

IND-4508-2412E

HITHERM P

Heat Transfer Oil for Equipment Heating (High Flash Point Type)

HITHERM P is a mineral oil-based heat transfer oil with a flash point of 250°C or higher. **HITHERM P** uses highly refined base oil and exhibits excellent high-temperature oxidation stability and thermal stability, which suppress sludge formation even during extended use.

It also fully exhibits the following advantages of the indirect heating methods:

1. High temperatures can be achieved at low pressure.
2. Prevents localized heating and allows for uniform heating.
3. Enables precise and flexible control of temperature and heat transfer rate.
4. Allows for rapid heating and cooling operations.

● SPECIAL FEATURES

1. Guaranteed Flash Points above 250 °C

HITHERM P (Plus) has a flash point of 250°C or higher and is not classified as a hazardous material but as a flammable liquid under the Fire Service Act in Japan.

2. Excellent Thermal Stability and Oxidation Stability

For heat transfer oils used in circulation, thermal decomposition stability and high-temperature oxidation stability are essential. If these properties are inadequate, carbon and sludge may form and adhere to the walls of pipes, reducing the thermal conductivity of the heat transfer oil and causing poor circulation. **HITHERM P** is produced by eliminating components prone to cause thermal and oxidative degradation through advanced special refining processes and combining with special additives. As a result, even when used for long periods at high temperatures, sludge formation is minimized, allowing for smooth operation of equipment and easier maintenance.

3. Low Volatility and Vapor Pressure, High Flash Point

HITHERM P has low evaporation loss and low vapor pressure, which prevents vapor lock in circulation systems and cavitation in pumps.

4. Good Low-Temperature Fluidity and Minimal Viscosity Change

HITHERM P has a low pour point and excellent low-temperature fluidity, preventing

localized overheating at equipment start-up. Additionally, with a high viscosity index, it maintains stable fluidity with minimal viscosity fluctuation due to temperature changes.

5. Non-Toxic and Odorless

HITHERM P is petroleum hydrocarbon-based, ensuring high safety and the absence of distinctive odors.

6. High Heating Efficiency

HITHERM P has high specific heat and thermal conductivity, allowing for a large amount of heat transfer per unit quantity, making it economical.

● PRECAUTIONS FOR USE

HITHERM P should not be used in environments where it comes into direct contact with air. Use it only after purging the air in a sealed indirect heating system with an inert gas such as nitrogen. Also, ensure that the oil temperature does not exceed 260°C.

● PRECAUTIONS FOR HANDLING FLAMMABLE LIQUIDS

- (1) Under the Fire Service Act in Japan, when storing with hazardous materials in indoor or outdoor storage, it is generally required to group the hazardous materials and flammable liquids separately, maintaining a minimum distance of 1 meter between them.
- (2) Flammable liquids are classified as “Designated Flammable Materials” when the quantity is 2 cubic meters (2,000 liters) or more,

and are subject to municipal regulations in Japan.

● CONTAINERS

200-liter drum and 20-liter can

● APPLICATIONS

- (1) Molding, vulcanization, and calendaring of rubber and plastics.
- (2) Heating of asphalt plants and fuel tanks.
- (3) Impregnation, lamination, adhesion, and drying of tiles, linoleum, and paper-based roofing materials.
- (4) Drying and lamination of wood, plywood, and veneer.

(5) Synthesis in dye, oil, chemical, varnish, resin, and other chemical industries.

(6) Coating, insulation, adhesion, and drying of electrical wires, electrical components, and mechanical parts.

(7) Roll heating in printing.

(8) Panel heaters.

(9) Others.

● TYPICAL PROPERTIES OF HITHERM P

ISO Viscosity Grade			32	68	100
Color	(ASTM)		L0.5	L0.5	L1.5
Density	(15°C)	g/cm ³	0.840	0.861	0.886
Kinematic viscosity	(40°C)	mm ² /s	35.0	68.3	102
Kinematic viscosity	(100°C)	mm ² /s	6.39	9.39	11.4
Viscosity index			136	115	98
Flash point	(COC)	°C	252	262	266
Pour point		°C	-12.5	-15.0	-12.5
Acid number		mgKOH/g	0.01	0.01	0.02
Copper strip corrosion	(100°C, 3h)		1	1	1

Note: The typical properties may be changed without notice. (December 2024)



Handling Precautions

▼ Follow these precautions when handling this product.

HITHERM P 32, HITHERM P 68

Composition :	Base Oil(s), Additives
Hazard category	Not applicable
Precautionary Statements:	
Prevention	<ul style="list-style-type: none">• Do not handle until all safety precautions have been read and understood.• Wear protective gloves/protective clothing/eye protection/face protection.• Do not allow the eyes to become exposed to the product. Do not swallow the product.• Wash hands thoroughly after handling.• Do not eat, drink or smoke when using this product.
Response	<ul style="list-style-type: none">• IF SWALLOWED: Immediately call a POISON CENTER/doctor.• IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.• If the eyes are exposed to the product: Rinse the eyes with plenty of running water and immediately contact a physician.• IF ON SKIN: Wash with plenty of soap and water.
Storage	<ul style="list-style-type: none">• The product must be stored in a cool, well-ventilated location where it will not be exposed to direct sunlight.• Containers that have been opened must be tightly sealed.
Disposal	<ul style="list-style-type: none">• Dispose of contents/container in accordance with local/regional/national/international regulations.• If there are any doubts about proper methods of handling the product, contact the point of purchase before proceeding with usage.

HITHERM P 100

Composition :	Base Oil(s), Additives
Hazard pictograms:	Not applicable
Signal word:	Not applicable
Hazard Statement:	Not applicable
Precautionary Statements:	
Prevention	<ul style="list-style-type: none">• Do not handle until all safety precautions have been read and understood.• Wear protective gloves/protective clothing/eye protection/face protection.• Do not allow the eyes to become exposed to the product. Do not swallow the product.• Wash hands thoroughly after handling.• Do not eat, drink or smoke when using this product.
Response	<ul style="list-style-type: none">• IF SWALLOWED: Immediately call a POISON CENTER/doctor.• IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.• If the eyes are exposed to the product: Rinse the eyes with plenty of running water and immediately contact a physician.• IF ON SKIN: Wash with plenty of soap and water.
Storage	<ul style="list-style-type: none">• The product must be stored in a cool, well-ventilated location where it will not be exposed to direct sunlight.• Containers that have been opened must be tightly sealed.
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