



MATERIAL SAFETY & DATA SHEET

HEAT TREATMENT OIL

| | |
|---------------------------------------|--|
| APPLICATION: | Industrial Lubricant |
| MANUFACTURER/SUPPLIER: | TEM LUBCHEM COMPANY Lubricants Technical Services Lubricants and Chemicals Department Tel. +92 334 391 061 3 |
| PRODUCT TECHNICAL INFORMATION: | info@temlubchem.com |
| REVISION NO.: | 00 |
| REVISION DATE: | |

DESCRIPTION:

TEM Fission is high performance mineral oil containing high viscosity index paraffinic base oils and cooling accelerator, suitable for conventional quenching of ferrous metals. The high viscosity index ensures minimum viscosity change during the entire quenching operation.

APPLICATION:

TEM Fission is suitable for quenching of ferrous metals like gray iron, alloy steel and carbon steel. Because of its good thermal stability and contributes to maintain a good level of cleanliness.

MATERIAL SAFETY & DATA SHEET

BENEFIT:

High resistance to thermal and oxidation breakdown yields longer service life, less viscosity increase in service and fewer carbonaceous deposit that must be cleaned from quenched parts.

Non-corrosive to steel and residues easily removed from quenched parts with only a mild alkali wash

Exceptionally good oxidation stability

Exhibits high quenching speed

High flash point of product minimizes smoking and improves working conditions

Stable over a wide range of temperatures

High resistant to oxidation

High flash point and fire points for safe operation

Promotes deep hardening of parts

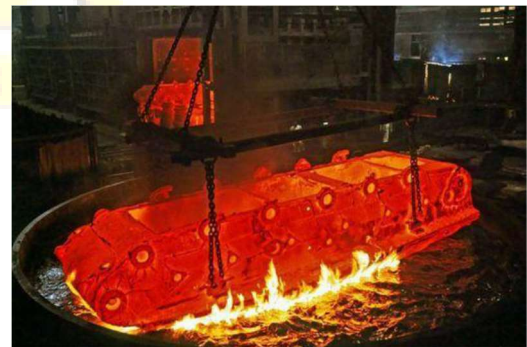
Low volatility ensures fuming and evaporation are kept to a minimum

Provides good wetting characteristics

TYPICAL TEST DATA

TEM-FISSION

| VISCOSITY GRADES | | 68 |
|---------------------------|---------|-----|
| Viscosity Kinematic (cSt) | 40°C | 68 |
| Viscosity Kinematic (cSt) | 100°C | 6.2 |
| Viscosity Index | | 90 |
| Flash Point | (COC)°C | 210 |
| Pour Point | °C | -12 |



MATERIAL SAFETY & DATA SHEET

HAZARDOUS IDENTIFICATION

This material is not classified as hazardous according to the Globally Harmonized System (GHS) of classification and labelling of chemicals, but should be handled in accordance with good industrial hygiene and safety practices.

HAZARD STATEMENTS

Physical Hazards

Not classified as physical hazard according to classifications, labelling and packaging (CLP) criteria.

Health Hazard

Not classified as health hazard according to classifications, labelling and packaging (CLP) criteria.

Environmental Hazard

Not classified as environmental hazard according to classifications, labelling and packaging criteria.

GHS PRECAUTIONARY STATEMENTS

P102: Keep out of reach of children.

P232: Protect from moisture.

P261: Avoid breathing dust/fume/gas/mist/vapors/spray.

P262: Do not get in eyes, on skin, or on clothing.

P273: Avoid release to the environment.

P281: Use personal protective equipment as required.

GHS RESPONSE STATEMENTS

P301: IF SWALLOWED: rinse mouth. Do NOT induce vomiting. Seek medical treatment.

P302: IF ON SKIN: Gently wash with plenty of soap and water. If irritation occurs, get medical advice/attention.

P304: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P305: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P306: IF ON CLOTHING: Rinse immediately contaminated clothing and skin with plenty of water before removing clothes.

OTHER HAZARDS

Prolonged exposure with skin might result in potential health risks, which may vary from person to person. Used engine oil may contain hazardous components which have the potential to cause severe skin diseases.

MATERIAL SAFETY & DATA SHEET

FIRST AID MEASURE

IN CASE OF CONTACT:

Wash eyes thoroughly with plenty of water, ensuring that eyelids are kept open. Seek medical advice if any pain or irritation develops or persists.

IN CASE OF SKIN CONTACT:

Wash skin thoroughly with plenty of soap and water. If clothing is contaminated, then immediately remove contaminated clothing and shoes. If product is in direct contact with any exposed wound, then the individual should immediately seek medical attention.

IN CASE OF INGESTION:

If ingested, do not induce vomiting. Seek immediate medical advice.

IN CASE OF INHALATION:

Exposure to fumes or vapors may cause irritation in nose or throat; move the affected person to fresh air. If coughing or respiratory discomfort occurs, then seek medical attention.

NOTE TO PHYSICIAN:

Treat symptomatically.

FIREFIGHTING MEASURE

APPROPRIATE EXTINGUISHING MEDIA

- Use foam, Dry Chemical Powder, Carbon dioxide or water fog.

INAPPROPRIATE EXTINGUISHING MEDIA

- Do not use water jets.

FIRE FIGHTING INSTRUCTIONS

- In case of fire, evacuate from the area immediately.
- Cordon off area to prevent spreading of exposed material.
- In case of fires in confined spaces, only trained personnel should deal with fires using appropriate breathing apparatus.
- Water may be used to cool nearby heat exposed areas/objects/packages.
- Avoid spraying directly on storage containers to avoid risk of boil-over.

HAZARDOUS COMBUSTION PRODUCTS

- As a result of combustion, carbon dioxide, carbon monoxide, airborne solids, liquids, gases, smoke, fumes, oxides of Sulfur, Nitrogen, Phosphorus and Zinc may evolve.

MATERIAL SAFETY & DATA SHEET

ACCIDENTAL RELEASE MEASURE

PERSONAL PROTECTION

- Avoid contact with spilled materials. In case of contact with spilled material follow appropriate measures as mentioned in section 4.

SPILLED MATERIAL CONTAMINATION

- Spilled material may make surfaces slippery.
- Protect drains from possible spills to minimize contamination by using sand or appropriate barriers.
- Do not wash-down product into drainage system.
- In case of large spills contact the appropriate authorities.
- In the event of spillage of water, prevent the spread of product by use of suitable barrier equipment. Recover product from the surface.

ENVIRONMENTAL PROTECTION

- Contain and recover spilled material using sand or other suitable inert absorbent material. It is advised that stocks of suitable absorbent material should be held in quantities sufficient to deal with any spillage, which may be reasonably anticipated.
- Place contaminated materials in disposable containers and dispose of in an environment friendly manner.
- Protect environmentally sensitive areas and water supplies.

MATERIAL SAFETY & DATA SHEET

HANDLING AND STORAGE

SAFE HANDLING ADVICE

- Avoid contact with eyes. If splashing is expected to happen wear a full face shield or goggles as suitable.
- Avoid frequent or prolonged skin contact with fresh or used lubricant. Wash hands thoroughly and immediately right after contact.
- Maintain proper ventilation if there is a risk of inhalation of vapors, mists, etc.
- Use appropriate safety shoes during drum handling.
- Maintain high standards of personal hygiene, good working practices and plant cleanliness at all times.
- For cleaning use disposable cloths and discard them when soiled. Do not put soiled cloths into pockets.

ELECTROSTATIC HAZARD

- To minimize hazard of electrostatic charge during handling of bulk product, ensure proper bonding and grounding to prevent the built-up static charges that can cause sparking of sufficient magnitude to ignite the atmosphere in a hazardous location.

STORAGE ADVICE

- Lubricant packages should be stored under cover with appropriate ventilation.
- Store away from heat and ignition sources.
- Wooden planks should be used to keep the drums and packages clear of the ground to prevent rusting and damage.
- Use properly labelled packages to ensure correct usage of the product.
- Keep lubricant containers tightly closed to avoid contamination.

EXPOSURE CONTROL/ PERSONAPHYSICAL AND

PERSONAL PROTECTIVE EQUIPMENT

- Selection of PPEs is dependent on multiple factors such as working conditions, exposure limits, applications, handling practices, concentration and ventilation.

Eye/Face Protection:

- Use protective eye wear and/or face shield to protect eyes and face in case of splashes while handling.

Hand Protection:

- While handling product, use appropriate gloves such as nitrile rubber, PVC or neoprene.

