

UPDATED: January 27, 2009

MATERIAL SAFETY DATA SHEET

GROWMARK, INC.

2200 South Avenue, Council Bluffs, IA 51503

EMERGENCY TELEPHONE NUMBER: 1-(800)-798-6457

******* I. PRODUCT IDENTIFICATION *******

Old Code: 4318
Product Name: United Rock Drill Oil 46
Chemical Name: Lubricating Oil
Chemical Family: Petroleum Hydrocarbon
Trade Names: GROWMARK, INC., Hyde, Nourse, Tracto, En-O-Co (Enoco)

******* II. TYPICAL CHEMICAL AND PHYSICAL PROPERTIES *******

Vapor Pressure (MM HG): Nil Vapor Density (Air=1) Nil
Solubility (in water): Nil Melting Point: NA
Specific Gravity (H2O=1): .86 - .94
Boiling Point °F(°C): Greater than 680°F (360°C)
Evaporation Rate: Slower than n-Butyl Acetate
Appearance and Odor: Amber Liquid, Slight Hydrocarbon Odor

******* III. HAZARDOUS COMPONENTS *******

| <u>COMPONENT</u> | <u>CAS</u> | <u>Wt - %</u> | <u>ACGIH TLV</u> | <u>OSHA PEL</u> | <u>STEL</u> |
|------------------------------|------------|---------------|-----------------------|---------------------|----------------------|
| Highly Refined Petroleum Oil | 64742-65-0 | 80-95 | 5 mg/M ³ | 5 mg/M ³ | 10 mg/M ³ |
| Zinc dialkyldithiophosphate | 25103-54-2 | 0.10 - 1.50 | No limits established | | |

******* IV. FIRE AND EXPLOSION HAZARD DATA *******

Flammability Class: NFPA 704=1 NFPA 30=III-B Combustible
Flash Point °F (°C) 370°F(188°C) - 455°F (235°C) (COC) LEL: n/av

EXTINGUISHING MEDIA:

According to the NFPA guide, use water fog. Foam. Dry chemical or CO₂. Do not use a direct stream of water. Product will float and can be reignited on the surface of water. Use water to cool containers

SPECIAL FIRE FIGHTING PROCEDURES AND PRECAUTIONS:

Material will not burn unless preheated. Do not enter confined fire-space without proper protective equipment including a positive-pressure NIOSH approved self-contained breathing apparatus. Use water to keep fire exposed containers cool.

******* V. REACTIVITY DATA *******

Stability (thermal, light, etc.): Stable
Hazardous polymerization: will not occur
Incompatibility (materials to avoid): strong oxidizers
Conditions to avoid: extreme heat
Hazardous decomposition products: carbon monoxide

******* VI. HEALTH HAZARD DATA *******

EYE CONTACT:

Lubricating oils are generally considered no more than minimally irritating to the eyes.

SKIN CONTACT:

Brief contact is not irritating. Lubricating oils are generally considered no more than mildly irritating to the skin. Because of its defatting properties, prolonged and repeated contact may aggravate an existing or result in various skin disorders (dermatitis, folliculitis, etc.)

INHALATION:

Inhalation of vapor or oil mist (generated at high temperatures) may result in mild irritation of the upper respiratory tract, including irritation of the nose and throat, headache, nausea and drowsiness.

INGESTION:

No adverse effects expected. If more than several mouthfuls are swallowed, abdominal discomfort, nausea and diarrhea may occur.

******* VII. EMERGENCY AND FIRST AID PROCEDURES *******

EYE CONTACT:

Flush with water for 15 minutes while holding eyelids open. If irritation occurs, seek medical attention.

SKIN CONTACT:

Remove contaminated clothing and wipe off excess. Wash with plenty of soap and water or a waterless hand cleaner followed by soap and water. If irritation occurs, seek medical attention.

INHALATION:

Remove victim to fresh air. If breathing is difficult, provide respiratory support, and seek medical attention.

INGESTION:

Do not induce vomiting. Drink water. If uncomfortable, seek medical attention.

******* VIII. ENVIRONMENTAL PROTECTION and ACCIDENTAL RELEASE *******

SPILL OR LEAK PROCEDURE:

Stop source of leak if possible. Dike and contain spill. Remove with vacuum trucks or pump to storage salvage vessels. Soak up residue with absorbent such as clay, sand, etc. Dispose of in accordance with current applicable laws and regulations.

******* IX. EMPLOYEE PROTECTION *******

EYE / FACE PROTECTION:

Chemical – type goggles or face shield is recommended to prevent eye contact.

RESPIRATORY PROTECTION:

No special requirements under ordinary conditions of use and with adequate ventilation. If concentration exceeds occupational exposure limits (section III.) Use a NIOSH approved respirator.

PROTECTIVE CLOTHING:

Normal industrial eye protection, gloves, and other protective clothing as required to minimize contact with eyes and skin.

***** IX. EMPLOYEE PROTECTION (Cont'd) *****

VENTILATION:

Adequate to meet component occupational exposure limits.

EXPOSURE LIMIT FOR TOTAL PRODUCT:

None established for this product.

***** X. TOXICOLOGICAL INFORMATION *****

Median Lethal Dose (LD50 LC 50) (Species)

Oral: believed to be >5 g/kg (rat); practically non-toxic

Inhalation: N.D.

Dermal: believed to be >5 g/kg (rabbit); no appreciable effect

Irritation Index, estimate of Irritation (Species)

Skin: believed to be <0.5 / 8.0 (rabbit); no appreciable effect

Eyes: believed to be < 15 / 110 (rabbit); no appreciable effect

Sensitization: N.D.

Other:

This product and its components are not classified as carcinogens by the International Agency for Research on Cancer (IARC) or OSHA. Used gasoline motor oils have been shown to cause skin cancer when repeatedly applied to mouse skin without any effort to remove the material between applications. There is no evidence of a causal relationship between skin cancer in humans and exposure to used motor oil.

***** XI. DISPOSAL CONSIDERATIONS *****

Waste Disposal Methods:

This product has been evaluated for RCRA characteristics and does not meet the criteria of a hazardous waste if discarded in its purchased form. Under RCRA, it is the responsibility of the user of the product to determine at the time of disposal, whether the product meets RCRA criteria for hazardous waste. This is because product uses, transformations, mixtures, processes, etc. may render the resulting materials hazardous.

Remarks:

Recycle all used oils. Recycling used oils may provide exemptions related to hazardous waste regulations.

***** XII. TRANSPORTATION INFORMATION *****

D.O.T. Classification: Not Hazardous by D.O.T. Regulations

D.O.T. Proper Shipping Name: Not Applicable

This product is considered an oil under 49CFR (DOT) Part 130. If shipped by rail or highway in a tank with a capacity of 3,500 gallons or more, it is subject to the requirements of Part 130.

***** XIII. OTHER INFORMATION *****

The information contained herein is based upon data available to us and is believed to be accurate. However, we make no warranty, express or implied, regarding the accuracy of these data or the results to be obtained from the use thereof. We assume no responsibility for injury from the use of the product described herein.

Inquiries regarding MSDS should be directed to:

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309-557-6000