MATERIAL SAFETY DATA SHEET

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND COMPANY

Product name	**MAK HYDRACUT**
Product type	Mineral Based Oil suitable for cutting cum hydraulic application
Product Supplier	Bharat Petroleum Corporation Limited, 4 & 6, Currimbhoy Road, Ballard Estate, Mumbai – 400 001. Maharashtra, India.

2. COMPOSITION/INFORMATION ON INGREDIENTS

Preparation description	Blend of highly refined mineral oils and Performance additives.
A. Highly Refined HVI Base Oils.	90 – 95 % wt.
B. Additives containing Antiwear, antirust, antifoam and anti-oxidant agents.	5 – 10 % wt.

The chemical identity of some or all the ingredients is confidential business information and is being withheld. In the event of a medical emergency, compositional information will be provided to medical staff.

3. HAZARDS IDENTIFICATION

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

4. FIRST AID MEASURES

Symptoms and effects	Not expected to give rise to an acute hazard under normal conditions of use
First Aid – Inhalation	In the event of dizziness or nausea, remove casualty to fresh air. If symptoms persist, obtain medical attention.
First Aid – Skin	Remove contaminated clothing and wash affected skin thoroughly with soap and water. If persistent irritation occurs,

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

5. FIRE FIGHTING MEASURES

Specific hazards	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.
Extinguishing media	Foam and dry chemical powder, Carbon dioxide, sand and earth may be used for small fires only.
Unsuitable extinguishing media	Never use a water jet. Use of Halon extinguishers should be avoided for environmental reasons.
Protective equipment	Fires in confined spaces should be dealt with by trained personnel wearing appropriate breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions	Avoid contact with skin and eyes.
Personal protection	Wear impermeable gloves and boots.
Environmental precautions	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.
Clean-up methods – small spillage	Absorb liquid with sand or earth, Sweep up and remove to a suitable, clearly marked container for disposal in accordance with local regulations.
Clean-up methods – large spillage	Prevent spillage from spreading by making a barrier with sand, earth or other containment material. Reclaim liquid directly or in an absorbent. Dispose off in similar way as for small spills.

7. HANDLING AND STORAGE

Handling	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 spillages.
Storage	Store in a cool, dry, well-ventilated place. Use properly labeled and closable containers. Avoid direct sunlight, heat

	sources, and strong oxidizing agents.
Storage temperature	0 °C minimum to 50 °C maximum
Recommended materials	Use mild steel or high-density polyethylene (HDPE) for containers or container linings.
Unsuitable materials	Avoid PVC for containers or container linings.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering control measures	Carry out a health risk assessment to determine safe operating procedures to avoid contact and exposure. Apply engineering controls appropriate to the job.
Respiratory protection	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.
Hand protection	Wear PVC or nitrile rubber gloves.
Eye protection	Wear safety glasses or full-face shield if splashes are likely to occur.
Body protection	Minimise all forms of skin contact, Wear personal clothing to minimise overall contamination. Launder undergarments regularly.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	Liquid at ambient temperature.
Colour	Brown
Odour	Characteristic mineral oil
Initial boiling point	Expected to be above 280 °C.
Vapour pressure	Expected to be less than 0.5 Pa at 20 °C
Density (Average)	0.880 g/ml at 15 °C
Vapour density (air = 1)	Greater than 1
Pour point(Typ.)	- 6 °C
Kinematic Viscosity at 40°C, cSt	41.4 to 50.6
Flash point, °C (COC)	200 min.
Flammability limit - lower	1 % v/v
Flammability limit - upper	10 % v/v
Auto-ignition temperature	Expected to be above 320 °C
Solubility in water	Negligible

10 STABILITY/REACTIVITY

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

11 TOXICOLOGICAL INFORMATION

Acute toxicity – Inhalation	Not considered to be Inhalation hazard under normal conditions of use.
Eye Irritation	Expected to be slightly irritant.
Skin irritation	Expected to be slightly irritant.
Respiratory Irritation	If mists are inhaled, slight irritation of the respiratory tract may occur
Skin Sensitization	Not expected to be a skin sensitizer
Other information	Prolonged and/or repeated contact with other products containing mineral oils can result in defatting of the skin, particularly at elevated temperatures. This can lead to irritation and possibly dermatitis, especially under conditions of poor personal hygiene. Skin contact should be minimised.

12 ECOLOGICAL INFORMATION

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

13 DISPOSAL CONSIDERATIONS

Waste disposal	Used or waste oil should be recycled or disposed off 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.

Product disposal	As per waste disposal.
Container disposal	200 litre drums should be drained and returned to the supplier or sent to a drum reconditioner 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	**P&AD Dept (P & AD),** **Bharat Petroleum Corporation Limited,** **" A " Installation, Sewree (East),** **Mumbai - 400 015.**
Technical Contact No.	91 - 22 - 24176354
Fax	91 - 22 – 24166512 /24182511

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 practise 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.