



# LUBRICANTS™

## POWER TO PERFORM™

## MATERIAL SAFETY DATA SHEET

### ENKLO FRWG 46

Product Code : 1020  
MSDS No. : New  
Date of Issue : March 2005  
Re formatted Date : March 2018

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

Product : **ENKLO FRWG 46**  
Product Code : 1020  
Address : **Hindustan Petroleum Corporation Limited**  
10<sup>th</sup> Floor, 'A' Wing, Marathon Futurex, N.M. Joshi Marg, Lower Parel (East),  
Mumbai 400013, India.  
For details log on to : [www.hplubricants.in](http://www.hplubricants.in)  
Email : [lubescare@hpcl.in](mailto:lubescare@hpcl.in)  
Toll Free : 1800 121 4725

#### REVISION CHANGES

**Application and Use:** Fire resistant hydraulic fluid.

#### Product Description:

A water-glycol based hydraulic fluid, consisting of a blend of water, ethylene glycol and selected additives in combination with high viscosity polyglycol thickeners.

#### REGULATORY CLASSIFICATION

##### WHMIS:

Class E: Corrosive Material.

Class D, Division 2, Subdivision B: Toxic Material

TDG INFORMATION (RAIL/ROAD):

Not Regulated.

Please be aware that other regulations may apply.

#### 2. REGULATED COMPONENTS

The following components are defined in accordance with sub-paragraph 13(a) (i) to (iv) or paragraph 14(a) of the Hazardous Products Act:

| NAME                         | %       | CAS #    |
|------------------------------|---------|----------|
| Mor NAME                     | %       | CAS #    |
| Morpholine                   | 1.0-5.0 | 110-91-8 |
| LD50:1.4g/kg,orl,rat         |         |          |
| LD50:0.5g/kg,skn,rbt         |         |          |
| LC50:8000ppm/8hr,rat pholine | 1.0-5.0 | 110-91-8 |
| LD50:1.4g/kg,orl,rat         |         |          |
| LD50:0.5g/kg,skn,rbt         |         |          |
| LC50:8000ppm/8hr,rat         |         |          |

#### 3. TYPICAL PHYSICAL & CHEMICAL PROPERTIES

|                     |  |
|---------------------|--|
| Physical State      | : Liquid                                 |
| Specific gravity    | : not available                          |
| Viscosity           | : 41.50 cSt at 40°C to 8.20 cSt at 100°C |
| Vapour Density      | : not available                          |
| Boiling Point       | : not available                          |
| Evaporation rate    | : <1 (1= n-butylacetate)                 |
| Solubility in water | : negligible                             |
| Freezing/Pour Point | : -59 deg C                              |
| Odour Threshold     | : not available                          |
| Vapour Pressure     | : <17 kPa at 20 deg C                    |
| Density             | : 1.09 g/cc at 15 deg C                  |
| Appearance/odour    | : Red liquid, petroleum odour            |



# LUBRICANTS™

POWER TO PERFORM™

## MATERIAL SAFETY DATA SHEET

### ENKLO FRWG 46

Product Code : 1020  
MSDS No. : New  
Date of Issue : March 2005  
Re formatted Date : March 2018

#### 4. HEALTH HAZARD INFORMATION

##### NATURE OF HAZARD

###### INHALATION:

Irritating to the eyes, nose, throat and lungs. Avoid breathing vapours or mists.

###### EYE CONTACT:

Corrosive. Will cause eye burns and permanent tissue damage.

###### SKIN CONTACT:

Low toxicity. Corrosive; causes permanent skin damage.

###### INGESTION:

Corrosive; causes chemical burns to the mouth, throat and stomach. Ingestion of large amounts may cause nervous system depression. May cause vomiting.

###### CHRONIC:

This product contains ethylene Glycol (DEG). Prolonged and repeated exposure through ingestion of DEG may result in toxic effects on the kidney. Prolonged and/or repeated exposures of laboratory animals to high doses and concentrations produced kidney and liver disorder and/or damage. The relationship of these results to humans has not been fully established.

Contains one or more amines which may react with nitrites to form nitrosamines. Some nitrosamines have been shown to be carcinogenic in laboratory animals.

Prolonged and/or repeated exposures may cause kidney and liver disorders and/or damage.

###### ACUTE TOXICITY DATA:

The above evaluation of hazard is based on knowledge of the toxicity of the material's components.

###### OCCUPATIONAL EXPOSURE LIMIT:

###### ACGIH recommends:

For Morpholine, (skin), 20 ppm (71 mg/m<sup>3</sup>).

Local regulated limits may vary.

#### 5. FIRST AID MEASURES

###### INHALATION:

In emergency situations use proper respiratory protection to immediately remove the affected victim from exposure. Administer artificial respiration if breathing has stopped. Keep at rest. Call for prompt medical attention.

###### EYE CONTACT:

Immediately flush eyes with large amounts of water for at least 15 minutes. Get prompt medical attention.

**SKIN CONTACT:** Immediately flush with large amounts of water. Use soap if available. Remove contaminated clothing, including shoes, after flushing has begun. If irritation persists, seek medical attention.

**INGESTION:** If swallowed, DO NOT induce vomiting. Keep at rest. Get prompt medical attention.

#### 6. PREVENTIVE AND CORRECTIVE MEASURES

###### PERSONAL PROTECTION:

The selection of personal protective equipment varies, depending upon conditions of use. In open systems where contact is likely, wear safety goggles, face shield, chemical-resistant overalls, and appropriate thermal/chemical gloves. Where only incidental contact is likely, wear safety goggles, face shield, chemical-resistant overalls, and chemically impervious gloves.

Where concentrations in air may exceed the occupational exposure limits given in Section 4 and where engineering, work practices or other means of exposure reduction are not adequate, approved respirators may be necessary to prevent overexposure by inhalation.



# LUBRICANTS™

POWER TO PERFORM™

## MATERIAL SAFETY DATA SHEET

### ENKLO FRWG 46

Product Code : 1020  
MSDS No. : New  
Date of Issue : March 2005  
Re formatted Date : March 2018

#### ENGINEERING CONTROLS:

The use of local exhaust ventilation is recommended to control emissions near the source. Laboratory samples should be handled in a fumehood. Provide mechanical ventilation of confined spaces.

#### HANDLING, STORAGE AND SHIPPING:

Keep containers closed. Handle and open containers with care. Store in a cool, well ventilated place away from incompatible materials. In keeping with good personal hygiene practices, wash hands thoroughly after handling the material. Empty containers may contain product residue. Do not pressurize cut, heat, or weld empty containers. Do not reuse empty containers without commercial cleaning or reconditioning.

#### LAND SPILL:

Keep public away. Prevent additional discharge of material, if possible to do so without hazard. Vapours or dust may be harmful or fatal. Warn occupants of downwind areas. Prevent spills from entering sewers, watercourses or low areas. Contain spilled liquid with sand or earth. Recover by pumping or by using a suitable absorbant. Consult an expert on disposal of recovered material. Ensure disposal in compliance with government requirements and ensure conformity to local disposal regulations. Notify the appropriate authorities immediately. Take all additional action necessary to prevent and remedy the adverse effects of the spill.

#### WATER SPILL:

Vapours or dust may be harmful or fatal. Warn occupants and shipping in downwind areas. Consult an expert on disposal of recovered material. Ensure disposal in compliance with government requirements and ensure conformity to local disposal regulations. Notify the appropriate authorities immediately. Take all additional action necessary to prevent and remedy the adverse effects of the spill.

#### 7. FIRE AND EXPLOSION HAZARD

Flashpoint and method : NA  
Autoignition : NA  
Flammable Limits: LEL : NA  
UEL : NA

#### GENERAL HAZARDS:

Material will not burn.  
Decomposes; flammable/toxic gases will form at elevated temperatures (thermal decomposition). Toxic gases will form upon combustion.

#### FIRE FIGHTING:

Use water spray to cool fire exposed surfaces and to protect personnel.  
Shut off fuel to fire.  
Respiratory and eye protection required for fire fighting personnel.

#### HAZARDOUS COMBUSTION PRODUCTS:

Smoke, carbon monoxide, carbon dioxide under thermal decomposition.

#### 8. REACTIVITY DATA

##### STABILITY:

This product is stable. Hazardous polymerization will not occur.

##### INCOMPATIBLE MATERIALS AND CONDITIONS TO AVOID:

Strong oxidizing agents  
Active metals bases.



**LUBRICANTS™**

**POWER TO PERFORM™**

## **MATERIAL SAFETY DATA SHEET**

### **ENKLO FRWG 46**

Product Code : 1020  
MSDS No. : New  
Date of Issue : March 2005  
Re formatted Date : March 2018

#### **HAZARDOUS DECOMPOSITION:**

Product does not decompose at ambient temperatures.

The information and recommendations contained herein, to the best of knowledge of Hindustan Petroleum Corporation Limited are brief, accurate and reliable as of the date issued, but are offered without guarantee or warranty. They relate to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Conditions of use of the material are under the control of the user; therefore, it is the user's responsibility to satisfy himself as to the suitability and completeness of such information for his particular use.