable limit (% by vol.)	: 7.7
Lower flammable limit (% by vol.)	: 1	Flashback observed	: N/Av
Flame Projection Length	: > 45 cm	Viscosity	: N/Av
Absolute pressure of container	: N/Av		
General information	: No additional information.		

Section 10: STABILITY AND REACTIVITY

Stability and reactivity	: Stable under the recommended storage and handling conditions prescribed.
Hazardous polymerization	: Hazardous polymerization does not occur.
Conditions to avoid	: Avoid heat and open flame. Extremes of temperature and direct sunlight. Avoid contact with incompatible materials. Do not use in areas without adequate ventilation.
Materials To Avoid And Incompatibility	: Oxidizing agents; Acids; Halogenated compounds; Bases; Reducing agents.
Hazardous decomposition products	: None known, refer to hazardous combustion products in Section 5.

SECTION 11 - TOXICOLOGICAL INFORMATION

Target organs	: Eyes, skin, digestive system, respiratory system, blood system. Kidney. Liver.
Routes of exposure	: <i>Inhalation</i> : YES <i>Skin Absorption</i> : YES <i>Skin & Eyes</i> : YES <i>Ingestion</i> : YES
Irritancy	: Moderate to severe skin irritant. May cause eye irritation.
Toxicological data	: There is no available data for the product itself, only for the ingredients. See below for individual ingredient acute toxicity data.

Ingredients	LC₅₀(4hr)	LD₅₀	
	inh, rat	(Oral, rat)	(Rabbit, dermal)
Toluene	7585 ppm	5580 mg/kg	12 125 mg/kg
n-Heptane	25 000ppm	> 15 000 mg/kg	3400 mg/kg
Hydrotreated naphthenic petroleum	≥ 2.18 mg/L (mist)	> 5000 mg/kg	> 2000 mg/kg
Propane	N/Av	N/Av (gas)	N/Av (gas)
Isobutane	368 000 ppm (mouse)	N/Av (gas)	N/Av (gas)

Carcinogenic status	: No components are listed as carcinogens by ACGIH, IARC, OSHA or NTP.
Reproductive effects	: Not expected to have other reproductive effects.
Teratogenicity	: Contains Toluene. Toluene may cause fetotoxic effects at doses which are not maternally toxic, based on animal data.
Mutagenicity	: Not expected to be mutagenic in humans.
Epidemiology	: None known or reported by the manufacturer.
Sensitization to material	: Not expected to be a skin or respiratory sensitizer.
Synergistic materials	: None known or reported by the manufacturer.
other important hazards	: None known or reported by the manufacturer.
Conditions aggravated by overexposure	: Pre-existing skin, eye, respiratory and central nervous system disorders. Kidney disorders.

SECTION 12 - ECOLOGICAL INFORMATION

Ecotoxicity : The ecological characteristics of this product have not been fully investigated. The product should not be allowed to enter drains or water courses, or be deposited where it can affect ground or surface waters. This product contains the following substance which may also be hazardous for the environment: Heptane.

See the following tables for individual ingredient ecotoxicity data.

Ecotoxicity data:

<u>Ingredients</u>	CAS No	Toxicity to Fish		
		LC50 / 96h	NOEC / 21 day	M Factor
Toluene	108-88-3	5.4 mg/L (pink salmon)	1.4 - 4.0 mg/L	None.
n-Heptane	142-82-5	N/Av	N/Av	None.
Hydrotreated naphthenic petroleum	64742-53-6	> 100 mg/L (Fathead minnow)	N/Av	None.
Propane	74-98-6	N/Ap	N/Ap	N/Ap
Isobutane	75-28-5	N/Ap	N/Ap	N/Ap

<u>Ingredients</u>	CAS No	Toxicity to Daphnia		
		EC50 / 48h	NOEC / 21 day	M Factor
Toluene	108-88-3	11.5 mg/L [Daphnia magna (Water flea)]	0.53 - 1 mg/L	None.
n-Heptane	142-82-5	1.5 mg/L [Daphnia magna (Water flea)] 0.2 mg/L/96hr [Chaetogammarus marinus (Water flea)]	0.06 - 0.23 mg/L	1
Hydrotreated naphthenic petroleum	64742-53-6	> 10 000 mg/L [Daphnia magna (Water flea)]	10 mg/L (NOEL)	None.
Propane	74-98-6	N/Ap	N/Ap	N/Ap
Isobutane	75-28-5	N/Ap	N/Ap	N/Ap

<u>Ingredients</u>	CAS No	Toxicity to Algae		
		EC50 / 96h or 72h	NOEC / 96h or 72h	M Factor
Toluene	108-88-3	N/Av	N/Av	None.
n-Heptane	142-82-5	0.56 mg/L/72hr (Green algae)	N/Av	1
Hydrotreated naphthenic petroleum	64742-53-6	> 1000 mg/L/96hr (Green algae)	> 100 mg/L/72hr (NOEL)	None.
Propane	74-98-6	N/Ap	N/Ap	N/Ap
Isobutane	75-28-5	N/Ap	N/Ap	N/Ap

Mobility : No data is available on the product itself.

Persistence : No data is available on the product itself. Contains: Heptane. Heptane is considered to be readily biodegradable.

Bioaccumulation potential : No data is available on the product itself. Contains: Heptane. Heptane has an estimated bioconcentration factor (BCF) of 2000. The potential to bioaccumulate is high.

Other Adverse Environmental effects


: No data is available on the product itself.

SECTION 13 - DISPOSAL CONSIDERATIONS

Handling for Disposal : Handle waste according to recommendations in Section 7. Do not puncture or incinerate containers.

Methods of Disposal : Dispose of in accordance with federal, provincial and local hazardous waste laws.

SECTION 14: TRANSPORT INFORMATION

Regulatory Information	UN Number	Shipping Name	Class	Packing Group	Label
TDG	UN1950	AEROSOLS	2.1	none	
TDG Additional information	May be shipped as LIMITED QUANTITY when transported in containers no larger than 1.0 Litre, in packages not exceeding 30 kg gross mass. Under the TDGR, refer to Section 1.17 for additional exemption information, if shipping under this exemption.				

SECTION 15 - REGULATORY INFORMATION**Labelling:**

Danger. Flammable aerosol. Contents under pressure. Harmful if inhaled or swallowed. May cause nausea, vomiting, headache and other central nervous system effects. May be an aspiration hazard. Causes skin irritation. May cause eye irritation. May cause respiratory irritation. Components of the product may affect the nervous system. Repeated or prolonged exposure may result in kidney effects. Possible birth defect hazard - contains material that may cause birth defects, based on animal data.

Precautions: Use in a well-ventilated area. Wear suitable protective equipment during handling. Do not breathe vapours or spray mist. Avoid contact with skin, eyes and clothing. Keep away from heat, sparks, and open flames. Ground all equipment during handling. Avoid contact with incompatible materials. Do not puncture or incinerate containers. Wash thoroughly after handling. Store in a cool, dry, well-ventilated area away from sources of heat, ignition and sunlight.

FIRST AID: If inhaled, move to fresh air. If breathing stopped, begin artificial respiration. If breathing is difficult, give oxygen by qualified medical personnel only. Get medical attention. For skin contact, wash with soap and water while removing contaminated clothing. Get medical attention. For eye contact, flush with running water for at least 15 minutes. If irritation persists, seek prompt medical attention. If ingested, do not induce vomiting. If vomiting occurs spontaneously, keep victim's head lowered (forward) to reduce the risk of aspiration. Never give anything by mouth to an unconscious person. Seek immediate medical attention/advice.

Refer To Material Safety Data Sheet for further information.

Canadian Information:

Canadian Environmental Protection Act (CEPA) information: All ingredients listed appear on the Domestic Substances List (DSL).

WHMIS information: Refer to Section 2 for a WHMIS Classification for this product.

This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.

US Federal Information:

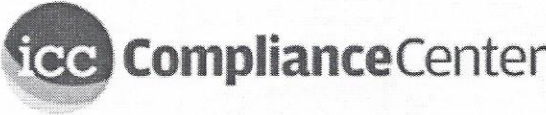
TSCA: All listed ingredients appear on the Toxic Substances Control Act (TSCA) inventory.

SECTION 16 - OTHER INFORMATION

Legend : ACGIH: American Conference of Governmental Industrial Hygienists
 CAS: Chemical Abstract Services
 CNS: Central Nervous System
 HSDB: Hazardous Substances Data Bank
 IARC: International Agency for Research on Cancer
 Inh: Inhalation
 LC: Lethal Concentration
 LD: Lethal Dose
 MSHA: Mine Safety and Health Administration
 N/Ap: Not Applicable
 N/Av: Not Available

NIOSH: National Institute of Occupational Safety and Health
 NOEC: No observable effect concentration
 NTP: National Toxicology Program
 OECD: Organisation for Economic Co-operation and Development
 OSHA: Occupational Safety and Health Administration
 PEL: Permissible exposure limit
 RTECS: Registry of Toxic Effects of Chemical Substances
 STEL: Short Term Exposure Limit
 TDG: Canadian Transportation of Dangerous Goods Act & Regulations
 TLV: Threshold Limit Values
 TWA: Time Weighted Average
 WHMIS: Workplace Hazardous Materials Identification System

- References** :
1. ACGIH, Threshold Limit Values for Chemical Substances and Physical Agents & Biological Exposure Indices for 2013.
 2. International Agency for Research on Cancer Monographs, searched 2013.
 3. Canadian Centre for Occupational Health and Safety, CCIInfoWeb databases, 2013 (Chempendium, HSDB and RTECS).
 4. Material Safety Data Sheets from manufacturer.
 5. OECD - The Global Portal to Information on Chemical Substances - eChemPortal, 2013.

<p>Prepared for: Radiator Specialty Co. of Canada 1711 Aimco Blvd. Mississauga, ON, Canada, L4W 1H7 Telephone: 905-625-9117 (Mon. - Fri., 8 AM - 4 PM) Please direct all enquiries to Radiator Specialty.</p>	
<p>Prepared by: ICC The Compliance Center Inc. http://www.thecompliancecenter.com</p>	

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MSDS Preparation Date (mm/dd/yyyy)

: 07/13/2007

MSDS Revision Date (mm/dd/yyyy)

: 06/24/2013

Revision No.

: 3

Revision Information

- : (M)SDS sections updated:
 2. HAZARDS IDENTIFICATION (Ecological information);
 7. HANDLING AND STORAGE (Incompatible materials);
 8. EXPOSURE CONTROLS / PERSONAL PROTECTION (Exposure Limit Values);
 12. ECOLOGICAL INFORMATION.

END OF DOCUMENT