



SAFETY DATA SHEET

Issue Date 4/30/15

Revision Date 4/30/15

Version 1

1. IDENTIFICATION

Product identifier

Product Name: Chain and Cable

Other means of identification

Product code: F-850

Synonyms: None

Recommended use of the chemical and restrictions on use

Recommended Use: Lubricant.

Uses advised against: No information available

Details of the supplier of the safety data sheet

Supplier Address

FRONTIER PERFORMANCE LUBRICANTS INC

PO BOX 1777

LODI, CA 95241

Phone: (800)-807-4496

Fax: (209)-334-6408

Emergency telephone number

Emergency Telephone: PERS (800)-633-8253

2. HAZARDS IDENTIFICATION

Physical Hazard Classification: Flammable Aerosols, Category 1

DANGER



Physical Hazard Precautionary Statements:

Extremely flammable aerosol.

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources.

No smoking. Do not spray on an open flame or other ignition source.

Do not pierce or burn, even after use. Protect from sunlight.

Do not expose to temperatures exceeding 50 °C/122°F.

Health Hazard Classification(s):

Acute Toxicity - Oral - Level 4 Warning

Acute Toxicity - Dermal - Level 4 Warning

Acute Toxicity - Inhalation - Level 4 Warning

Skin Corrosion/Irritation -Level 3 Warning

Eye Damage/Irritation -Level 2B Warning

Carcinogenicity - Level 2 Warning

Aspiration Hazard - Level 2 Warning



Health Hazard Statements:

Harmful if swallowed.
 May be harmful if swallowed and enters airways.
 Harmful in contact with skin.
 Causes mild skin irritation.
 Causes eye irritation.
 Harmful if inhaled.



Suspected of causing cancer <state route of exposure if it is conclusively proven that no other routs of exposure

3. COMPOSITION/INFORMATION ON INGREDIENTS

	CAS#	% Range		PEL	TLV
HYDROCARBON PROPELLANT	68476-86-8	10%	20%	NO DATA	NO DATA
ALIPHATIC HYDROCARBON *	110-54-3	2%	6%	500 PPM	50 PPM
p-Chlorobenzotrifluoride	98-56-6	10%	15%	NOT ESTABLISHED	NOT ESTABLISHED
POLYISOBUTYLENE	9003-27-4	1%	5%	NOT ESTABLISHED	NOT ESTABLISHED
LUBE OIL ADDITIVE CONTAINING	9003-29-6	5%	50%	NOT ESTABLISHED	NOT ESTABLISHED
PETROLEUM HYDROCARBON BASE	64741-88-4	1%	5%	NOT ESTABLISHED	NOT ESTABLISHED
MOLYBDENUM DISULFIDE	1317-33-5	1%	5%	15 MG/M3	NOT ESTABLISHED
ACETONE *	67-64-1	10%	15%	TWA 1000 PPM	TWA 750 PPM STEL 1000 PPM
HYDROTREATED LIGHT DISTILLATE	64742-47-8	5%	10%	NONE ESTABLISHED BY OSHA	NONE ESTABLISHED BY OSHA

Specific chemical identity and exact percentages are withheld as Trade Secret.

4. FIRST AID MEASURES

IF SWALLOWED: Immediately call a POISON CENTER/doctor/physician.
 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
 IF ON SKIN: Wash with plenty of water.

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

If exposed or concerned: Get medical advice/attention.

Call a POISON CENTER/doctor/physician if you feel unwell.
 See Section 12 if specific treatment is applicable.
 Do NOT induce vomiting.

If skin irritation occurs: Get medical advice/attention.
 If eye irritation persists: Get medical advice/attention.

Wash contaminated clothing before reuse.

GENERAL: This material is an aspiration hazard and defats the skin. Breathing vapors of high concentrations may cause CNS depression.

EYE CONTACT: Slightly irritating but does not injure eye tissue.

SKIN CONTACT: Low order of toxicity. Frequent or prolonged contact may irritate and cause dermatitis. Skin contact may aggravate an existing dermatitis condition.

INHALATION: High vapor/aerosol concentrations (greater than approximately 100 ppm) are irritating to the eyes and the respiratory tract, may cause headaches, dizziness, anesthesia, drowsiness,

unconsciousness, and other central nervous system effects, including death.

INGESTION:	Small amounts of this product aspirated into the respiratory system during ingestion or vomiting may cause mild to severe pulmonary injury, possibly minimal toxicity.
FIRST AID	
EYE CONTACT:	Flush eyes with large amounts of water until irritation subsides. If irritation persists, get medical attention.
SKIN CONTACT:	Flush with large amounts of water; use soap if available. Remove grossly contaminated clothing, including shoes, and launder before reuse.
INHALATION:	Using proper respiratory protection, immediately remove the affected victim from exposure. Administer artificial respiration if breathing is stopped. Keep at rest. Call for prompt medical attention
INGESTION:	If swallowed, DO NOT induce vomiting. Keep at rest. Get prompt medical attention.
PRECAUTIONS	
SPECIAL PRECAUTIONS:	Health studies have shown that many hydrocarbons pose potential human health risks which may vary from person to person. As a precaution, exposure to liquids, vapors, mists or fumes should be minimized.
PERSONAL PROTECTION:	For open systems where contact is likely, wear safety glasses with side shields, long sleeves, and chemical resistant gloves. Where concentrations in air may exceed the limits, work practice or other means of exposure reduction are not adequate, NIOSH/MSHA approved respirators may be necessary to prevent overexposure by inhalation.
VENTILATION:	The use of mechanical dilution ventilation is recommended whenever this product is used in a confined space, is heated above ambient temperatures, or is agitated.

5. FIRE-FIGHTING MEASURES

FIRE AND EXPLOSION HAZARDS:	This product releases Flammable Vapors at well below ambient temperatures and readily forms flammable mixtures with air exposed to an ignition source. It will burn in the open or be explosive in confined spaces. Its vapors are heavier than air and may travel long distances to a point of ignition, and then flash back. Alkaline/chlorine gas mixtures have produced explosions.
EXTINGUISHING MEDIA:	Dry Chemical. CO2. Halogenated Extinguishing Agent. Stop Gas Flow.
SPECIAL FIREFIGHTING PROCEDURES:	Gas fires should not be extinguished unless the gas flow can be stopped immediately. Allow the fire to burn itself out. If the source cannot be shut off immediately, all equipment and surfaces exposed to the fire should be cooled with water to prevent over-heating flash-backs, or explosions. Control fire until gas supply can be shut off. Use proper protective equipment. Use fresh air respirator when exposure to hazardous concentrations of toxic gases is possible.
FIRE FIGHTING:	Use water spray to cool fire exposed surfaces and to protect personnel. Isolate "fuel" supply from fire. Use foam, dry chemical, or water spray to extinguish fire. Avoid spraying water directly into storage containers due to danger of boiling over. This liquid is volatile and gives off invisible vapors. Either the liquid or vapor may settle in low areas or travel some distance along the ground or surface to ignition sources where they may ignite or explode.

6. ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IN CASE CONTAINER IS PUNCTURED AND MATERIAL IS RELEASED:	Clean up area by mopping or with absorbent materials and place in closed container for disposal. Consult Federal, State, and local disposal authorities.
WASTE DISPOSAL METHOD:	Consult local authorities for proper waste disposal procedures. Empty de-pressurized containers can not be reused. Cans which are pressurized or contain liquid must be disposed of in a permitted waste management facility. Consult Federal, State, and local disposal authorities for approved procedures.

7. HANDLING AND STORAGE

Use personal protective equipment as required.

Store locked up.

- VENTILATION REQUIREMENT:** Use adequate level exhaust ventilation. Note: Where carbon monoxide may be generated, special ventilation may be required. Local exhaust recommended when appropriate to control employee exposure.
- RESPIRATORY PROTECTION:** Based on contamination level and working limits of the respirator, use a respirator approved by NIOSH/MSHA. **EYES:** Face shield and goggles or chemical goggles should be worn.
- GLOVES:** Impervious gloves should be worn. Gloves contaminated with the product should be discarded. Polyfluorinated polyethylene has been suggested.
- OTHER CLOTHING EQUIPMENT:** Standard work clothing. Standard work shoes; discard if shoes can not be decontaminated. Store contaminated clothing in well ventilated cabinets or closed containers. Wash contaminated clothing and dry before reuse.
- RESPIRATORY PROTECTION:** In situations where vapor concentrations exceed the recommended exposure limits, a NIOSH approved organic vapor cartridge or air-supplying respirator should be worn.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Avoid breathing dust/fume/gas/mist/vapours/spray.
Wash hands and exposed areas thoroughly after handling.
Do not eat, drink or smoke when using this product.
Use only outdoors or in a well-ventilated area.
Wear protective gloves/protective clothing/eye protection/face protection.
Use personal protective equipment as required.

- VENTILATION REQUIREMENT:** Use adequate level exhaust ventilation. Note: Where carbon monoxide may be generated, special ventilation may be required. Local exhaust recommended when appropriate to control employee exposure.
- RESPIRATORY PROTECTION:** Based on contamination level and working limits of the respirator, use a respirator approved by NIOSH/MSHA. **EYES:** Face shield and goggles or chemical goggles should be worn.
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9. PHYSICAL AND CHEMICAL PROPERTIES

Flash Point (CCP): LVL 3 AEROSOL, PROPELLENT: -130°F
Boiling Point for Product: N/D

Vapor Pressure for Product:	<100 psi @ 65°F
Vapor Density for Product:	N/D
Specific Gravity:	LIQUID: 0.78-0.85
V.O.C.:	<25% VOC
Water Solubility:	NIL
Appearance:	PETROLEUM LIQUID/ODOR
PH:	

10. STABILITY AND REACTIVITY

STABILITY:	Stable
CONDITIONS TO AVOID:	Temperatures above 130 degree F.
HAZARDOUS POLYMERIZATION:	Will not occur
MATERIALS AND CONDITIONS TO AVOID INCOMPATIBILITY:	Strong oxidizing agents
HAZARDOUS DECOMPOSITION PRODUCTS:	None

11. TOXICOLOGICAL INFORMATION

ALIPHATIC HYDROCARBON *	110-54-3
Acute oral toxicity:	LD 50 Rat: 2,500 mg/kg
Acute inhalation toxicity:	LC 50 Rat: 48,000 ppm, 4 hours
Acute dermal toxicity:	LD 50 Rabbit: > 1,300 mg/kg
p-Chlorobenzotrifluoride	98-56-6
Acute oral toxicity:	LD 50 Rat: >6,800 mg/kg
Acute inhalation toxicity:	LC50 Rat: 4,479 ppm
Acute dermal toxicity:	LD50 Rabbit: >2,700 mg/kg
Skin irritation:	Rabbit: non-irritating
Eye irritation:	Rabbit: non-irritating

A 28-day range-finding inhalation study was conducted in male and female Sprague-Dawley rats exposed to 0, 100, 250, 500, or 1000 ppm for 6 hr/day, 5 days/week. Clinical signs included increased activity at 250 ppm and above. Liver and kidney weights were increased. Microscopic changes in male kidneys stained positive for alpha-2-U globulin and the effects were considered not relevant to humans. Liver cell hypertrophy was seen at all exposures in males. Liver changes were consistent with clinical chemistry and PCBTF-blood level analysis and are believed to be an adaptive response, due to increased liver metabolism. Gavage studies in laboratory rodents for treatment periods of 14, 28, and 90 days have demonstrated significant liver and kidney toxicity at dose levels of 400 - 1000 mg/kg/day. Evidence of target organ toxicity included significant increases in relative liver and kidney weights, clinical chemistry values and histopathological findings. Renal toxicity which occurred only in male rats, was apparently due to "hyaline droplet" nephropathy and is therefore, highly unlikely to develop in man. The NOAEL's for all these studies range from 10 to 100 mg/kg/day. CNS effects were observed in rats exposed to PCBTF at or above 2822 ppm for 4 hours. A 90 day (13 week) rat inhalation toxicity and neurobehavioral study was conducted using exposures of 6 hrs/day, 5 days/week at concentrations of 0, 10, 50 and 250 ppm. There were no PCBTF-related macroscopic observations. Microscopically, PCBTF-related centrilobular hypertrophy was present only in the livers of males and females at the high dose (250 ppm) after 13-weeks of exposure. No centrilobular hypertrophy was observed at any level among recovery animals. There were no PCBTF-related effects on the nervous system as measured by a functional observation battery, muscular activity measurements and neuropathology. A NOEL of 50 ppm was established in this study for liver hepatocyte hypertrophy in male and female rats. If the hepatocyte hypertrophy observed is considered to be an adaptive response to PCBTF, the NOAEL for this study is 250ppm.

POLYISOBUTYLENE	9003-27-4
Acute oral toxicity:	LD 50: >5,000 mg/kg
Acute dermal toxicity:	LD 50: >5,000 mg/kg

LUBE OIL ADDITIVE CONTAINING POLYBUTENE 9003-29-6
Viscous liquid may pose aspiration risk if swallowed and enters airways. Do not induce vomiting if ingested.

PETROLEUM HYDROCARBON BASE STOCK 64741-88-4
 Viscosity of liquid may pose a choking hazard if enters the airways. Do not induce vomiting if swallowed.
 ACETONE * 67-64-1
Acute oral toxicity: LD 50 Rat: 5,800 mg/kg
Acute inhalation toxicity: LC 50 Rat: > 16,000 ppm, 4 h
Acute dermal toxicity: LD 50 Rabbit: > 20,000 mg/kg

HYDROTREATED LIGHT DISTILLATE 64742-47-8
Acute oral toxicity: LD 50 Rat: > 8,000 mg/kg
Acute inhalation toxicity: LD 50 Rat: > 2500 ppm, 4 h
Acute dermal toxicity: LD 50 Rabbit: > 4,000 mg/kg

12. ECOLOGICAL INFORMATION

p-Chlorobenzotrifluoride 98-56-6
 AQUATIC ECOTOX DATA
 Fish:
 LC50 (96 hr.) (Rainbow trout) 13.5 mg/L
 LC50 (96 hr.) (Bluegill sunfish) 12.0 mg/L
 MATC (31 day) (Fathead minnow) >0.54 <1.4 mg/L*
 *Triethylene glycol used as solvent carrier BCF (48 hr.) (Bluegill sunfish) 121.8 & 202.0
 Invertebrates:
 LC50 (48 hr.) (Water flea) 12.4 mg/L
 MATC (21 day) (Water flea) >0.03 < 0.05 mg/L*
 *Acetone used as solvent carrier
 Plants:
 IC50 (72 hr.) (Green & Blue-green algae) 500 mg/L
 TERRESTRIAL ECOTOX DATA
 No data available
 ENVIRONMENTAL FATE DATA
 Biotic:
 Biodegradation: inconclusive due to volatility
 Abiotic:
 Atmospheric lifetime: estimated to be 65.9 days for OH radical reaction
 Log Kow 3.7
 Koc 420 - 530
 Water Sol. @ 23 C 29.1

p-Chlorobenzotrifluoride (PCBTF) will preferentially partition to the atmosphere, due to its high volatility. It has been estimated that 99.93% of a 100 Kg spill would end up in the atmosphere, while only 0.06% would partition to water (M. Garlanda, 1990). The aqueous solubility of PCBTF (29.1 mg/L) would also tend to limit its potential impact to exposed aquatic systems. PCBTF has exhibited significant toxicity to aquatic species under laboratory conditions, but is unlikely to exhibit a similar degree of acute toxicity under environmental conditions due to the aforementioned solubility and volatility issues. The moderate level of bioaccumulation measured in laboratory tests will also be subject to environmental mitigation due to PCBTF's physical/chemical properties. PCBTF should rapidly volatilize from dry and moist soils. Volatility, and relative environmental partitioning characteris

ACETONE * 67-64-1
 Acute and Prolonged Toxicity to Fish
 96 h LC 50 Fathead minnow (*Pimephales promelas*), : 8,733 - 9,482 mg/l Mortality
 96 h LC 50 Bluegill (*Lepomis macrochirus*), : 8,300 mg/l Mortality

96 h LC 50 Rainbow trout,donaldson trout (Oncorhynchus mykiss), : 4,740 - 6,330 mg/l
Mortality

Acute Toxicity to Aquatic Invertebrates No data
Environmental fate and pathways No data

If applicable, IARL, NPT and OSHA carcinogens and chemicals subject to the reporting requirements of SARA Title III, Section 313 are identified in Section III with an "***". Additional ecological information is Not Determined.

13. DISPOSAL CONSIDERATIONS

Dispose of contents/container in accordance with local regulations.

WASTE DISPOSAL METHOD: Consult local authorities for proper waste disposal procedures. Empty de-pressurized containers can not be reused. Cans which are pressurized or contain liquid must be disposed of in a permitted waste management facility. Consult Federal, State, and local disposal authorities for approved procedures.

14. TRANSPORT INFORMATION

DOT Proper Shipping Name: UN1950
Aerosols, flammable, (each not exceeding 1L capacity) 2.1, LIMITED QUANTITY

15. REGULATORY INFORMATION

	CAS#	PEL	TLV
HYDROCARBON PROPELLANT	68476-86-8	NO DATA	NO DATA
ALIPHATIC HYDROCARBON *	110-54-3	500 PPM	50 PPM
p-Chlorobenzotrifluoride	98-56-6	NOT ESTABLISHED	NOT ESTABLISHED
POLYISOBUTYLENE	9003-27-4	NOT ESTABLISHED	NOT ESTABLISHED
LUBE OIL ADDITIVE CONTAINING	9003-29-6	NOT ESTABLISHED	NOT ESTABLISHED
PETROLEUM HYDROCARBON BASE	64741-88-4	NOT ESTABLISHED	NOT ESTABLISHED
MOLYBDENUM DISULFIDE	1317-33-5	15 MG/M3	NOT ESTABLISHED
ACETONE *	67-64-1	TWA 1000 PPM	TWA 750 PPM STEL 1000 PPM
HYDROTREATED LIGHT DISTILLATE	64742-47-8	NONE ESTABLISHED BY OSHA	NONE ESTABLISHED BY OSHA

State of California SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT OF 1986.

WARNING: IN ACCORDANCE WITH PROP 65, THIS PRODUCT CONTAINS A CHEMICAL(S) KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER, BIRTH DEFECTS AND OTHER REPRODUCTIVE HARM.

If applicable, IARL, NPT and OSHA carcinogens and chemicals subject to the reporting requirements of SARA Title III, Section 313 are identified above with an "***"

16. OTHER INFORMATION

Consumer Product Safety Act Certification.

This product was evaluated by Frontier Performance Lubricants and is certified to be in compliance with the provisions of the Consumer Product Safety Act, the Federal Hazardous Substances Act, and the Poison Prevention Packaging Act, as applicable. This product was manufactured at the location identified on the SDS. The date of manufacture is stamped on the product container.

No testing is required to certify compliance with the above mentioned regulation.

Issue Date 4/30/2015
Revision Date 4/30/2015
Revision Note Not applicable Disclaimer

The information provided in this Material Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet