Basekim Chemical Production Co.Ltd.

Material Safety Data Sheet (MSDS) — Heat Transfer Oil

Product Name: Basekim Heat Transfer Oil (Premium Thermal Fluid)
Supplier / Manufacturer: Basekim Chemical Production Co., UAE / Turkey
Intended Use: Closed-loop heat transfer systems in industrial applications (chemical, food, textiles, asphalt, plastics, etc.) for heating, drying, pressing, etc. Basekim
Emergency Contact: Basekim Technical / Safety Department / Local Emergency Services

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Section 1: Identification

Item	Details
Product Identifier	Heat Transfer Oil
Synonyms	Thermal Oil, Heat Transfer Fluid, Heat Carrier Oil
Chemical Family	Refined mineral oil or synthetic thermal fluid + additives
Uses	Circulation in heater systems, conductive heating, bath heating, process drying etc. Basekim
Supplier	Basekim Chemical Production Co., UAE / Turkey
Website / Reference	Basekim product page for Heat Transfer Oil Basekim

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Section 2: Hazard Identification

GHS Classification (anticipated):

- Skin Irritation — Category 2
- Eye Irritation — Category 2A
- Acute toxicity (Inhalation / if misted or vapour) — Category 4 (depending on additive volatility)
- Hazardous to aquatic life — Acute Category 2 / Chronic Category 2

Signal Word: WARNING

Hazard Statements:

- Causes skin irritation.
- Causes serious eye irritation.
- May cause respiratory irritation if inhaled (vapour, mist).
- Toxic to aquatic life with long lasting effects.

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Precautionary Statements:

- Avoid breathing mist / vapour.
- Wear protective gloves, eye protection, protective clothing.
- Use in well-ventilated areas.
- Wash hands thoroughly after handling.
- Avoid release to the environment.

Section 3: Composition / Information on Ingredients

Component	CAS Number*	Approximate Concentration (%)	Function / Remarks
Refined mineral base oil (or synthetic fluid if that's your variant)	(e.g. various petroleum hydrocarbon CAS)	~85-98%	Thermal medium providing heat transport and fluidity
Antioxidant / oxidation stability additives	proprietary	~0.5-3%	To resist thermal oxidation and prolong fluid life
Anti-corrosion / metal passivation additives	proprietary	~0.5-2%	Protects metal surfaces in heat exchangers, lines, etc.
Anti-foaming / air release agents	proprietary	<1%	Reduce foam, aid deaeration in circulation
Other stabilizers / thermal stability agents	proprietary	<1%	To suppress deposit, prevent coking under high temperature

*The exact CAS numbers depend on the specific base oil and additive package. If synthetic, they may be different. Use the ones your lab provides.

Section 4: First Aid Measures

- **Eye Contact:** Immediately flush with plenty of water for at least 15 minutes. Remove contact lenses if present. If irritation persists, seek medical advice.
- **Skin Contact:** Remove contaminated clothing. Wash with soap and water. If irritation or rash occurs, seek medical advice.
- **Inhalation:** Move to fresh air. If breathing difficulty or symptoms persist, obtain medical attention.

- **Ingestion:** Do NOT induce vomiting. Rinse mouth with water and seek medical attention immediately.

Section 5: Firefighting Measures

- **Flash Point:** (Insert your batch lab value; likely high, e.g. ≥ 200 °C)
- **Autoignition Temperature:** (Lab value needed)
- **Suitable Extinguishing Media:** Foam, dry chemical, CO_2.
- **Unsuitable Media:** High-pressure water jet (can spread burning oil).
- **Special Hazards:** Decomposition products under fire may include CO, CO_2, smoke, possibly other harmful volatiles depending on additives.
- **Protective Equipment for Firefighters:** Self-contained breathing apparatus; full flame-resistant protective gear.

Section 6: Accidental Release Measures

- **Personal Precautions:** Wear appropriate PPE (gloves, eye protection, protective clothing). Avoid contact with skin or eyes. Avoid inhalation of vapours / mists.
- **Environmental Precautions:** Prevent spill entering drains or watercourses. Heat transfer oils are harmful to aquatic life.
- **Cleanup Methods:** Contain spill using inert absorbent (sand, earth, vermiculite). Collect into suitable, labelled containers for disposal. Clean residual surfaces with detergent; collect wash water.

Section 7: Handling and Storage

- **Handling:** Ensure adequate ventilation. Avoid generation of vapours / mist. Avoid contact with skin and eyes. Keep containers closed when not in use.
- **Storage:** Store in cool, dry, well-ventilated area. Protect from direct sunlight, excessive heat. Use containers suitable for thermal fluids.
- **Storage Temperature Range:** Recommended (for example) 5-40 °C (adjust per your product spec).
- **Incompatibles:** Strong oxidizing agents; water (excess); contamination with foreign substances.

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Section 8: Exposure Controls / Personal Protection

- **Occupational Exposure Limits:** For mineral oil vapour / mist (local regulatory limit). If synthetic, also check additive hazards.
- **Engineering Controls:** Local exhaust ventilation; closed circulation systems.
- **PPE:**
  • Eye protection: safety goggles / face shield
  • Skin protection: chemical/protective gloves resistant to oils
  • Respiratory protection: if mist/vapour above limits, use appropriate respirator
  • Hygiene: wash hands and skin after handling; avoid eating or drinking in handling areas

Section 9: Physical & Chemical Properties

Property	Typical Value / Range*
Appearance	Clear to amber liquid
Odor	Mild hydrocarbon smell
Density @ ~15 °C	~0.85-0.90 g/cm³ (depending on base & additives)
Kinematic Viscosity @ 40 °C	(Insert lab value; maybe 20-100 cSt depending on grade)
Viscosity @ 100 °C	Lower; per lab data
Viscosity Index	High (good stability vs temperature)
Flash Point (Closed Cup)	Approximately ≥ 200 °C or as specified
Pour Point	Perhaps between –10 to –20 °C (depending on formulation)
Thermal Stability / Max Operating Temp	Specify – e.g. up to 320-360 °C (depending on synthetic or mineral type)
Vapor Pressure	Low under operating conditions
Solubility	Insoluble in water; miscible with hydrocarbon solvents

These are typical ranges. Use actual values from lab / certificate of analysis for your grade.

Section 10: Stability and Reactivity

- **Stability:** Stable under normal usage and storage conditions.
- **Conditions to Avoid:** Overheating beyond rated temperature; exposure to oxygen / air at high temperature (oxidation); contamination (water, debris).
- **Incompatible Materials:** Strong oxidizers; acids; maybe caustics in some cases.

- **Hazardous Decomposition Products:** Smoke; CO; CO_2; other volatiles depending on additives (possible aldehydes, ketones) when overheated or burnt.

Section 11: Toxicological Information

- **Acute Toxicity:** Generally low for refined base oils; ingestion in large amounts harmful.
- **Skin Contact:** May cause irritation; prolonged contact may cause dermatitis.
- **Eye Contact:** Irritation possible.
- **Inhalation:** Vapour / mist may irritate respiratory tract.
- **Chronic Effects:** Repeated exposure might lead to skin sensitization depending on additives; some degradation products may be harmful.

Section 12: Ecological Information

- **Aquatic Toxicity:** Likely harmful to water organisms.
- **Persistence & Degradability:** Base oil may be slowly biodegradable; additives may degrade slower; residues persist.
- **Bioaccumulation Potential:** Certain hydrocarbon fractions may bioaccumulate.
- **Environmental Fate:** Can form film on water surface, reducing oxygen exchange; soil contamination possible.

Section 13: Disposal Considerations

- Dispose of in accordance with local, regional, and national environmental laws.
- Used heat transfer oil may be regulated as hazardous waste depending on contamination level.
- Do not discharge into drains, water bodies, or soil.

Section 14: Transport Information

- **UN Number:** Depends on flash point and hazard classification; if non-flammable high flash point it may be exempt; otherwise may be Class 3.
- **Proper Shipping Name:** Heat Transfer Oil or Thermal Fluid, N.O.S. (if additives require hazard labeling)
- **Hazard Class:** Based on flammability, aquatic toxicity.
- **Packing Group:** Determined by lab-data (flash point etc.)

- **Marine Pollutant:** Possibly yes if toxic to aquatic life.

Section 15: Regulatory Information

- Conforms to GHS labeling, local safety / handling regulations.
- Must supply Certificate of Analysis (COA), TDS, MSDS with shipments. Basekim
- Some grades may need food-grade or synthetic / biodegradability certification depending on application.

Section 16: Other Information

- **Revision Date:** [Insert date]
- **Prepared by:** Basekim Technical / Safety Team
- **Disclaimer:** Provided based on current knowledge and belief. Not a guarantee of specific properties. Actual batch results should be consulted for critical applications.

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