



MATERIAL SAFETY DATA SHEET

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND COMPANY

Product name	MAK RUSTROL 231
Product type	Temporary Corrosion Preventive Fluid
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, performance additives in petroleum solvent
A. Highly refined Base Oils	23 – 27 % wt.
B. Solvents	77 – 73 % 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. Prolonged or repeated exposure may give rise to dermatitis and may cause central nervous system effects (including respiratory, motor difficulties & paralysis), digestive disturbances, liver & kidney effects.
Safety hazards	Classified as Class-B category under petroleum rules.
Environmental hazards	Not readily biodegradable. Expected to have a high potential to bioaccumulate.
Other information	Not classified as dangerous for supply or conveyance. Keep containers closed when not in use.

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 copious quantities of soap & water. Do not use solvent for cleaning. If persistent irritation occurs, obtain medical attention. If high pressure injection injuries occur, obtain medical attention immediately. Do not reuse contaminated clothing or shoes until thoroughly decontaminated.

First Aid – Eye	Flush eye with copious quantities of water at least for 15 minutes. If persistent irritation occurs, obtain medical attention.
First Aid - Ingestion	DO NOT INDUCE VOMITING. If conscious give large quantities of water (if available give several quantities of milk) and get immediate medical attention.
Advice to physicians	Treat symptomatically, aspiration into the lungs may result in chemical pneumonitis. Dermatitis may result from prolonged or repeated exposure.
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5. FIRE FIGHTING MEASURES	
Specific hazards	Combustion is likely to give rise to a complex mixture of airborne solid and liquid particulates and gases, including carbon monoxide, oxides of sulphur, and unidentified organic and inorganic compounds.
Extinguishing media	Dry Chemical Powder, Carbon dioxide, sand and earth may be used.
Unsuitable extinguishing media	Use of Halon extinguishers should be avoided for environmental reasons.
Protective equipment	Trained personnel wearing breathing apparatus should deal with fires in confined spaces.
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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 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.
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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 close-able containers. Avoid direct sunlight, heat sources, and strong oxidizing agents.
Storage temperature	0 °C minimum to 27 °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.
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8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering control measures	Exposure limit of 5 mg/m ³ for oil mist applies (TWA, 8h-workday) recommended based upon the ACGIH TLV (Analysis according to US NIOSH method 5026, NIOSH Manual of analytical methods, 3 rd edition). Use local exhaust ventilation to control mists or vapors. Additional ventilation or exhaust may be required to maintain concentrations below recommended exposure limits.
Hygiene measures	Wash hands before eating, drinking, smoking or using the toilet and when leaving work.
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 overalls to minimise contamination of personal clothing. Long sleeve shirt is recommended.. Launder overalls and undergarments before use.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	Liquid at ambient temperature.
Colour	Shining Brown Liquid
Odour	Characteristic aromatic
Initial boiling point	Expected to be around 140 °C.
Solubility in solvents	Soluble in organic solvents/petroleum solvents
Solubility in water	Insoluble
Kinematic Viscosity at 40°C, cSt	2.47 (typical)
Specific gravity, 29.5	0.80 (typical)
Flash point, °C (COC)	36 min.

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, prolonged or repeated skin contact may cause dermatitis.
Respiratory Irritation	If mists are inhaled, slight irritation of the respiratory tract may occur
Skin Sensitization	Not expected to be a skin sensitizer

12. ECOLOGICAL INFORMATION

Basis of assessment	Ecotoxicological 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.
Persistence/degradability	Not readily biodegradable. Major constituents are expected to inherently biodegradable, but the product contains components that may persist in the environment.
Bioaccumulation	Has the potential to bioaccumulate

13. DISPOSAL CONSIDERATIONS

Waste disposal	Used or waste oil should be recycled or 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.
Product disposal Container disposal	As for waste disposal. 200 litre drums should be drained and returned to the supplies 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

Classified as Class-B Category as per petroleum rules

16. OTHER INFORMATION

Compiled By

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