

MATERIAL SAFETY DATA SHEET

U.S. Department of Labor Compliance

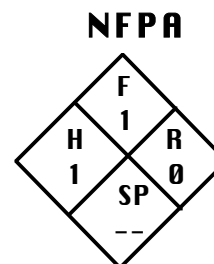
OSHA's Hazard Communication Standard (29 CFR 1910.1200)

SECTION 1 - PRODUCT IDENTIFICATION AND EMERGENCY INFORMATION

PRODUCT IDENTITY: THERMOL PLUS™ Heat Transfer Oil
ISO GRADE: 22, 32, 46, 56, 68

MANUFACTURER'S NAME
 Pinnacle Resources, Inc.
 5504 Jefferson Parkway
 Pine Bluff, Arkansas 71602

EMERGENCY ASSISTANCE
 Telephone No. (870) 247-2315
 Information: (870) 247-2315



SECTION 2 - COMPOSITION AND INGREDIENTS

	%Weight
P Thermol Plus Heat Transfer Oil ISO Grades 22 thr 68	100
1 Severely refined, hydrotreated paraffinic distillate base oil.	85 - 92
2 Additive system with proprietary nitrogen antioxidant chemistry.	4 - 8
3 Other minor additives.	<1

Occupational Exposure Limits (estimated 8-hour workday):

No.	OSHA		ACGIH		OTHER
	PEL/TWA	PEL/CEILING	TLV/TWA	TLV/STEL	
P	5 Mg/M ³ *	None	5Mg/M ³ *	10 Mg/M ³ *	None (*Oil Mist, Mineral)

SECTION 3 - HAZARDS IDENTIFICATION

US OSHA Communication Standard: Product assessed in accordance with OSHA 29 CFR 1910.1200 and determined not to be hazardous.

Effects of overexposure: No significant effects expected.

Emergency Response Data: Liquid with varying color and clarity. DOT ERG No. - NA SEC: 0

SECTION 4 - EMERGENCY AND FIRST AID MEASURES

Eye Contact - Flush with water for 15 minutes while holding eyelids open. If irritation persists, get medical attention.

Skin Contact -Remove contaminated clothing and wipe excess off. Wash with soap and water or a waterless hand cleaner followed by soap and water. If irritation occurs, get medical attention.

Inhalation - If overcome by vapor remove victim to fresh air; administer oxygen if breathing is difficult. Get medical attention.

Ingestion - Do not induce vomiting. In general no treatment is necessary unless large quantities of product are ingested. However, get medical attention.

Note to Physician - In general, Emesis Induction is unnecessary in high viscosity, low volatility products, I.E., most oils and greases.

SECTION 5 - FIRE AND HAZARD DATA

Flammable limits /% Volume in Air

Lower: N/AV Upper: N/AV

NFPA RATINGS- Health: 1 Flammability: 1 Reactivity: 0 Special: --

NPCA-HMIS RATINGS- Health: 1 Flammability: 1 Reactivity: 0

Extinguishing Media:

Use water fog, foam, dry chemical or CO₂. Do not use a direct stream of water. Product will float and be reignited on surface of water.

Special Fire Fighting Procedures and Precautions:

Material will not burn unless preheated. Do not enter confined fire-space without full bunker gear (Helmet with face shield, bunker coats, gloves and rubber boots), including a positive-pressure NIOSH-Approved self-contained breathing apparatus. Cool fire exposed containers with water.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Spill or Leak Procedures:

May burn although not readily ignitable. Use cautious judgement when cleaning up large spills. ***Large Spills*** Wear respirator and protective clothing as appropriate. Shut off source of leak. If safe to do so, dike and contain. Remove with vacuum trucks or pump to storage salvage vessels. Soak up residue with an absorbent such as clay, sand, or other suitable materials; dispose of properly. Flush area with water to remove trace residue.

Small Spills Take up with an absorbent material and dispose of properly.

Waste Disposal:

Place in an appropriate disposal facility in compliance with local regulations.

SECTION 7 - PRECAUTIONS FOR SAFE HANDLING AND USE

The health effects noted below are consistent with requirements under the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Eye Contact:

Lubricating oils are general considered no more than minimally irritating to the eyes.

Skin Contact:

Lubricating oils are generally considered no more than mildly irritating to the skin. Prolonged and repeated contact may result in various skin disorders such as Dermatitis, Folliculitis or Oil Acne.

Inhalation:

Inhalation of vapor (generated at high temperatures only) or oil mist from this product may result in mild irritation of the upper respiratory tract.

Ingestion:

Lubricating oils are generally considered no more than slightly toxic if swallowed.

Signed and symptoms:

Irritation as noted above.

Aggravated Medical Conditions:

Pre-existing skin and respiratory disorders may be aggravated by exposure to this product.

The International Agency For Cancer Research has determined there is sufficient evidence for the carcinogenicity in experimental animals exposed by contact to used motor (crankcase) oil. Handling procedures and safety precautions in the MSDS should be followed to minimize exposure to the product as used lubricating oil in gasoline or diesel fuelled internal combustion engines.

SECTION 8 - EXPOSURE CONTROL MEASURES

Minimize skin contact. Wash with soap and water before eating, drinking, smoking or using toilet facilities. Launder contaminated clothing before reuse, properly dispose of contaminated leather articles, including shoes that cannot be decontaminated. Store in a cool, dry place with adequate ventilation. Keep away from open flames and high temperatures.

Respiratory Protection:

If exposure may or does exceed occupational exposure limits (SECTION 2) use a NIOSH-Approved respirator to prevent overexposure. In accord with 29 CFR 1910.134 use either an atmosphere-supplying respirator or an air-purifying respirator for organic vapors and particulate.

Protective clothing:

Wear chemical resistant gloves and other protective clothing as required to minimize skin contact. Wear safety goggles to avoid eye contact. Test data from published literature and/or glove and clothing manufacturers indicate the best protection is provided by nitrile gloves.

SECTION 9 - PHYSICAL/CHEMICAL CHARACTERISTICS

Boiling Point: Not Available	Gravity, (H ₂ O=10.0) API @ 60° F: 32.5-30.0	Vapor Pressure: Not Available	Melt Point: -10° F - +10 Pour Pt.
Evaporation Rate: N.A.	Percent Volatile by Volume: Negligible	Vapor Density: (Air=1.0) >1.0	Viscosity@40°C, cSt.: 21.8 - 67.6
Solubility In Water: Negligible	Appearance: Water/Clear	Odor: Mild hydrocarbon	Vis@100°C, cSt.: 4.3 - 8.7
			Flash Pt., COC: 400°F - 480F

SECTION 10 - REACTIVITY DATA

Stability: Stable Hazardous Polymerization: Will Not Occur Conditions and Materials to Avoid: Avoid heat, open flames and oxidizing materials.

Hazardous Decomposition Products:

Thermal decomposition products are highly dependent on the combustion conditions. A complex mixture of airborne solid, liquid, particulate and gases will evolve when this material undergoes pyrolysis or combustion. Carbon monoxide and other unidentified organic compounds may be formed upon combustion.

SECTION 11 - TOXICOLOGICAL INFORMATION

Dermal LD50	>5.0 g/kg (Rabbit)	OSHA - Non Toxic	Based on similar material(s)		
Oral LD50	>5.0 g/kg (Rat)	OSHA - Non Toxic	Based on similar material(s)		
Carcinogenicity Classification:		NTP=No	IARC=Not Reviewed	ACGIH=No	OSHA=No

SECTION 12 - ECOLOGICAL INFORMATION

This product is classified as an oil under section 311 of the Clean Water Act. Spills entering (A) surface waters of (B) any water courses or sewers entering/leading to surface waters that cause a sheen must be reported to the nearest local Environmental Protection Agency Office.

SECTION 13 - DISPOSAL CONSIDERATIONS

Product is suitable for burning in an enclosed, controlled burner for fuel value or disposal by supervised incineration. Proper characterization is recommended. The product is suitable for processing by an approved recycling facility or can be disposed of at an appropriate government waste disposal facility. Compliance with all appropriate Federal, State, and Local regulations should be satisfied at time of disposal.

SECTION 14 - TRANSPORT INFORMATION

TDG Classification not regulated. Special provisions for transport: Not Applicable. DOT Identification Number: Not Regulated

SECTION 15 - REGULATORY INFORMATION

U.S. TSCA INVENTORY:	All components of this product are on the US TSCA Inventory.
Other TSCA Regulations:	None Known
SARA SECTIONS 301- 304:	This product does not contain greater than 1.0% of any chemical substance on the SARA Extremely Hazardous Substances List.
SARA SECTION 311/312(Hazard):	This product does not contain any chemical substance on SARA Hazard, Delayed Health Hazard List.
SARA SECTION 313: (Toxic Chemicals)	This product does not contain greater than 1.0% (greater than 0.1% for carcinogenic substance) of any chemical substances listed under SARA Section 313.
CERCLA HAZARDOUS SUBSTANCES:	None Known
FDA APPROVAL:	Not Applicable
RCRA STATUS:	If discarded in its purchased form, this product would not be a hazardous waste either by listing or by characteristic. Under RCRA it is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste.

SECTION 16 - OTHER INFORMATION

THE INFORMATION CONTAINED HEREIN IS BASED ON THE DATA AVAILABLE AND IS BELIEVED TO BE CORRECT. HOWEVER, PINNACLE RESOURCES, INC. MAKES NO WARRANTY, EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THESE DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF. PINNACLE RESOURCES, INC. ASSUMES NO RESPONSIBILITY FOR INJURY FROM THE USE OF THE PRODUCT DESCRIBED HEREIN.

PINNACLE RESOURCES, INC. MANUFACTURING FACILITY
Pine Bluff, Arkansas

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