



# MATERIAL SAFETY DATA SHEET

## 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND COMPANY

|                         |   |
|-------------------------|---|
| <b>Product name</b>     | <b>MAK HYDROL TQ 32</b>   |
| <b>Product type</b>     | Turbo transmission, torque converters & fluid coupling oil – Mineral oil based  |
| <b>Product Supplier</b> | Bharat Petroleum Corporation Limited,<br>4 & 6, Currimbhoy Road, Ballard Estate,<br>Mumbai – 400 038, Maharashtra<br>India. |

## 2. COMPOSITION/INFORMATION ON INGREDIENTS

|                                     |   |
|-------------------------------------|---|
| <b>Preparation description</b>      | Blend of highly refined mineral oils and performance additives. |
| <b>A. Highly Refined Base Oils.</b> | 95 – 99 % wt.   |
| <b>B. Additives</b>                 | 1 – 5 % wt.   |

The chemical composition of the additive used in finished oil is confidential in nature and the details are not disclosed. However, the composition details will be provided to medical staff in case of emergency.

## 3. HAZARDS IDENTIFICATION

|                              |   |
|------------------------------|---|
| <b>Human health hazards</b>  | No specific hazards under normal use conditions. Exposure limit for oil mist applies. Prolonged or repeated exposure may give rise to dermatitis. |
| <b>Safety hazards</b>        | Not classified as flammable, but will burn.   |
| <b>Environmental hazards</b> | Not readily biodegradable. Expected to have a high potential to bioaccumulation.  |
| <b>Other information</b>     | Not classified as dangerous for supply or conveyance.   |

## 4. FIRST AID MEASURES

|                               |  |
|-------------------------------|--|
| <b>Symptoms and effects</b>   | Not expected to give rise to an acute hazard under normal conditions of use  |
| <b>First Aid – Inhalation</b> | At ambient / normal handling temperatures, inhalation of vapours is normally not a problem. In the event of dizziness or nausea, remove casualty to fresh air. If symptoms persist, obtain medical attention.        |
| <b>First Aid – Skin</b>       | Remove contaminated clothing and wash affected skin with soap and water. If persistent irritation occurs, obtain medical attention. If high-pressure injection injuries occur, obtain medical attention immediately. |

|                              |   |
|------------------------------|---|
| <b>First Aid – Eye</b>       | Flush eye with copious quantities of water. If persistent irritation occurs, obtain medical attention.  |
| <b>First Aid - Ingestion</b> | Wash out mouth with water and obtain medical attention. DO NOT INDUCE VOMITING.   |
| <b>Advice to physicians</b>  | Treat symptomatically, Aspiration into the lungs may result in chemical pneumonitis. Dermatitis may result from prolonged or repeated exposure. |

## **5. FIRE FIGHTING MEASURES**

|                                       |  |
|---------------------------------------|--|
| <b>Specific hazards</b>               | Combustion is likely to give rise to a complex mixture of airborne solid and liquid particulate and gases, including carbon monoxide, oxides of sulphur, and unidentified organic and inorganic compounds. |
| <b>Extinguishing media</b>            | Foam and dry chemical powder, Carbon dioxide, sand and earth. Water can be used to cool and protect exposed material.  |
| <b>Unsuitable extinguishing media</b> | Never use a water jet. Use of Halon extinguishers should be avoided for environmental reasons.   |
| <b>Protective equipment</b>           | Proper protective equipment including breathing apparatus must be worn when approaching a fire in a confined space.  |

## **6. ACCIDENTAL RELEASE MEASURES**

|  |   |
|--|---|
| <b>Personal precautions</b>              | Use adequate ventilation & avoid contact with skin and eyes.  |
| <b>Personal protection</b>               | Wear impermeable gloves, boots and safety glasses.  |
| <b>Environmental precautions</b>         | Prevent from spreading or entering into drains, ditches or rivers by using sand, earth or other appropriate barriers. Inform local authorities if this cannot be prevented. |
| <b>Clean-up methods – small spillage</b> | Absorb liquid with sand or earth, Sweep up and remove to a suitable, clearly marked container for disposal in accordance with local regulations.                            |
| <b>Clean-up methods – large spillage</b> | Prevent from spreading by making a barrier with sand, earth or other containment material. Reclaim liquid directly or in an absorbent. Dispose of as for small spills.      |

## **7. HANDLING AND STORAGE**

|                 |   |
|-----------------|---|
| <b>Handling</b> | Carry out a health risk assessment to determine safe handling procedures and equipment that are necessary to avoid contact and that are appropriate to the job. Prevent spillage. |
|-----------------|---|

|                              |  |
|------------------------------|--|
| <b>Storage</b>               | Store in a cool, dry, well-ventilated place. Use properly labeled and closable containers. Avoid direct sunlight, heat sources, and strong oxidizing agents. |
| <b>Storage temperature</b>   | 0 °C minimum to 50 °C maximum  |
| <b>Recommended materials</b> | Use mild steel or high-density polyethylene (HDPE) for containers or container linings.  |
| <b>Unsuitable materials</b>  | Avoid PVC for containers or container linings.   |

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

|                                     |   |
|-------------------------------------|---|
| <b>Engineering control measures</b> | Carry out a health risk assessment to determine safe operating procedures to avoid contact and exposure. Apply engineering controls appropriate to the job.       |
| <b>Hygiene measures</b>             | Wash hands before eating, drinking, smoking and using the toilet.   |
| <b>Respiratory protection</b>       | Carry out a health risk assessment to determine personal protection equipment that is necessary to avoid contact and exposure and that is appropriate to the job. |
| <b>Hand protection</b>              | Wear PVC or nitrile rubber gloves.  |
| <b>Eye protection</b>               | Wear safety glasses or full-face shield if splashes are likely to occur.  |
| <b>Body protection</b>              | Minimise all forms of skin contact, Wear overalls to minimise contamination of personal clothing. Launder overalls and undergarments regularly.                   |

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Attention:** The data below are typical values and do not constitute a specification.

|  |  |
|--|--|
| <b>Physical state</b>                    | Liquid at ambient temperature.           |
| <b>Colour</b>                            | Brown                                    |
| <b>Odour</b>                             | Characteristic mineral oil               |
| <b>Initial boiling point</b>             | Expected to be above 130 °C.             |
| <b>Vapour pressure</b>                   | Expected to be less than 0.5 Pa at 20 °C |
| <b>Density (Typical)</b>                 | 0.8560 g/ml at 15 °C                     |
| <b>Vapour density (air = 1)</b>          | Greater than 1                           |
| <b>Kinematic Viscosity at 40 °C, cSt</b> | 32.5                                     |
| <b>Flash point, °C (COC)</b>             | 234                                      |
| <b>Flammability limit - lower</b>        | 1 % v/v                                  |
| <b>Flammability limit - upper</b>        | 10 % v/v                                 |
| <b>Auto-ignition temperature</b>         | Expected to be above 320 °C              |
| <b>Solubility in water</b>               | Negligible                               |

## 10. STABILITY/REACTIVITY

|   |  |
|---|--|
| <b>Stability</b>                        | Stable   |
| <b>Conditions to avoid</b>              | Extremes of temperature and direct sunlight                                      |
| <b>Materials to avoid</b>               | Strong oxidizing agents  |
| <b>Hazardous decomposition products</b> | Hazardous decomposition products are not expected to form during normal storage. |

## 11 TOXICOLOGICAL INFORMATION

|                                    |  |
|------------------------------------|--|
| <b>Acute toxicity – Inhalation</b> | Not considered to be inhalation hazard under normal conditions of use.     |
| <b>Eye Irritation</b>              | Expected to be slightly irritant   |
| <b>Skin irritation</b>             | Expected to be slightly irritant   |
| <b>Respiratory Irritation</b>      | If mists are inhaled, slight irritation of the respiratory tract may occur |
| <b>Skin Sensitization</b>          | Not expected to be a skin sensitizer                                       |

## 12. ECOLOGICAL INFORMATION

|                                  |  |
|----------------------------------|--|
| <b>Basis of assessment</b>       | Ecotoxicological data have not been determined specifically for this product. Information given is based on knowledge of the components and the ecotoxicology of similar products. |
| <b>Mobility</b>                  | Liquid under most environmental conditions. Floats on water, if it enters soil, it will absorb to soil particles and will not be mobile.   |
| <b>Persistence/degradability</b> | Not readily biodegradable. Major constituents are expected to be inherently biodegradable, but the product contains components that may persist in the environment.                |
| <b>Bioaccumulation</b>           | Has the potential for bioaccumulation  |

## 13. DISPOSAL CONSIDERATIONS

|                         |  |
|-------------------------|--|
| <b>Waste disposal</b>   | Used or waste oil should be disposed of in accordance with prevailing regulations, preferably to a recognised collector or contractor. The competence of the contractor to deal satisfactorily with used oil should be established beforehand. |
| <b>Product disposal</b> | As for waste disposal.   |

**Container disposal**

200 litres drums should be drained and returned to the supplies or sent to a drum re-conditioner without removing or defacing marking or labels.

**14. TRANSPORT INFORMATION**

**Not dangerous for conveyance under UN, IMO, ADR/RID and IATA/ICAO codes.**

**15. REGULATORY INFORMATION****EC Classification**

Not classified as dangerous under EC criteria

**16. OTHER INFORMATION****Compiled By**

Product & Application Development Department,  
Bharat Petroleum Corporation Limited,  
“ A ” Installation, Sewree (East),  
Mumbai - 400 015

**Technical Contact No.**

91 - 22 - 24166710

**Fax No.**

91 - 22 - 24166512

This data sheet and the Health, Safety and environmental information is considered to be accurate as of the date specified below. We have reviewed any information contained herein, which we received from sources outside BPCL. However, no warranty or representation, express or implied is made as to the accuracy or completeness of the data and information contained in this data sheet.

Health & Safety precautions and environment advice noted in this data sheet may not be accurate for all individual and/ or situations. It is the user's obligation to evaluate and use this product safely and to comply with all applicable laws and regulations. No statement made in this data sheet shall be construed as a permission, recommendation or authorization given to practice any patent invention without a valid license. BPCL shall not be responsible for any damage or injury resulting from abnormal use of material, from any failure to adhere to recommendations, or from any hazards inherent in the nature of the material.