

# **Krown KL-FSM Extreme Duty Chain Lube**

## **MATERIAL SAFETY DATA SHEET**

### **1. PRODUCT AND PREPARATION INFORMATION**

Manufacturer: EMPACK a division of EMU Polishes Inc.  
1062 Westport Crescent, Mississauga,  
Ontario, Canada, L5T 1G1  
(905) 670 – 8697

Emergency telephone numbers: EMPACK (8 AM TO 4 PM EST)  
(905) 670 – 8697 CANUTEC (24 HR) (613) 996 – 6666

Supplier's Name and Address: Refer to Manufacturer

Product Name: Krown KL-FSM Extreme Duty Chain Lube

Synonyms: Not Applicable

Chemical Family: Aerosol

Molecular Formula: Not Applicable

Product Use: **Lubricant, Rust Inhibitor**

WHIMIS Classification: Class B5

TDG Classification: AEROSOLS, Class 2.1, **Under the  
Transportation of Dangerous Goods (TDG)**

**Clear Language Regulations:** This product may  
be shipped as a LIMITED QUANTITY. Refer to  
TDG, Section 1.17, for the LIMITED  
QUANTITY exemption. Note that all criteria  
appearing under Section 1.17 must be met in  
order for this exemption to apply.

Prepared by: EMPACK Regulatory Department

Preparation Date: February, 2009

## 2. HAZARDOUS INGREDIENTS

<i>Hazardous Ingredients</i>	<i>CAS #</i>	<i>Wt. %</i>	<i>OSHA</i>	<i>ACGIH</i>	<i>LC50</i>
			<i>TWA</i>	<i>TWA</i>	
<i>Inhalation</i>					
Petroleum hydrocarbons	N/A	60 - 80	N/A	N/A	
Propane	74-98-6	5-10	1000ppm	2500ppm	N/A
Isobutane	75-28-5	20 -40	800ppm	N/A	570000 rat/1hr

## 3. PHYSICAL AND CHEMICAL PROPERTIES

Physical State = Liquid and gas under pressure

Appearance = Thin brown liquid

Odour = No odour

Odour Threshold = odourless

Boiling Point (°C) for concentrate = N.D

Boiling Point (°C) for propellants = (- 12 °C ) – ( -42 °C )

Vapour Density (Air = 1) = 1.56-2

Specific Gravity (Water = 1) = 0.531-.5772

Vapour Pressure for concentrate = N.D

Evaporation Rate for concentrate = N.D

Vapour Pressure for propellants = 33-109.73 psig@21.1 °C

Evaporation Rate for = Much greater than 1. (water)

Solubility for propane = Slight ( 62.4ppm)@ 25 °C

Solubility for Isobutane = Easily soluble in methanol, diethylether, n-octanol, acetone, very slightly soluble in cold water, hot water

Solubility in Water for concentrate = NIL

#### **4. FIRE AND EXPLOSION HAZARD**

Flammable limits for solution:N.D

Flammability for propellants: flammability limits in air (% by volume):

LFL = 108-2.1; UFL = 8.5-9.5

Extinguishing Media: Carbon dioxide, dry chemicals, water spray or fog.

Fire Fighting Procedures: Emergency responders in the immediate hazard area should wear proper protective bunker gear and NIOSH approved self-contained breathing apparatus. Move containers from fire area if it can be done without risk. Use water spray to cool fire-exposed containers in order to prevent pressure build up, autoignition or explosion. Shield personnel to protect from venting, rupturing or bursting cans.

Flash Point for propellants: (-104 ) – ( -178 )

Auto-ignition Temperature (°C): 450-460 °C

Hazardous Combustion Products: Carbon dioxides (CO, CO<sub>2</sub>).

#### **5. REACTIVITY DATA**

Chemical Stability: Stable

Incompatible Materials: keep away from strong oxidizers, ignition source and heat. Explosion hazard when exposed to chlorine dioxide. Heating barium peroxide with propane causes violent exothermic reaction. Heated chlorinepropane mixtures are explosive under some condition.

Hazardous

Decomposition: Extremely reactive or incompatible with oxidizing agents.

#### **6. TOXICOLOGICAL PROPERTIES**

Route of Entry:

Skin Contact: Direct contact to the skin or mucous membranes with liquid or cold vapour may cause freeze burns and frost bite.

Eye Contact: Contact with liquid or cold vapour may cause frostbite, freeze burns, and permanent eye damage.

Inhalation: Vapour maybe irritating to the mucous membranes and respiratory tract.

Ingestion: Ingestion is unlikely. Contact with mucous membranes with liquefied product may cause frostbite and freeze burns.

Page 3 of 5

### **Krown KL-FSM Extreme Duty Chain Lube**

Effects of Acute Exposure: May increase sensitivity of the heart to adrenaline,

Effects of Chronic Exposure:	which could result in irregular heart beats and reduced heart function. At very high oral doses, this product caused reversible damage to the stomach, liver, and kidney (male only) of rats. These effects are not relevant to humans at occupational levels of exposure.
Carcinogenicity:	No information is available.
Reproductive Effects:	No information is available.
Teratogenicity:	No information is available.
Mutagenicity:	No information is available.

## 7. PREVENTIVE MEASURES

Personal protective equipment:	wear safety glasses and use impervious gloves.
Specific engineering controls:	local exhaust is recommended.
Leak and spill procedures:	remove or extinguish ignition or combustion sources, Evacuate enclosed spaces until gas is dispersed, Keep upwind. Stop leak if possible without risk.
Containers Disposal:	Don't puncture or incinerate containers, even when empty. Dispose in accordance with local, provincial and federal regulations.
Handling Procedures and Equipment:	wash before eating, drinking, using tobacco products or rest rooms. Do not breathe vapours. keep away from heat and flames.
Storage Instructions:	Keep away from heat, sparks, and open flames. Store in a cool, dry and well ventilated place away from incompatibles.
Storage requirements:	keep in a closed, labelled container in a ventilated area.

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### 8. FIRST AID MEASURES

Eyes:	In case of eye contact, immediately flush eyes with running water for a minimum of 15 minutes. Hold eyelids open during flushing. If
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irritation persists, repeat flushing. Seek medical attention IMMEDIATELY.

Skin: For skin, wash thoroughly with soap and large amounts of water. If irritation or redness develops, seek medical attention.

Inhalation: If affected by inhalation of vapour or spray mist, move victims away from source of exposure and into fresh air. Seek medical attention if necessary.

Ingestion: NA

## 9. OTHER INFORMATION

Prepared by: EMPACK  
Telephone: (905) 670-8697  
Preparation Date: February, 2009  
References: 1. Manufacturers/Suppliers Material Safety Data Sheet  
2. Canadian Centre for Occupational Health and Safety, CHEMINFO, database, 2003.  
3. Threshold Limit Values, ACGIH, indices, 2002.

### Abbreviations:

ACGIH - American Conference of Governmental Industrial Hygienists  
CAS - Chemical Abstract Service  
LC - Lethal Concentration  
LD - Lethal Dosage  
NIOSH - National Institute for Occupational Safety and Health  
OSHA - Occupational Safety and Health Administration (U.S.A)  
TLV - Threshold Limit Value  
TWA - Time Weighted Average  
WHIMIS - Workplace Hazardous Materials Information System

## **Krown KL-FSM Extreme Duty Chain Lube**

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. **This MSDS is valid for three years.**

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