

MATERIAL SAFETY DATA SHEET

Effective Date: December 6, 2002

Revised Date: April 2008

Chemical Product and Company Identification:

FPPF Chemical Co.: 117 West Tupper Street; Buffalo, NY 14201-2193 (800) 735-FPPF (3773).

Emergency Phone: Chemtrec – (800) 424-9300

Product Name: **Polar Power Diesel Fuel Treatment** Product Codes: 00106, 90106, 00108P, 00109

Chemical Family/Class: Mixture, solvent-based

CAS Number: Not applicable

Composition Data:

<u>Hazardous Components</u> ^{1,5}	<u>% range</u>	<u>CAS#</u>	<u>OSHA</u>		<u>ACGIH</u>
			<u>PEL</u>	<u>TLV</u>	<u>STEL</u>
			<u>ppm</u>	<u>ppm</u>	<u>ppm</u>
Petroleum distillate	60 - 75	8052-41-3	500	100	200
Glycol Ether ^{2,3,4}	15 - 25	111-76-2	25-skin	25-skin	TWA
Trimethylbenzene ^{3,4}	< 21	95-63-6	N/E	25 (TWA)	N/E
Heavy Aromatic Naphtha	< 14	64742-95-6	Exp. Limit (Exxon)		100 ppm
2-Ethylhexanol ⁴	1 - 3	104-76-7	AEL(Dupont):20 ppm 8-Hr TWA		
Xylene ^{3,4}	<1.9	1330-20-7	100	100	150
Vinyl Acetate ⁴	<1.5	108-05-4	10	10 (TWA)	15
Cumene ^{3,4}	<0.95	98-82-8	1	10	N/E
Naphthalene ^{3,4}	<0.9	91-20-3	10	10 (TWA)	15
Ethylbenzene ^{3,4}	<0.35	100-41-4	100	100	150

¹ Components presenting a physical or health hazard or subject to CERCLA or SARA reporting requirements and found at or above 1% (0.1% if identified as a carcinogen). Other components may be listed if deemed appropriate.

² Chemical subject to reporting requirements of CERCLA (40CFR 302.4).

³ Chemical subject to reporting requirements of SARA Section 313 (40CFR 372).

⁴ For additional data, consult last section of this document

⁵ Some components present due to incorporation in another listed component. Total percentage may add up to equal greater than 100%.

N/E = Not Established

One of the components of this product (vinyl acetate) is listed as a carcinogen or potential carcinogen by OSHA, IARC Monograph or National Toxicology Program.

Typical Physical Data (not specifications)

Boiling Point, °F (typical): .300

Specific Gravity @ Room Temp: ca. 0.883

Vapor Pressure @ 20°C, mm Hg: <4

Vapor Density (air =1): >1

Evaporation Rate: <Butyl Acetate

Solubility in Water: Partially soluble

Appearance: Clear to hazy amber

Odor: Solvent-like

Physical State: Liquid

Percent Volatile (approx): 90%

Fire and Explosion Hazard Data:

Specific Hazard: Material is considered **Flammable** by current U.S. D.O.T. criteria

Flash Point, typical (TCC): 116°F

Autoignition Temperature: N/D (not determined)

Flammability Limits: Upper: N/D

Lower: N/D

Extinguishing Media: Foam, CO₂ or Dry Chemical. Water fog may be used only for cooling exposed material. Special Firefighting Procedures: Avoid contact with vapors. Do not use water except as a fog; material may float on water. Use of self-contained breathing apparatus with full face mask is recommended for all chemical fires.

Unusual Fire or Explosion Hazards: Toxic or noxious fumes, gases or vapors may evolve on burning. Vapors which are heavier than air may be evolved and may travel along the ground or be moved by ventilation and ignited by heat, pilot lights, other flames and ignition sources at locations distant from material handling point. Metal containers of 5 gallons or larger should be grounded and/or bonded when material is transferred.

Reactivity Data:

Stability: Stable under ordinarily expected conditions.

Hazardous Polymerization: Will Not Occur

Incompatibilities: Strong oxidizing agents, strong alkalis, strong acids

Conditions to Avoid: Prolonged Reflux, Elevated Temperatures, Open Flame.

Hazardous Combustion or Decomposition Products: Combustion may produce carbon monoxide, carbon dioxide, smoke aldehydes and other reactive hydrocarbons, and other products of incomplete combustion.

Health Hazard Data:

Primary Routes of Entry: Inhalation, Skin Absorption, Skin Contact, Eye Contact.

Acute Exposure Effects:

Swallowing: Moderate Toxicity. Single dose oral toxicity (small amounts) is unlikely to cause harmful effects. May cause central nervous system depression (e.g. headache, general weakness, dizziness, drowsiness, unconsciousness), irritation of the gastrointestinal lining, vomiting, nausea, diarrhea, and abdominal pain. Swallowing large amounts may be harmful. Symptoms may include blood abnormalities (Red Blood Cell Hemolysis), Kidney or liver damage and coma. Aspiration of product into airways incidental to swallowing or vomiting may cause mild to severe pulmonary injury, possibly progressing to death (See inhalation).

Inhalation: Short-term exposure toxicity is moderate. Headache, nausea, vomiting dizziness and drowsiness and other central nervous system effects may occur. Exposure to high vapor concentrations or prolonged exposure to lesser concentrations may be harmful. Symptoms include irritation of the respiratory tract, eyes and throat, stupor, nasal discomfort and discharge, possible chest pain and coughing. Breathing of vapors may aggravate asthma and inflammatory or fibrotic pulmonary disease.

Skin Contact: Brief contact may cause mild skin irritation with itching, local redness. Prolonged contact may cause more severe irritation, with discomfort or pain and dermatitis (redness, edema, drying, defatting and cracking of the skin), and may also result in skin absorption. Some similar materials have been implicated as skin sensitizers. May aggravate an existing dermatitis.

Eye Contact: Exposure to liquid or vapors may be severely irritating to the eyes. Symptoms include discomfort, pain, excessive blinking and tear production, marked excess redness and swelling of the conjunctiva and risk of damage to the eyes.

Target Organ Effects: Acute lethal exposure to the glycol either in animal studies has resulted in congestion of organs including kidney, spleen and lung. Overexposure to this same material has been suggested as a cause of the following effects in laboratory animals, and may aggravate pre-existing disorders of these organs in humans; mild, reversible liver effects, mild reversible kidney effects, blood abnormalities. Repeated injection of 2-Ethylhexanol (a minor constituent) may cause injury to the liver and kidneys.

Chronic Exposure Effects:

Effects of Repeated Overexposure: Contains vinyl acetate, which has been implicated in some studies as a carcinogen. See last section of this document for detailed information. Repeated overexposure to petroleum naphthas can cause nervous system damage. Acute lethal-exposure animal studies of the glycol ether have resulted in congestion of organs including kidney, spleen and lungs. Fetal harm occurs only at exposure levels harmful to the pregnant animal. Simple animal overexposure studies of the same material have reported mild, reversible effects to liver and kidney, and red blood cell hemolysis, however humans appear resistant to this effect. Health experts may disagree as to the significance of this data.

First Aid:

Swallowing: If patient is fully conscious, give 2 glasses of water. Place individual on left side with the head down. Do not induce vomiting. Obtain immediate medical attention. Never give anything by mouth if person is unconscious or drowsy.

Skin: Remove contaminated clothing. Wash exposed skin with soap and water. If symptoms develop or persist, seek medical attention. Launder contaminated clothing before reuse and discard shoes and other leather articles saturated with the product.

Inhalation: Remove affected individual to fresh air. Immediately seek medical attention. If breathing is labored, administer oxygen. If breathing has stopped, administer artificial respiration.

Eyes: Remove individual from exposure and into fresh air. Immediately flush eyes with plenty of water for at least 17 minutes while holding eyelids apart. DO NOT remove contact lenses if worn. Obtain medical attention without delay, preferably from an ophthalmologist.

Notes to Physician: No specific antidote. Treat symptomatically.

Handling and Storage:

Precautions: Keep product and container away from potential sources of ignition. Do not freeze product. Do not subject to excessive heat. Keep out of reach of children. Do not contaminate foodstuffs by storage or use of this material. Do not mix with other chemicals except under the direct supervision of a chemist or technically trained supervisor. Open container only in a well-ventilated area. Do not breathe fumes or vapors. Keep containers tightly closed when not in use. Wash thoroughly after handling, and particularly before eating, drinking or smoking. Do not transfer to unmarked containers.

WARNINGS: Harmful if absorbed through skin. Harmful if swallowed. Causes eye and skin irritation. Flammable. Swallowing large quantities may cause red blood cell damage.

Handling and Storage (cont.):

Special Precautions: Warning! Sudden releases of hot organic vapors or mists from equipment operating at elevated temperature and pressure, or sudden ingress of air into vacuum equipment may result in ignitions without the presence of obvious ignition sources. Published "autoignition" or "ignition" temperature values cannot be treated as safe operating temperatures in chemical processes without analysis of the actual process conditions. Any use of this product in elevated temperature processes should be thoroughly evaluated to establish and maintain safe operating conditions. Notice: Containers of this material may be hazardous when emptied. Since emptied containers retain product residues (vapor, liquid, and/or solid), all hazard precautions given in this data sheet must be observed.

Accidental Release, Spill or Leak Procedures:

Spill Procedure: Evacuate all non-essential personnel. Personal Protective Equipment appropriate to the nature of the spill must be worn. Remove sources of ignition. Ventilate spill area. Stop spill at source. Prevent entry into sewers and waterways. Collect free liquid for disposal. Residual liquid may be absorbed using inert material. Transfer contaminated absorbent, soil, etc. into containers for disposal. Spills may be reportable under CERCLA, SARA or DOT criteria, depending on quantities involved.

Disposal Methods: Dispose of liquid or contaminated solid materials in conformance with all applicable Federal, State or Local regulations. Incineration of waste material may be suggested as a practical remedy.

Personal Protective Equipment and Protection Information:

Respiratory Protection: If airborne exposure limit for any component is exceeded, use NIOSH/MSDA-approved respirator for organic vapors. Self-contained or air-supplied breathing apparatus is preferred. OSHA regulations also permit other respirators under specified conditions. Consult your Industrial Hygienist for guidance. Implement engineering or administrative controls to reduce exposures.

Ventilation: Provide sufficient mechanical (General and/or Local Exhaust) ventilation to control mists or vapors and maintain exposure below TLV's.

Protective Gloves: Wear impervious or resistant gloves such as Nitrile or Neoprene rubber.

Eye protection: Chemical splash goggles or a full face shield are advised. OSHA permits other protective means as appropriate. NEVER wear rings, watchbands or other items which may entrap materials against the skin when handling chemicals of any sort; similarly, the availability of a safety shower and eye bath in the vicinity is advised for all chemical operations.

Selected Regulatory & Miscellaneous Data:

TSCA: All components of this product are on the US TSCA Inventory. 1,2,4-Trimethylbenzene may be subject to export notification under TSCA Section 12(b).

EPA: Hazard Categories: Delayed Health, Fire, Immediate Health.

HMIS Hazard Ratings: Health 2; Fire 2; Reactivity 0; Protection: G (Eyes, Gloves, Respirator).

NFPA Hazard Ratings: Health 2; Fire 2; Reactivity 0; Protection: G (Eyes, Gloves, Respirator).

Selected Regulatory & Miscellaneous Data:

RCRA Status: Wastes containing this product may be associated with Hazardous waste number D001 (Characteristic of Ignitability). Consider all relevant regulations before disposal.

CERCLA & SARA Information: This product contains chemicals subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372 (SARA): Glycol Ether, Xylene, Naphthalene Trimethylbenzene, Cumene and Ethylbenzene. CERCLA reportable substance, no RQ established: Glycol Ether.

Additional Data on Specific Chemicals:

Xylene: Xylene, a minor constituent, has some known health hazards that may not be reflected in the general warnings above. Xylene can penetrate the skin in toxic amounts, causing narcosis in animals. Toxicity effects in animals are as described in the body of the MSDS. By inhalation, they also include upper respiratory irritation, central nervous system and behavioral effects, decreased weight gain, hearing loss, and effects on the liver, spleen, kidneys, heart, lungs, bone marrow and blood. By ingestion, xylene caused central nervous system effects, decreased body weights and liver effects. Tests of xylene in animals demonstrate no carcinogenic activity, nor genetic or reproductive effects. Developmental toxicity was observed in animals exposed to xylene, but only at concentrations that were maternally toxic.

Vinyl Acetate, Chronic Effects: No carcinogenic effects were observed in long-term drinking-water studies in rats. Long-term inhalation of this chemical at air concentrations of 600 ppm produced nasal tumors in rats. Mice exposed under the same conditions were not affected. The International Agency for Research on Cancer (IARC) evaluated vinyl acetate in 1995 and found it to be a possible human carcinogen, Classification 2B. The American Conference of Government Industrial Hygienists (ACGIH) has evaluated vinyl acetate and found it to be group A3, animal carcinogen. The ACGIH also reported that available evidence suggests that the agent is not likely to cause cancer in humans at the recommended exposure levels.

Disclaimer:

All information contained herein is compiled from sources believed dependable and is accurate to the best of the preparer's knowledge; however, no guarantee or warranty whatsoever is made, expressed or implied, of merchantability or fitness for any particular purpose, regarding the accuracy of such data or the results to be obtained from the use thereof. The onus for safe use of any chemical rests with the user, who must determine for himself the suitability for the product for any intended purpose. Use should not assume that no hazards or appropriate precautions exist other than those found in these pages. No information or suggestions contained herein shall be construed as a recommendation to infringe any patent.

DOT SHIPPING STIPULATION: FLASH POINT BETWEEN 100-140°F – FLAMMABLE RECLASSIFIED COMBUSTIBLE FOR GROUND SHIPPING, PER 49 CFR 173.120 (B)(2).