MSDS FBK32PP
REV #3
March 9, 2010

Material Safety Data Sheet

Section 1. Chemical Product and Company Identification

Product Name: FBK32PP
Synonyms: Hydro-treated base oil and additives
Product Use: Bearing Oil

Supplier/ Manufacturer:
Permawick Company
255 E. Brown Street, Suite 100
Birmingham, Michigan 48009
Phone: (248)433-3500 Fax: (248)594-3433

Emergency Phone Numbers:

Monday - Friday, 8 am – 4:30 p.m. (EST) (812) 376-0703
Chemtrec 24 hr. : (800) 424-9300 (US and Canada)

Information Contacts:

For technical information, contact your sales representative.

Section 2. Composition / Information on Ingredients

	CASRN	Percent Wt.
1. Distillates of Severely , Hydro-treated light, high VI Paraffinic hydrocarbons	64742-55-8	+95%
2. Zinc Dialkydithiophosphate	68649-42-3	< 1.0%
3. Aminic antioxidant	68259-36-9	<1.0%

Section 3. Hazards Identification

****Emergency Overview****

This compound is not an acute or physical hazard under normal conditions of use. Under fire conditions there is a possibility of toxic phosphorous oxide vapors being released.

Potential Health Effects, Signs and Symptoms of Exposure:

Inhalation: Irritation possible. Fumes from heated material may cause irritation. Sprays or mists may be irritating to the upper respiratory tract.

Ingestion: May cause gastrointestinal irritation.

Eye Contact: May cause tearing, reddening, or swelling.

Skin Contact: Prolonged or repeated contact may result in defatting, and/or drying of the skin which may lead to skin irritation and dermatitis. Harmful if absorbed through the skin.

Medical Conditions aggravated by exposure: **None**

Section 4. First Aid Measures

FIRST AID

Eye Contact: Immediately flush eyes with plenty of water. If irritation develops or persists seek medical attention immediately.

Ingestion: Call a physician or poison control center immediately. Only induce vomiting at the instruction of a physician.

Inhalation: Immediately remove victim to fresh air. If victim has stopped breathing give artificial respiration, preferably by mouth to mouth. Get medical attention immediately.

Skin Contact: Wash affected area immediately with soap and plenty of water. Remove contaminated clothing and wash clothing before reuse. If symptoms occur obtain medical attention immediately.

Section 5. Fire Fighting Measures

EXTINGUISHING MEDIA

Appropriate Extinguishing Media: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

Inappropriate Extinguishing Media: Straight Streams of Water

FIRE FIGHTING

Fire Fighting Instructions: Evacuate area. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply. Firefighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

Hazardous Combustion Products: Aldehydes, Incomplete combustion products, Oxides of carbon, Smoke, Fume, Sulfur oxides, Phosphorus oxides

FLAMMABILITY PROPERTIES

Flash Point [Method]: >215°C (419°F) [ASTM D-92]
Flammable Limits (Approximate volume % in air): LEL: 0.9 UEL: 7.0
Autoignition Temperature: N/D

Section 6. Accidental Release Measures

Spill or Release Procedures:

Ventilate area. Absorb spill with inert material and place in appropriate chemical waste container. Obey any federal, state, and local laws and regulations. U.S. Coast Guard regulations require immediate reporting of spills that could reach any waterway including intermittant dry creeks. Do not flush into sewers discharging into domestic water systems or natural waterways. Use personal protective equipment (Sec.8). Spilled material will cause a slippery surface. Avoid trips and falls.

Section 7. Handling and Storage -

Handling:

Thoroughly wash after handling. Use adequate ventilation and avoid breathing vapor or mist. Avoid contact with eyes, skin, clothing.

Storage:

Keep container tightly closed when not in use and during transport.

Section 8. Exposure Controls / Personal Protection

Exposure limits/standards for materials that can be formed when handling this product: When mists / aerosols can occur, the following are recommended: 5 mg/m³ - ACGIH TLV, 10 mg/m³ - ACGIH STEL, 5 mg/m³ - OSHA PEL.

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider:

No special requirements under ordinary conditions of use and with adequate ventilation.

PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

Respiratory Protection: If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:

No special requirements under ordinary conditions of use and with adequate ventilation.

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapor warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

Hand Protection: Any specific glove information provided is based on published literature and glove manufacturer data. Work conditions can greatly effect glove durability; inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:

No protection is ordinarily required under normal conditions of use.

Eye Protection: If contact is likely, safety glasses with side shields are recommended.

Skin and Body Protection: Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:
No skin protection is ordinarily required under normal conditions of use. In accordance with good industrial hygiene practices, precautions should be taken to avoid skin contact.

Specific Hygiene Measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

ENVIRONMENTAL CONTROLS
See Sections 6, 7, 12, 13.

Section 9. Physical and Chemical Properties **Typical physical and chemical properties are given below. Consult the Supplier in Section 1 for additional data.**

GENERAL INFORMATION
Physical State: Liquid
Color: Pale Yellow
Odor: Characteristic
Odor Threshold: N/D

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION
Relative Density (at 15 °C): 0.86
Flash Point [Method]: >215°C (419°F) [ASTM D-92]
Flammable Limits (Approximate volume % in air): LEL: 0.9 UEL: 7.0
Autoignition Temperature: N/D
Boiling Point / Range: > 316°C (600°F)
Vapor Density (Air = 1): > 2 at 101 kPa
Vapor Pressure: < 0.013 kPa (0.1 mm Hg) at 20°C
Evaporation Rate (n-butyl acetate = 1): N/D
pH: N/A
Log Pow (n-Octanol/Water Partition Coefficient): > 3.5
Solubility in Water: Negligible
Viscosity: 29.6 cSt (29.6 mm2/sec) at 40 °C | 5.4 cSt (5.4 mm2/sec) at 100°C
Oxidizing Properties: See Sections 3, 15, 16.

OTHER INFORMATION
Freezing Point: N/D
Melting Point: N/A
Pour Point: -30°C (-22°F)
DMSO Extract (mineral oil only), IP-346: < 3 %wt

Section 10. Stability and Reactivity

Stability: Stable under normal storage conditions.

Hazardous Polymerization: Will not occur during normal conditions

Conditions to avoid: Mechanical impact: none Static discharge: none

Material Incompatibility: Avoid chlorine, fluorine, acids and other strong oxidizers

Hazardous Decomposition Products:
Carbon Dioxide, Carbon Monoxide, Aldehydes, Hydrogen sulfide, alkyl mercaptans, and sulfides. Under combustion conditions, oxides of the following elements will be formed: Phosphorus, Sulfur, Zinc.

Section 11. Toxicological Properties

Route of Exposure	Conclusion / Remarks
Inhalation	
Toxicity (Rat): LC50 > 5000 mg/m3	Minimally Toxic. Based on test data for structurally similar materials.
Irritation: No end point data.	Negligible hazard at ambient/normal handling temperatures. Based on assessment of the components.
Ingestion	
Toxicity (Rat): LD50 > 2000 mg/kg	Minimally Toxic. Based on test data for structurally similar materials.
Skin	
Toxicity (Rabbit): LD50 > 2000 mg/kg	Minimally Toxic. Based on test data for structurally similar materials.
Irritation (Rabbit): Data available.	Negligible irritation to skin at ambient temperatures. Based on test data for structurally similar materials.
Eye	
Irritation (Rabbit): Data available.	May cause mild, short-lasting discomfort to eyes. Based on test data for structurally similar materials.

CHRONIC/OTHER EFFECTS

Contains:

Base oil severely refined: Not carcinogenic in animal studies. Representative material passes IP-346, Modified Ames test, and/or other screening tests. Dermal and inhalation studies showed minimal effects; lung non-specific infiltration of immune cells, oil deposition and minimal granuloma formation. Not sensitizing in test animals.

Additional information is available by request.

The following ingredients are cited on the lists below: None.

--REGULATORY LISTS SEARCHED--

1 = NTP CARC	3 = IARC 1	5 = IARC 2B
2 = NTP SUS	4 = IARC 2A	6 = OSHA CARC

Section 12. Ecological Information

The information given is based on data available for the material, the components of the material, and similar materials.

ECOTOXICITY

Material -- Expected to be harmful to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

MOBILITY

Base oil component -- Low solubility and floats and is expected to migrate from water to the land. Expected to partition to sediment and wastewater solids.

PERSISTENCE AND DEGRADABILITY

Biodegradation:

Base oil component -- Expected to be inherently biodegradable

BIOACCUMULATION POTENTIAL

Base oil component -- Has the potential to bioaccumulate, however metabolism or physical properties may reduce the bioconcentration or limit bioavailability.

Section 13. Disposal Considerations

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

DISPOSAL RECOMMENDATIONS

Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products.

REGULATORY DISPOSAL INFORMATION

RCRA Information: The unused product, in our opinion, is not specifically listed by the EPA as a hazardous waste (40 CFR, Part 261D), nor is it formulated to contain materials which are listed as hazardous wastes. It does not exhibit the hazardous characteristics of ignitability, corrosivity or reactivity and is not formulated with contaminants as determined by the Toxicity Characteristic Leaching Procedure (TCLP). However, used product may be regulated.

Empty Container Warning PRECAUTIONARY LABEL TEXT: Empty containers may retain residue and can be dangerous. DO NOT PRESSURIZE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION; THEY MAY EXPLODE AND CAUSE INJURY OR DEATH. Do not attempt to refill or clean container since residue is difficult to remove. Empty drums should be completely drained, properly bunged and promptly returned to a drum reconditioner. All containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations.

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Section 14. Transportation Information

LAND (DOT) : Not Regulated for Land Transport

LAND (TDG) : Not Regulated for Land Transport

SEA (IMDG) : Not Regulated for Sea Transport according to IMDG-Code

AIR (IATA) : Not Regulated for Air Transport

Section 15. Regulatory Information

OSHA HAZARD COMMUNICATION STANDARD: When used for its intended purposes, this material is not classified as hazardous in accordance with OSHA 29 CFR 1910.1200.

NATIONAL CHEMICAL INVENTORY LISTING: AICS, DSL, EINECS, ENCS, TSCA

EPCRA: This material contains no extremely hazardous substances.

SARA (311/312) REPORTABLE HAZARD CATEGORIES: None.

SARA (313) TOXIC RELEASE INVENTORY: This material contains no chemicals subject to the supplier notification requirements of the SARA 313 Toxic Release Program.

The Following Ingredients are cited on the Lists Below:*

Chemical Name	CAS Number	List Citations
DIPHENYLAMINE	122-39-4	5, 9

--REGULATORY LISTS SEARCHED--

1 = ACGIH ALL	6 = TSCA 5a2	11 = CA P65 REPRO	16 = MN RTK
2 = ACGIH A1	7 = TSCA 5e	12 = CA RTK	17 = NJ RTK
3 = ACGIH A2	8 = TSCA 6	13 = IL RTK	18 = PA RTK
4 = OSHA Z	9 = TSCA 12b	14 = LA RTK	19 = RI RTK
5 = TSCA 4	10 = CA P65 CARC	15 = MI 293	

Code key: CARC=Carcinogen; REPRO=Reproductive

* EPA recently added new chemical substances to its TSCA Section 4 test rules. Please contact the supplier to confirm whether the ingredients in this product currently appear on a TSCA 4 or TSCA 12b list.

Section 16. Other Information

HMIS Rating System: Health : 1 Flammability: 1 Reactivity: 0
Ratings key: 4 = Highest hazard , 0 = Lowest hazard, * = Chronic Health Hazard

Revision summary:
This is the first issue of this MSDS in the ANSI Z400.1 - 1993 format
Approval date : 1/10/97
Supersedes: 4/15/96

This information presented herein is believed to be factual as it has been derived form works and opinions of persons believed to be qualified experts; however, nothing contained in this information is to be taken as warranty or representation for which Permawick bears legal responsibility. Conditions of use and suitability of the product for particular uses are beyond our control. Any recommendations should be reviewed by the user in the specific context of the intended use to determine whether they are appropriate. Nothing is intended as a recommendation for uses which infringe valid patents or as extending license under valid patents.

ACGIH: American Conference of Governmental Industrial Hygienists
ANSI: American National Standards Institute
CASRN: Chemical Abstracts Service Registry Number
CERCLA: Comprehensive Emergency Response, Compensation and Liability Act
HMIS: Hazardous Material Identification System
IARC: International Agency for Resource and Conservation
NTP: National Toxicology Program
OSHA: Occupational Health and Safety Organization
PEL: OSHA Permissable Exposure Limit
RCRA: Resource Conservation and Recovery Act
SARA: Superfund Amendment Reauthorization Act
STEL: Short Term Exposure Limit
TLV: Threshold Limit Values
TSCA: Toxic Substances Control Act
TWA: Time Weighted Average