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MATERIAL SAFETY DATA SHEET

SECTION 1: IDENTIFICATION

Product identifier : GARAGE DOOR LUBE

Product Use Lubricant **Chemical Family** Mixture. Manufacturer part no. : LGL10C

Manufacturer's name and address: Supplier's name and address:

Refer to Supplier Radiator Specialty Co., of Canada

1711 Aimco Blvd.

Mississauga, ON, Canada

L4W 1H7

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

24 Hr. Emergency Tel # : In case of transportation emergencies: 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

Eyes

Opaque liquid with white, suspended particles contained in a pressurized aerosol can. Mild solvent odor.

Flammable aerosol. Contents under pressure. Container may explode if heated. Harmful if inhaled. May cause nausea, vomiting, headache and other central nervous system effects. May be harmful or fatal if swallowed in large amounts. May be an aspiration hazard. Can enter the lungs and cause damage. May cause respiratory irritation. Causes eye and skin irritation. Possible cancer hazard - contains material which may cause cancer.

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.

: May cause mild to moderate irritation. May be absorbed through the skin. If product is sprayed directly on Skin

skin, symptoms of frostbite may be experienced including numbness, prickling and itching.

: May cause moderate to severe eye irritation. If product is sprayed directly into the eyes, could cause

freezing of the eye.

Ingestion: Not an expected route of entry under normal conditions of use. 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.

Excessive overexposure could cause blood system effects (anemia).

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

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Additional health hazards : See TOXICOLOGICAL INFORMATION, Section 11.

Potential environmental effects

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

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SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

<u>Ingredients</u>	CAS#	Wt.%	
toddard solvent	8052-41-3	60.00 - 100.00	
,2,4-Trimethylbenzene	95-63-6	1.00 - 5.00	
Diethylene glycol monobutyl ether	112-34-5	1.00 - 5.00	
Carbon dioxide	124-38-9	1.00 - 5.00	
Polytetrafluoroethylene (PTFE)	9002-84-0	1.00 - 5.00	
rimethylbenzene	25551-13-7	1.00 - 5.00	
Ethylbenzene	100-41-4	0.10 - 1.00	
Cumene	98-82-8	0.10 - 1.00	

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

if symptoms persist.

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

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.

SECTION 5 - FIRE FIGHTING MEASURES

Fire hazards/conditions of flammability

Flammable aerosol. Will ignite when exposed to heat, flame and other sources of ignition. 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 known.

Explosion data: Sensitivity to mechanical impact / static discharge

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

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; formaldehyde; Hydrogen fluoride; Fluorinated products; Other unidentified organic compounds.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Personal precautions : All persons dealing with clean-up should wear the appropriate protective equipment

including self-contained breathing apparatus. 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.

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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: 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. No sparking tools should be used. Avoid contact with incompatible materials. Do not puncture or incinerate. Wash thoroughly after handling. Always replace cap after use.

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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; Strong acids; Strong bases; Alkali metals

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						
	ACGIH TLV		OSHA	OSHA PEL		
<u>Ingredients</u>	<u>TWA</u>	STEL	<u>PEL</u>	STEL		
stoddard solvent	100 ppm	N/Av	500 ppm (2900 mg/m³)	N/Av		
1,2,4-Trimethylbenzene	*25 ppm	N/Av	*25 ppm (final rule limit)	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		
Polytetrafluoroethylene (PTFE)	N/Av	N/Av	N/Av	N/Av		
trimethylbenzene	25 ppm	N/Av	25 ppm (final rule limit)	N/Av		
Ethylbenzene	20 ppm	N/Av	100 ppm (435 mg/m³)	N/Av		
Cumene	50 ppm	N/Av	50 ppm (245 mg/m³) (Skin)	N/Av		

^{*}Note: The OSHA PEL's and ACGIH TLV's listed above for 1,2,4-Trimethylbenzene are for 'Trimethylbenzene (mixed isomers)'.

glove suppliers. Wear sufficient clothing to prevent skin contact.

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

Skin protection

sought from respiratory protection specialists.

Impervious gloves must be worn when using this product. Advice should be sought from

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. Other equipment may be required depending on workplace standards.

General hygiene considerations

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

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SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

: Opaque liquid with white, suspended particles contained in a pressurized aerosol can. Physical state

Clear yellow liquid. **Appearance**

Mild solvent odor. Odour

Odour threshold N/Av N/Av pН

> 149°C (concentrate) : 0.80 **Boiling point** Specific gravity

(based on ingredients)

Melting/Freezing point Coefficient of water/oil distribution

: N/Av

Vapour pressure (mmHg @ 20° C / 68° F) Solubility in water : Insoluble.

: N/Av

Vapour density (Air = 1) : N/Av Evaporation rate (n-Butyl acetate = 1)

: N/Av

Volatile organic Compounds (VOC's) Volatiles (% by weight) : 94.5%

N/Av

Flash point : 39.4°C (concentrate)

Flash point Method calculated Auto-ignition temperature : N/Av Upper flammable limit (% by vol.) Lower flammable limit (% by vol.)

N/Av : N/Av

Flame Projection Length > 45.7 cm, < 100 cm Flashback observed : NO

Absolute pressure of container **Viscosity** : < 7 mm²/sec (concentrate)

: N/Av

: Chemical heat of combustion: 38.8 kJ/g **General Information**

Section 10: STABILITY AND REACTIVITY

Stable under the recommended storage and handling conditions prescribed. Stability and reactivity

Hazardous polymerization Hazardous polymerization does not occur.

Avoid heat and open flame. Keep away from direct sunlight. Ensure adequate ventilation, Conditions to avoid

especially in confined areas.

Materials To Avoid And Incompatibility

: Oxidizing agents; Strong acids; Strong bases; Alkali metals

Hazardous decomposition products
: None known, refer to hazardous combustion products in Section 5.

SECTION 11 - TOXICOLOGICAL INFORMATION

Eyes, skin, respiratory system, central nervous system, blood system, liver, brain and **Target organs**

kidneys.

Routes of exposure Skin Absorption: YES Skin & Eyes: YES Ingestion: YES : *Inhalation*: YES

Mild to moderate skin irritant. Moderate to severe eye irritant. Irritancy

Toxicological data There is no available data for the product itself, only for the ingredients. See below for

individual ingredient acute toxicity data.

	LC ₅₀ (4hr)	LD ₅₀		
<u>Ingredients</u>	inh, rat	(Oral, rat)	(Rabbit, dermal)	
stoddard solvent	> 5.5 mg/L (vapour)	> 5000 mg/kg	> 3000 mg/kg	
1,2,4-Trimethylbenzene	18 mg/L (vapour)	5000 mg/kg	> 3160 mg/kg	
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)	
Polytetrafluoroethylene (PTFE)	N/Av	N/Av	N/Av	
rimethylbenzene	18 - 24 mg/L (vapour)	8970 mg/kg	> 3160 mg/kg	
Ethylbenzene	4000 ppm (17.4 mg/L) (vapour)	3500 mg/kg	15 380 mg/kg	

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 Cumene
 8000 ppm (39 mg/L) (vapour)
 2260 mg/kg
 10 627 mg/kg

Carcinogenic status : Contains Ethylbenzene. Ethylbenzene is classifed as carcinogenic by IARC (Group 2B) and

ACGIH (Category A3).

Contains Cumene. Cumene is classified as possibly carcinogenic by IARC (Group 2B). No other components are classified as carcinogenic by IARC, ACGIH, OSHA or NTP.

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Reproductive effects: Not expected to cause 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 : CNS depression may result from extreme exposures.

Conditions aggravated by overexposure

: Pre-existing skin, eye and respiratory 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. The product contains the following substances which are hazardous for the environment: stoddard solvent; Trimethylbenzene; 1,2,4-Trimethylbenzene; Cumene; Ethylbenzene. Other ingredients present in this product

are not classified as environmentally toxic.

See the following tables for individual ingredient ecotoxicity data.

Ecotoxicity data:

		Toxicity to Fish		
<u>Ingredients</u>	CAS No	LC50 / 96h	NOEC / 21 day	M Factor
stoddard solvent	8052-41-3	2.1 - 4.2 mg/L (Bluegill sunfish)	N/Av	None.
1,2,4-Trimethylbenzene	95-63-6	7.72 mg/L (Fathead minnow)	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
Polytetrafluoroethylene (PTFE)	9002-84-0	N/Av	N/Av	None.
trimethylbenzene	25551-13-7	7.72 mg/L (Fathead minnow) (Read-across)	N/Av	None.
Ethylbenzene	100-41-4	4.2 mg/L (Rainbow trout)	1.13 mg/L (30 days) (QSAR)	None.
Cumene	98-82-8	4.8 mg/L (Rainbow trout)	N/Av	None.

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<u>Ingredients</u>	Ingredients CAS No		Toxicity to Daphnia			
		EC50 / 48h	NOEC / 21 day	M Factor		
stoddard solvent	8052-41-3	N/Av	N/Av	None.		
1,2,4-Trimethylbenzene	95-63-6	3.6 mg/L (Daphnia magna)	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		
Polytetrafluoroethylene (PTFE)	9002-84-0	N/Av	N/Av	None.		
trimethylbenzene	25551-13-7	2.7 mg/L (Daphnia magna) (Read-across)	0.4 mg/L (Read-across)	None.		
Ethylbenzene	100-41-4	1.81 mg/L (Daphnia magna)	N/Av	None.		
Cumene	98-82-8	4 mg/L/24hr (Daphnia magna)	N/Av	None.		

<u>Ingredients</u>	CAS No	То		
		EC50 / 96h or 72h	NOEC / 96h or 72h	M Factor
stoddard solvent	8052-41-3	N/Av	N/Av	None.
1,2,4-Trimethylbenzene	95-63-6	2.356 mg/L/96hr (Green algae) (QSAR)	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
Polytetrafluoroethylene (PTFE)	9002-84-0	N/Av	N/Av	None.
trimethylbenzene	25551-13-7	5.7 mg/L/72hr (Green algae) (Read-across)	0.38 mg/L/72hr (Read-across)	None.
Ethylbenzene	100-41-4	3.6 mg/L/96hr (Green algae)	3.4 mg/L/96hr	None.
Cumene	98-82-8	2.6 mg/L/72hr (Green algae)	N/Av	None.

Mobility

: No data is available on the product itself.

Persistence

: No data is available on the product itself. Contains::stoddard solvent; Trimethylbenzene;

1,2,4-Trimethylbenzene; Cumene; Ethylbenzene.

Stoddard solvent is not considered to be readily biodegradable. Trimethylbenzene is not considered to be readily biodegradable. 1,2,4-Trimethylbenzene is not considered readily biodegradable.

Cumene is not considered readily biodegradable. Ethylbenzene is considered to be inherently biodegradable.

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)
stoddard solvent (CAS 8052-41-3)	3.16 - 7.06	N/Av
1,2,4-Trimethylbenzene (CAS 95-63-6)	3.78	31 - 275
Diethylene glycol monobutyl ether (CAS 112-34-5)	1.0	3.0
trimethylbenzene (CAS 25551-13-7)	3.63	42 - 328 (common carp)
Ethylbenzene (CAS 100-41-4)	3.15	1.1 - 1.5
Cumene (CAS 98-82-8)	3.55	224 (calculated)

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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.

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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	2
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:

WARNING! Flammable aerosol. Contents under pressure. Container may explode if heated. Harmful if inhaled. May be harmful or fatal if swallowed in large amounts. May cause respiratory irritation. May cause nausea, vomiting, headache and other central nervous system effects. Material is an aspiration hazard. Can enter the lungs and cause damage. Causes eye and skin irritation. Possible cancer hazard - contains material which may cause cancer.

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. No sparking tools should be used. 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 stops, provide artificial respiration. If breathing is difficult, give oxygen by qualified medical personnel only. Get medical attention if symptoms persist. For skin contact, wash with soap and water while removing contaminated clothing. If irritation persists, seek prompt medical attention. Immediately flush eyes 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

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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 2017.

2. International Agency for Research on Cancer Monographs, searched 2017.

- 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.

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Telephone: 905-625-9117 (Mon. - Fri., 8 AM - 4 PM) Please direct all enquiries to Radiator Specialty.

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: 11/28/2014

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12. ECOLOGICAL INFORMATION

END OF DOCUMENT