MATERIAL SAFETY DATA SHEET

PRODUCT IDENTITY (AS ON LABEL): EXTREME PRESSURE OIL (CAS #647-42-650)

SECTION I

Manufacturer's Name: Chicago Manufacturing and Distribution Co., Inc.

Address: 6592 Lincoln Street
Gagetown, MI 48735

Emergency Response Number: 517-665-2531

Telephone Number for Information: 800-537-2955

Date Prepared: March 2012

SECTION II - Hazardous Ingredients/Identity Information

Hazardous Component	OSHA PEL	NIOSH REL	NIOSH STEL	ACGIH TLV	ACGIH STEL	OTHER	%
Petroleum Hydrocarbon; Pennzoil. D23-168 oil (CAS#-Mixture)	5 mg/m³ (mist)	5 mg/m³ (mist)	10 mg/m³ (mist)	5 mg/m³ (mist)	10 mg/m³ (mist)	-----	60.0
Petroleum Hydrocarbon; Naphthenic Base Stock 100/100 Neutral Pale Oil (CAS# 64742-52-5)	5 mg/m³ (mist)	5 mg/m³ (mist)	10 mg/m³ (mist)	5 mg/m³ (mist)	10 mg/m³ (mist)	(Note 1)	18.3
Polyoxyethlenedinonyl-phenyletherphosphate:Poly (oxy-1, 2-ethanediyl) alpha-dinonylphenyl-omega-hydroxy-phosphate. Rhodalac RM410/LM400, GAFAC ANTARA, Rhone-Poulenc (CAS# 39464-64-7)	Unknown	Unknown	Unknown	Unknown	Unknown	(Note 2, 3, 4)	21.7
Fragrance Compound; Neutrox 576026 (CAS#-Mixture)	Unknown	Unknown	Unknown	Unknown	Unknown	-----	0.02

Note 1: IARC, one of OSHA's authorities for establishing carcinogenic potential, has specifically evaluated naphthenic oils. IARC found that mildly hydrotreated (hydrofinished) oils are carcinogenic to laboratory animals. IARC has not found severely hydrotreated oils to be carcinogenic. This product is classified as severely (not mildly) hydrotreated under both IARC and OSHA definitions.

Note 2: Screening studies of related compounds indicate a rather low order of acute toxicity and of skin and eye irritation. The following acute oral LD_{50} g values have been reported:

Antara LE700	7.8 g/Kg
Antara LM600	12.8 g/Kg

Note 3: Sub-chronic oral rat/dog studies with GAF-RM MIX indicated that various levels of mixture administered into the diet induced no significant toxicological or pathological changes. No other acute or chronic data have been found.

Note 4: Small quantities of several hazardous materials are present in RHODAFAC RM410/LM400:

Hazardous Components	OSHA PEL	NIOSH REL	NIOSH STEL	ACGIH TLV	ACGIH STEL	Other	%
Ethylene Oxide CAS# 75-21-8	1 ppm Confirmed human Carcinogen (0.5 ppm action level; STEL 5 ppm	<0.01	5 ppm Ceiling (10 min)	1ppm	-----	Class A-2 Carcinogen	0.002
1, 4-Dioxane CAS# 123-91-1	100 ppm	1 ppm per 30 min	-----	25 ppm	-----	Class A3	0.03
Phosphoric Acid CAS# 7664-38-2	1 mg/m³	1 mg/m³	3 mg/m³	1 mg/m³	3 mg/m³	Subject to Sara 313 Reporting	1
Polyoxyethylene Dinonylether Phosphate CAS# N/A	Unknown	Unknown	Unknown	Unknown	Unknown	Sara 313 Listed Toxic	13

SECTION II - Hazardous Ingredients/Identity Information (Continued)

Hazardous Materials Identification System (HMIS)

Health	Flammability	Reactivity	Personal Protection
2	1	0	C

National Fire Protection Association Standard System for the Identification of the Fire Hazards of Materials

Health	Flammability	Reactivity	Basis
2	1	0	NFPA 704

Exposure Limit for Total Product

5 mg/m³ for oil mist in air	OSHA Regulation 29CFR1910.1000
5 mg/m³ TLV for Oil Mist 10 mg/m³ STEL for Oil Mist	American Conference of Governmental Industrial Hygienists (ACGIH)

SECTION III - Physical/Chemical Properties

Boiling Point, °F	304 @ 1 mm.Hg. (Initial Boiling Point)
Vapor Pressure, mm.Hg.	1.8 @ 150° F
Vapor Density (Air =1.00)	Greater than 20
Solubility in water:	Nil (The product, while essentially insoluble in water, forms a stable emulsion of 0.88% oil in water when mixed with a ten-fold excess of water).
Appearance and Odor:	Appearance: Oil liquid which is darker in color than 8.0 on the ASTM D1500 scale. Odor: Slight, pleasant odor.
Specific Gravity (H_2O=1.00)	0.9455 @ 60/60° F
Melting Point (Pour Point), °F	+5

Evaporation Rate (Butyl = Acetate = 1.00)	Essentially non-volatile at room temperature.
Viscosity at 100° C, cs	34.7
VOC (EPA24), weight fraction	0.229

SECTION IV - Fire and Explosion Hazard Data

Flash Point (COC), °F	445
Autoignition Temperature, °F	705
Flammable Limits, % (v/v)	
LEL	Approximately 0.9 (exact value not available)
UEL	Approximately 7.0 (exact value not available)

Extinguishing Methods:

Foam water spray (fog), dry chemical, carbon dioxide and vaporizing liquid (Halon) type extinguishing agents may all be suitable for extinguishing fires involving this product depending on size, potential size of fire and circumstances relative to the situation, consult local fire fighting authorities for appropriate fire protection and fire response strategy.

Special Fire Fighting Procedures

Use water spray to cool fire exposed surfaces, containers and storage tanks and to protect personnel. Water, except in the form of a fine spray or fog, may be ineffective for fire fighting and should not be used except to cool containers and storage tanks exposed to heat or flame. Improper application of liquid water to burning liquid can cause boilover. If a leak or spill has not ignited, use water spray to disperse the vapors and to provide protection for personnel attempting to stop the leak. Water spray may be used to flush spills away from exposures. Dense smoke may be generated when burning. Respiratory protection may be required for fire fighting personnel. Self contained breathing apparatus may be required in enclosed areas or when large quantities of liquid are burning. Minimize breathing gases, vapor, fumes or decomposition products.

Unusual Fire and Explosion Hazards

Hazardous products of combustion of the product include dense smoke and fumes, carbon monoxide, carbon dioxide, aldehydes, nitrogen oxides, phosphine and/or other decomposition products of organic phosphorus compounds. The product reacts vigorously with strong oxidizing agents.

Empty Container Warning

Empty containers contain residue (liquid and vapor) which can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind or expose such containers to heat, flame, sparks or other sources of ignition. They may explode and cause injury or death. Do not attempt to clean since complete removal of residue is difficult. "Empty" drums should be completely drained, properly bunged and promptly returned to a drum reconditioner. All such containers should be disposed of in an environmentally safe manner and in accordance with all relevant governmental regulations. For work on tanks refer to OSHA regulations, ANSI Z49.1, and other governmental and industrial references pertaining to cleaning, repairing, welding and/or other contemplated operations.

SECTION V - Reactivity Data

Stability - Stable; does not react violently with water

Incompatibility (Materials to avoid) - Strong oxidizing agents such as oxygen at elevated pressure, liquid oxygen, liquid chlorine, sodium hypochlorite and calcium hypochlorite.

Hazardous Decomposition or by-products - The product will react with oxidizing agents, especially when heated. Thermal and oxidative decomposition products produced when compound is heated in air include oxides of phosphorus, carbon and nitrogen, aldehydes, phosphine and other toxic oxides and fumes.

Hazardous Polymerization - will not occur.

SECTION VI - Health Hazard Data

Routes of Entry

Inhalation of mist, spray or vapor.
Skin Contact.
Eye Contact.
Ingestion.

Variability

Health studies have shown that many petroleum hydrocarbons and synthetic lubricant blends pose potential human health risks which may differ from one individual to another. For this reason, exposure to such materials in the form of liquids, vapors, mists or fumes should be minimized.

Nature of Hazard and Toxicity Information

In accordance with the current OSHA Hazard Communication Standard this product does not require a cancer warning because the naphthanic base stock from which it has been formulated has been severely hydro treated and/or highly refined.

Prolonged or repeated skin contact tends to remove skin oils and can lead to irritation or dermatitis. The product is, however, not judged to be corrosive material or an irritant by OSHA criteria. IARC has concluded that highly refined mineral oils are group 3 substances, "not classifiable as to their carcinogenity to humans," based on inadequate human and inadequate animal evidence.

Contact with eyes causes eye irritation. The product has a low order of acute and dermal toxicity. Aspiration of mist or vapor into lungs may, however, cause severe pulmonary injury or even death. No data for acute oral LD_{50} (rat) or acute dermal LD_{50} (rabbit) are available for the product.

Signs and Symptoms of Exposure

Eye Contact	May cause burning, irritation and mild conjunctivitis.
Skin Contact	May result in irritation of dermatitis on prolonged or repeated exposure.
Inhalation	In a mist form may cause local irritation, dizziness, drowsiness, pneumonia.
Ingestion	May cause local irritation of the mucous membranes of the mouth, esophagus and stomach. May act as a laxative.
Carcenogenicity	Unknown (none of the components of the product are known to be human carcinogens). See Note 1.

Medical Conditions Generally Aggravated by Exposure

Skin irritation or dermatitis may be aggravated especially in individuals who may have developed a high degree of hypersensitivity as a result of prolonged or repeated exposure.

Emergency and First Aid Procedures:

Eye Contact:	If product gets in eyes, flush eyes with clear water for at least 15 minutes or longer until irritation subsides. Call a physician immediately.
Skin Contact:	In case of skin contact, remove all contaminated clothing. Wash skin with soap and water. Contaminated clothing must be washed before being reworn.
Inhalation:	In case of inhalation of vapors, spray or mist, remove exposed person to fresh air immediately. If breathing has stopped, start resuscitation procedures including artificial respiration and administration of oxygen as necessary. Call a physician immediately.
Ingestion:	In case of ingestion, (ie, if material has been swallowed), do not induce vomiting. Call a physician immediately.

SECTION VII - Precautions for Safe Handling and Use

Steps to be taken in case product is released or spilled.

Collect large spills with shovel, dry sand or oil absorbent materials. Clean spill area with aqueous detergent solutions. Provide adequate ventilation during clean-up to prevent exceeding the recommended exposure limit for oil, mist or fume or build-up of explosive concentrations of vapor in air. Keep product out of sewers and watercourses by diking or impounding. Advise authorities if product has entered or may have entered sewers, watercourses or extensive land areas. Minimize skin contact. Assure conformity with applicable governmental regulations.

Waste Disposal Method

Waste material should be disposed of by incineration in a suitable combustion system designed for burning lubricating oils and similar wate fuels. Used product may be suitable for reclamation or re-refining if not excessively contaminated.
Disposal must comply with all applicable governmental regulations.

Precautions to be taken in handling and storing

Store in sealed containers away from heat, open flame and oxidizing materials. Appropriate fire extinguishing agents must be kept readily available and personnel must be trained in their proper use. Dry sand or oil absorbent material should be kept readily available and personnel must be trained in their proper use in case of spillage.
See NFPA 30 and OSHA 1910.106 - Flammable and Combustible Liquids.

Other Precautions

Do not transfer to unmarked containers. Follow Department of Transportation regulations during transport. For further information relative to spills resulting from transportation incidents, refer to latest Department of Transportation Emergency Response Guidebook for Hazardous Materials Incidents, DOT P 5800.3.

SECTION VIII - Control Measures

Respiratory Protection

Normally not needed at ambient temperatures and under normal conditions of product use. If product is handled in a manner which produces vapor, spray or mist the following respiratory protection measure should be taken:

Low Concentrations of vapor, spray or mist:

Use partial or full-face respirator with NIOSH approved organic vapor canister.

High Concentrations:

Use full-face piece supplied air breathing apparatus.
Either self-contained or air-line breathing apparatus may be used provided it is of a NIOSH approved type.

Do not use compressed oxygen systems in hydrocarbon atmospheres.

Ventilation

Use local exhaust to capture vapor, mists, spray and/or fumes, if necessary. Provide greater than 60 ft/min hood face velocity for confined spaces. Provide ventilation sufficient to prevent exceeding the recommended exposure limit for oil mist or fume or build-up of explosive concentrations of vapor in air. In confined areas explosion proof equipment may be required. No smoking or open lights should be permitted in presence of the product.

Protective Gloves

Use chemical resistant synthetic rubber protective gloves, if needed to avoid prolonged or repeated skin contact.

Eye Protection

Use splash goggles or face shield when eye contact may occur.

Other Protective Clothing or Equipment

Use chemical resistant apron or other impervious clothing, if required, to prevent contamination of regular clothing which could result in prolonged or repeated skin contact.

Work Practices

Keep containers closed when not in use. Do not handle or store near heat, sparks, flame or oxidizing agents.

Hygiene Practices

Minimize breathing of vapor, mist, spray or fumes. Avoid prolonged or repeated contact with skin. Remove contaminated clothing. Launder or dry-clean before reuse. Remove contaminated shoes and thoroughly clean before reuse. Discard if oil-soaked. Cleanse skin thoroughly after contact, before breaks and meals, and at end of every work period. Product may be removed by use of waterless hand cleaners followed by thorough washing with soap and water.