160-130

MATERIAL SAFETY DATA SHEET

SECTION 1: IDENTIFICATION

Product identifier : **LIQUID WRENCH CHAIN & CABLE LUBE WITH MOLY**

Product Use : Lubricant for all industrial, farming, cycle, and ATV chains and wire cable (aerosol).
Chemical Family : Mixture.
Manufacturer part no. : L712C

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 - 4PM)
24 Hr. Emergency Tel # : In case of transportation emergencies: (613) 996-6666 (CANUTEC)

SECTION 2 - HAZARDS IDENTIFICATION

Classification : WHMIS information: This product is packaged and sold as a consumer product. The Hazardous Products Act (HPA) does not apply to consumer products [Hazardous Products Act Section 12(j)].

For informational purposes, this product would have the following WHMIS classification:
Class A (Pressurized containers);
Class D2A (Materials Causing Other Toxic Effects, Very Toxic Material);
Class D2B (Materials Causing Other Toxic Effects, Toxic Material)

Emergency Overview : Green liquid in pressurized container. Hydrocarbon odour.
WARNING!
Non-flammable aerosol. Contents under pressure. May be harmful if swallowed. May be an aspiration hazard. May be harmful if inhaled. Inhalation of mist causes irritation of respiratory system. If mists are inhaled, may cause pain, headache, nausea, vomiting, dizziness, drowsiness and other central nervous system effects. May cause severe eye irritation. May cause skin irritation. Prolonged contact, may be more irritating. Contains material which may cause cancer, 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 : Inhalation of mist causes irritation of respiratory system. If mists are inhaled, may cause 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 mild skin irritation. Prolonged contact, may be more irritating. Contact may cause redness, swelling and a painful sensation. If product is sprayed directly on skin, symptoms of frostbite may be experienced including numbness, prickling and itching.

Eyes : May cause moderate to severe eye irritation. Symptoms may include stinging, tearing, redness and swelling. If product is sprayed directly into the eyes, could cause freezing of the eye.

Ingestion : However, if the product is sprayed directly into mouth and large amounts of the liquid concentrate are swallowed, it may cause irritation to the mouth, throat and stomach. Symptoms may include pain, headache, nausea, vomiting, dizziness, drowsiness and other central nervous system effects. May be an aspiration hazard. Aspiration into the lungs during swallowing or subsequent vomiting may cause chemical pneumonitis, which can be fatal.

Effects of long-term (chronic) exposure

: Prolonged skin contact may cause dermatitis (rash), characterized by red, dry, itching skin. Repeated or prolonged exposure may result in kidney effects.

Carcinogenic status : Possible cancer hazard. See TOXICOLOGICAL INFORMATION, Section 11.

Additional health hazards : See TOXICOLOGICAL INFORMATION, Section 11.

Potential environmental effects

: Toxic to aquatic life with long lasting effects. See Section 12 for more environmental information.

SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients	CAS #	Wt.%
Aliphatic hydrocarbon solvent		**45.0 - 60.0**
This material is a mixture of the following chemicals:		
Distillates (petroleum), hydrotreated light	64742-47-8	
Solvent naphtha (petroleum) heavy aliphatic	64742-96-7	
Mineral spirits		**15.0 - 30.0**
This material is a mixture of the following chemicals:		
stoddard solvent	8052-41-3	
Solvent naphtha (petroleum), medium aliphatic	64742-88-7	
Distillate (petroleum) hydrotreated heavy	64742-48-9	
Distillates (petroleum), hydrotreated light	64742-47-8	
Naphtha (petroleum), heavy alkylate	64741-65-7	
Diethylene glycol monobutyl ether	**112-34-5**	**3.00 - 7.00**
Carbon dioxide	**124-38-9**	**1.00 - 5.00**

Note: This product is packaged and sold as a consumer product. The Hazardous Products Act (HPA) does not apply to consumer products [Hazardous Products Act Section 12(j)].

SECTION 4 - FIRST AID MEASURES

Inhalation : Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen by qualified medical personnel only. If symptoms develop, seek medical attention.

Skin contact : For skin contact, wash with soap and water while removing contaminated clothing. If irritation persists, seek prompt medical attention. Wash contaminated clothing before reuse.

Eye contact : Immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention.

Ingestion : Seek immediate medical attention/advice. Do not induce vomiting. Never give anything by mouth to an unconscious person.

Notes For Physician : Treat symptomatically. Immediate medical attention is required. Aspiration may cause pulmonary oedema and pneumonitis.

SECTION 5 - FIRE FIGHTING MEASURES

Fire hazards/conditions of flammability

: Non-flammable aerosol. Closed containers are contained under pressure and may explode if exposed to excess heat for a prolonged period of time. Material will float on water and can be re-ignited at the water's surface.

Oxidizing properties : None known.

Explosion data: Sensitivity to mechanical impact / static discharge

: Aerosols are sensitive to mechanical impact.
Not expected to be sensitive to static discharge.

Suitable extinguishing media : Dry chemical, foam, carbon dioxide and water fog.

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; Hydrocarbons; Aldehydes; Sulfur oxides; Phosphorus oxides; 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.

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. Use only non-sparking tools and equipment in the clean-up process. 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.

Prohibited materials : Keep away from flammable and combustible materials.

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 extreme heat and direct flame. Avoid contact with incompatible materials. Do not puncture or incinerate. Wash thoroughly after handling.

Storage requirements : Store in a cool, dry, well-ventilated area. Keep away from direct sunlight. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. Inspect periodically for damage or leaks. No smoking in the area.

Incompatible materials : Strong oxidizing agents; Bases; Acids; 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

Ingredients	ACGIH TLV TWA	ACGIH TLV STEL	OSHA PEL PEL	OSHA PEL STEL
Aliphatic hydrocarbon solvent				
This material is a mixture of the following chemicals:				
Distillates (petroleum), hydrotreated light	200 mg/m³ (as total hydrocarbon vapour) (skin)	N/Av	N/Av	N/Av
Solvent naphtha (petroleum) heavy aliphatic	N/Av	N/Av	500 ppm (2000 mg/m³)	N/Av
Mineral spirits				
This material is a mixture of the following chemicals:				
stoddard solvent	100 ppm	N/Av	500 ppm (2900 mg/m³)	N/Av
Solvent naphtha (petroleum), medium aliphatic	N/Av	N/Av	500 ppm (2000 mg/m³) (as petroleum distillates, naphtha)	N/Av
Distillate (petroleum) hydrotreated heavy	N/Av	N/Av	N/Av	N/Av
Distillates (petroleum), hydrotreated light	200 mg/m³ (as total hydrocarbon vapour) (skin)	N/Av	N/Av	N/Av
Naphtha (petroleum), heavy alkylate	N/Av	N/Av	N/Av	N/Av
Diethylene glycol monobutyl ether	10 ppm (inhalable) (vapor)	N/Av	N/Av	N/Av
Carbon dioxide	5000 ppm	30 000 ppm	5000 ppm (9000 mg/m³)	N/Av

Ventilation and engineering measures
: Use in a well-ventilated area. 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. A respiratory protection program that meets CSA Z94.4-02 requirements must be followed whenever workplace conditions warrant use of a respirator.

Skin protection : Gloves impervious to the material are recommended. Advice should be sought from glove suppliers. Depending on conditions of use, an impervious apron should be worn. Wear sufficient clothing to prevent skin contact.

Eye / face protection : Chemical splash goggles are recommended. Refer to CSA Z94.3 or other appropriate standards.

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

General hygiene considerations
: Handle in accordance with good industrial hygiene and safety practice. Do not breathe vapours or spray mist. Wash hands thoroughly after using this product, and before eating, drinking or smoking. Remove and wash contaminated clothing before re-use.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Physical state : Liquid aerosol.
Odour : Hydrocarbon odour.
pH : N/Av
Boiling point : 157°C (estimation)
Melting/Freezing point : - 70°C (estimation)
Vapour pressure (mmHg @ 20° C / 68° F) : 0.53 hPa (estimation)
Vapour density (Air = 1) : N/Av
Volatile organic Compounds (VOC's) : N/Av
Flash point : 61.1°C (estimated)
Flash point Method : Tag closed cup
Lower flammable limit (% by vol.) : 0.7% (estimation)
Flame Projection Length : 0 cm
Absolute pressure of container : N/Av
Appearance : Green liquid.
Odour threshold : N/Av
Specific gravity : 0.834 (estimated)
Coefficient of water/oil distribution : N/Av
Solubility in water : Insoluble.
Evaporation rate (n-Butyl acetate = 1) : N/Av
Volatiles (% by weight) : 23.32% (estimated)
Auto-ignition temperature : Not available.
Upper flammable limit (% by vol.) : 6% (estimation)
Flashback observed : NO
Viscosity : 6 mm²/sec @ 40°C
General Information : Chemical heat of combustion: 31.99 kJ/g (estimated)

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. Keep away from direct sunlight. Do not use in areas without adequate ventilation.
Materials To Avoid And Incompatibility : Strong oxidizing agents; Bases; Acids; Reducing agents
Hazardous decomposition products : None known, refer to hazardous combustion products in Section 5.

SECTION 11 - TOXICOLOGICAL INFORMATION

Target organs : Eyes, skin, respiratory system, digestive system, central nervous system.
Routes of exposure : *Inhalation:* YES *Skin Absorption:* NO *Skin & Eyes:* YES *Ingestion:* YES
Irritancy : Moderate to severe eye irritant. Moderate skin irritant.

Toxicological data : There is no available data for the product itself, only for the ingredients. See below for individual ingredient acute toxicity data.

Ingredients	LC_{50}(4hr) inh, rat	LD_{50} (Oral, rat)	LD_{50} (Rabbit, dermal)
Aliphatic hydrocarbon solvent ***This material is a mixture of the following chemicals:***			
Distillates (petroleum), hydrotreated light	> 5.2 mg/L (aerosol) (No mortality)	> 5000 mg/kg	> 2000 mg/kg (No mortality)
Solvent naphtha (petroleum) heavy aliphatic	> 6 mg/L	> 5000 mg/kg	> 2000 mg/kg
Mineral spirits ***This material is a mixture of the following chemicals:***			
stoddard solvent	> 5.5 mg/L (vapour)	> 5000 mg/kg	> 3000 mg/kg
Solvent naphtha (petroleum), medium aliphatic	> 5.5 mg/L (vapour)	> 5000 mg/kg (No mortality)	> 2000 mg/kg (No mortality)
Distillate (petroleum) hydrotreated heavy	> 5.04 mg/L (vapour)	> 7000 mg/kg	> 2000 mg/kg (No mortality)
Distillates (petroleum), hydrotreated light	> 5.2 mg/L (aerosol) (No mortality)	> 5000 mg/kg	> 2000 mg/kg (No mortality)
Naphtha (petroleum), heavy alkylate	23.78 mg/L (vapour) (Read-across)	> 5000 mg/kg	> 2000 mg/kg (No mortality)
Diethylene glycol monobutyl ether	N/Av	6560 mg/kg	2764 mg/kg
Carbon dioxide	200 000 ppm/2H (141 421 ppm/4H)	N/Ap(gas)	N/Ap(gas)

Carcinogenic status : Contains the following chemicals listed as confirmed animal carcinogens (A3) by ACGIH: Hydrotreated light petroleum distillates.
No other components are classified as carcinogenic by IARC, ACGIH, OSHA or NTP.

Reproductive effects : Not expected to have other reproductive effects.

Teratogenicity : Not expected to be a teratogen.

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 : May cause central nervous system effects.

Conditions aggravated by overexposure
: None known or reported by the manufacturer.

SECTION 12 - ECOLOGICAL INFORMATION

Ecotoxicity : Toxic to aquatic life with long lasting effects. No data is available on the product itself. The product should not be allowed to enter drains or water courses, or be deposited where it can affect ground or surface waters. The product contains the following substances which are hazardous for the environment: Aliphatic hydrocarbon; Mineral spirits.

See the following tables for individual ingredient ecotoxicity data.

Ecotoxicity data:

Ingredients	CAS No	Toxicity to Fish		
		LC50 / 96h	NOEC / 21 day	M Factor
Distillates (petroleum), hydrotreated light	64742-47-8	20 mg/L (Rainbow trout) (Read-across)	N/Av	None.
Solvent naphtha (petroleum) heavy aliphatic	64742-96-7	N/Av	N/Av	None.
stoddard solvent	8052-41-3	2.1 - 4.2 mg/L (Bluegill sunfish)	N/Av	None.
Solvent naphtha (petroleum), medium aliphatic	64742-88-7	2 - 5 mg/L (Rainbow trout)	0.098 mg/L/28-day (QSAR) (NOEL)	None.
Distillate (petroleum) hydrotreated heavy	64742-48-9	8.2 mg/L (Fathead minnow)	N/Av	None.
Distillates (petroleum), hydrotreated light	64742-47-8	20 mg/L (Rainbow trout) (Read-across)	N/Av	None.
Naphtha (petroleum), heavy alkylate	64741-65-7	N/Av	N/Av	None.
Diethylene glycol monobutyl ether	112-34-5	1300 mg/L (Bluegill sunfish)	N/Av	None.
Carbon dioxide	124-38-9	N/Ap	N/Ap	N/Ap

Ingredients	CAS No	Toxicity to Daphnia		
		EC50 / 48h	NOEC / 21 day	M Factor
Distillates (petroleum), hydrotreated light	64742-47-8	40 - 89 mg/L (Daphnia magna) (Read-across)	0.48 mg/L (Read-across)	None.
Solvent naphtha (petroleum) heavy aliphatic	64742-96-7	1.4 mg/L (Daphnia magna)	0.48 mg/L	None.
stoddard solvent	8052-41-3	0.42 - 2.3 mg/L (Daphnia magna)	0.1 - 0.37 mg/L	None.
Solvent naphtha (petroleum), medium aliphatic	64742-88-7	1.4 mg/L (Daphnia magna)	0.48 mg/L (QSAR) (NOEL)	None.
Distillate (petroleum) hydrotreated heavy	64742-48-9	32 mg/L (Daphnia magna)	6.3 mg/L	None.
Distillates (petroleum), hydrotreated light	64742-47-8	40 - 89 mg/L (Daphnia magna) (Read-across)	0.48 mg/L (Read-across)	None.
Naphtha (petroleum), heavy alkylate	64741-65-7	N/Av	N/Av	None.
Diethylene glycol monobutyl ether	112-34-5	> 100 mg/L (Daphnia magna)	N/Av	None.
Carbon dioxide	124-38-9	N/Ap	N/Ap	N/Ap

Ingredients	CAS No	Toxicity to Algae		
		EC50 / 96h or 72h	NOEC / 96h or 72h	M Factor
Distillates (petroleum), hydrotreated light	64742-47-8	6.2 mg/L/96hr (Green algae) (Read-across)	0.4 mg/L/96hr (Read-across)	None.
Solvent naphtha (petroleum) heavy aliphatic	64742-96-7	N/Av	N/Av	None.
stoddard solvent	8052-41-3	0.58 - 1.2 mg/L/72hr (Green algae)	0.16 mg/L/72hr	None.
Solvent naphtha (petroleum), medium aliphatic	64742-88-7	1 - 3 mg/L/72hr (Green algae)	1 mg/L/72hr (Green algae) (NOEL)	None.
Distillate (petroleum) hydrotreated heavy	64742-48-9	45 mg/L/96hr (Green algae)	18 mg/L/96hr	None.
Distillates (petroleum), hydrotreated light	64742-47-8	6.2 mg/L/96hr (Green algae) (Read-across)	0.4 mg/L/96hr (Read-across)	None.
Naphtha (petroleum), heavy alkylate	64741-65-7	13 mg/L/72hr (Green algae)	N/Av	None.
Diethylene glycol monobutyl ether	112-34-5	> 100 mg/L/96hr (Green algae)	≥ 100 mg/L/96hr	None.
Carbon dioxide	124-38-9	N/Ap	N/Ap	N/Ap

Mobility : No data is available on the product itself.

Persistence : No data is available on the product itself.
The following ingredients are considered to be readily biodegradable: Distillates (petroleum), hydrotreated light; Solvent naphtha, petroleum, heavy aliphatic; Diethylene glycol monobutyl ether.
Distillates (petroleum), hydrotreated light is considered readily biodegradable, but failing the 10 day window (OECD).
Contains the following chemicals which are considered to be inherently biodegradable: Mineral spirits

Bioaccumulation potential : No data is available on the product itself. See the following data for ingredient information.

Components	Partition coefficient n-octanol/water (log Kow)	Bioconcentration factor (BCF)
Distillates (petroleum), hydrotreated light (CAS 64742-47-8)	5.1 - 8.8	N/Av
stoddard solvent (CAS 8052-41-3)	3.16 - 7.06	N/Av
Solvent naphtha (petroleum), medium aliphatic (CAS 64742-88-7)	3.7 - 6.7	142 - 11,430 (Fish) (calculated)
Distillate (petroleum) hydrotreated heavy (CAS 64742-48-9)	2.1 - 6 (calculated)	10 - 2500 (calculated)
Distillates (petroleum), hydrotreated light (CAS 64742-47-8)	5.1 - 8.8	N/Av
Naphtha (petroleum), heavy alkylate (CAS 64741-65-7)	7	598 - 11,430
Diethylene glycol monobutyl ether (CAS 112-34-5)	1.0	3.0
Carbon dioxide (CAS 124-38-9)		no bioaccumulation

Other Adverse Environmental effects

: No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

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: TRANPORT 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:

This product is packaged and sold as a consumer product. The Hazardous Products Act (HPA) does not apply to consumer products [Hazardous Products Act Section 12(j)]. As such, this product does not require a WHMIS Supplier label.

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
CSA: Canadian Standards Association
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
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 2017.
2. International Agency for Research on Cancer Monographs, searched 2017.
3. Canadian Centre for Occupational Health and Safety, CCInfoWeb databases, 2017 (Chempendium, HSDB and RTECs).
4. Material Safety Data Sheets from manufacturer.
5. OECD - The Global Portal to Information on Chemical Substances - eChemPortal, 2017.

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.	
Prepared by: ICC The Compliance Center Inc. http://www.thecompliancecenter.com	

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MSDS Preparation Date (mm/dd/yyyy)

: 07/11/2017

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