



Material Safety Data Sheet (MSDS) — Transformer Oil

Product Name: Basekim Transformer Oil (Mineral Insulating Oil)

Supplier / Manufacturer: Basekim Chemical Production Co., UAE / Turkey

Intended Use: Electrical insulating and cooling fluid used in transformers, switchgear, capacitors, and underground cables. Provides insulation, cooling, protects metal parts, controls moisture, resists oxidation. [Basekim](#)

Section 1: Identification

Field	Information
Product Identifier	Transformer Oil (Mineral Insulating Oil)
Synonyms	Insulating Oil, Dielectric Oil
Supplier	Basekim Chemical Production Co., UAE / Turkey
Address / Contact	As per Basekim website Basekim
Emergency Contact	Basekim Technical / Safety Department or local emergency services

Section 2: Hazard Identification

GHS Classification (expected):

- Aquatic Acute Category 2
- Aquatic Chronic Category 2
- Skin Irritation Category 2
- Eye Irritation Category 2A

Signal Word: WARNING

Hazard Statements:

- Causes skin irritation.
- Causes serious eye irritation.
- Toxic to aquatic life with long lasting effects.

Precautionary Statements:

- Avoid skin and eye contact.
- Wash thoroughly after handling.
- Keep out of eyes, on skin, and clothes.
- Do not release into environment.



- Use protective gloves, protective clothing, eye protection.

Other Hazards:

- High voltage equipment — risk of electric shock if fluid is contaminated or moisture is excessive.
- Used oil may contain harmful by-products (e.g. oxidation products) — see Section 11/12.

Section 3: Composition / Information on Ingredients

Component	CAS Number	Approximate Concentration (%)	Typical Function / Remarks
Highly refined petroleum base oil	64742-54-7 or similar	~ 95 - 99%	Provides insulating medium and thermal conductivity
Antioxidants	Proprietary blend	~ 0.1 - 1%	Prevents oxidation, prolongs oil life
Metal deactivators / corrosion inhibitors	Proprietary	~ 0.1 - 1%	Protects transformer internals, metals (copper, steel)
Pour point depressants / pour point control additives	Proprietary	< 0.1 - 0.5%	Helps maintain low pour point
Trace impurities (sulfur compounds, moisture, etc.)	—	<0.5% total	To be minimized in quality oil

Exact formulation varies by grade. Additives may vary (some grades may include varnish inhibitors, sludge suppressors, etc.).

Section 4: First Aid Measures

- **Eyes:** Immediately flush with plenty of clean water for at least 15 minutes; remove contact lenses if present; get medical attention if irritation persists.
- **Skin:** Wash with soap and water; remove contaminated clothing; if irritation or rash develops, seek medical attention.
- **Inhalation:** Move person to fresh air; if breathing is difficult, seek medical attention.
- **Ingestion:** Do NOT induce vomiting; rinse mouth; get medical attention immediately.



Section 5: Firefighting Measures

- **Flash Point:** (Fill in your lab-value) — typically around 140-160°C or higher depending on base oil and additives.
- **Autoignition Temperature:** (Lab value needed)
- **Extinguishing Media:** Use foam, dry chemical, CO₂; avoid water jets directly (they could spread oil).
- **Unsuitable Media:** Direct water streams that could spread burning oil.
- **Hazards from Combustion:** Burning may release CO, CO₂, smoke, possibly sulfur oxides or other acidic gases depending on impurities.
- **Protective Equipment:** Firefighters should wear self-contained breathing apparatus and protective gear resistant to oil.

Section 6: Accidental Release Measures

- **Personal Precautions:** Avoid direct contact; use gloves, eye protection. Prevent inhalation of vapours or mist.
- **Environmental Precautions:** Prevent oil entering drains, water bodies, soil. Even clean insulating oil can be harmful to aquatic life.
- **Cleanup Methods:** Contain spill using absorbent materials (sand, earth, vermiculite); collect oil in containers; clean residue with suitable detergent and dispose of waste per regulation.

Section 7: Handling and Storage

- **Handling:** Use in well-ventilated area; avoid generation of vapour or mist; avoid contact with eyes, skin; keep containers closed when not in use.
- **Storage:** Store in dry, cool, well-ventilated area; protect from extreme temperatures and direct sunlight; keep containers tightly sealed; avoid moisture ingress.
- **Storage Temperature Range:** e.g. 5-40 °C (or as per spec).
- **Incompatible Materials:** Strong oxidizers; moisture; acid substances; water if high.



Section 8: Exposure Controls / Personal Protection

- **Occupational Exposure Limits (OELs):** For base oil vapours / mists where applicable (refer to local regulatory limits).
- **Engineering Controls:** Local exhaust ventilation; sealed systems if necessary; control moisture.
- **Personal Protective Equipment:**
 - Eye protection: Safety goggles
 - Skin protection: Oil-resistant gloves; protective clothing
 - Respiratory protection: If vapour or mist above exposure limits
 - Hygiene: Wash hands after handling; avoid eating/drinking in work area

Section 9: Physical & Chemical Properties

Property	Typical Value / Range*
Appearance	Clear to pale yellow liquid
Odor	Mild hydrocarbon smell
Density @ 15°C	~0.87-0.90 g/cm ³
Kinematic Viscosity @ 40°C	~8-20 cSt (depending on grade)
Viscosity @ 100°C	e.g. ~2-5 cSt
Pour Point	e.g. -25 to -10 °C depending on pour point depressants
Flash Point (Closed Cup)	e.g. ~140-160 °C or more
Dielectric Strength	(Lab-value, e.g. ≥35 kV or per ASTM/IEC standard)
Water Content	Low, e.g. < 20 ppm (fill in exact)
Acid Number (TAN)	Low, e.g. <0.02 mg KOH/g (as per spec)

These are typical values; actual values for your batch should be supplied via Certificate of Analysis.

Section 10: Stability and Reactivity

- **Chemical Stability:** Stable under normal use and storage conditions.
- **Conditions to Avoid:** Extreme heat; moisture or water ingress; oxidation; contamination with dust or metals.
- **Incompatible Materials:** Strong oxidizers; water in large amounts; acids.
- **Hazardous Decomposition Products:** CO, CO₂, smoke, possibly sulfur oxides or aldehydes under high thermal stress or flame.



Section 11: Toxicological Information

- **Acute Toxicity:** Low via skin or ingestion for clean oil; ingestion of large amounts may be harmful.
- **Skin Contact:** Can cause drying or irritation; possible dermatitis upon repeated exposure.
- **Eye Contact:** Irritation likely.
- **Inhalation:** Vapour / mist may irritate respiratory tract.
- **Chronic Effects:** Repeated exposures to oxidation products or impurities might carry more risk; possible sensitization; used oil may have more hazards.

Section 12: Ecological Information

- **Aquatic Toxicity:** Harmful to aquatic organisms; long-term effects expected.
- **Persistence & Degradability:** The base oil is not readily biodegradable; some additives may degrade, but residues likely persist.
- **Bioaccumulative Potential:** Certain hydrocarbon fractions may bioaccumulate.
- **Environmental Fate:** Oil films on water surfaces reduce oxygen transfer; risk to soil and groundwater if released.

Section 13: Disposal Considerations

- Dispose in accordance with local, regional, and national regulations.
- Used transformer oil may be hazardous waste depending on contamination level.
- Do not release into drains or environment.
- Clean containers thoroughly before disposal or reuse.

Section 14: Transport Information

- **UN Number:** Depending on flash point and classification; many transformer oils are non-hazardous, but if additive or low flash point, check classification.
- **Proper Shipping Name:** Transformer Oil or Insulating Oil, N.O.S. (depending on additives)
- **Transport Hazard Class:** Usually non-flammable class if high flash point; otherwise Flammable Liquid Class 3.
- **Packing Group:** Based on hazard classification.
- **Marine Pollutant:** Yes, if aquatic toxicity/chemical hazards present.



Section 15: Regulatory Information

- Meets relevant global standards: IEC and ASTM (as per Basekim) for transformer insulating oils. [Basekim](#)
- Complies with labelling and safety rules under local jurisdictions (GHS, REACH, etc.).

Section 16: Other Information

- **Revision Date:** [Insert date]
- **Prepared by:** Basekim Technical / Safety Team
- **Disclaimer:** The information given is based on the current state of our knowledge. It is intended to describe the product for safety purposes and should not be construed as guaranteeing specific product properties.