



ZetaLube

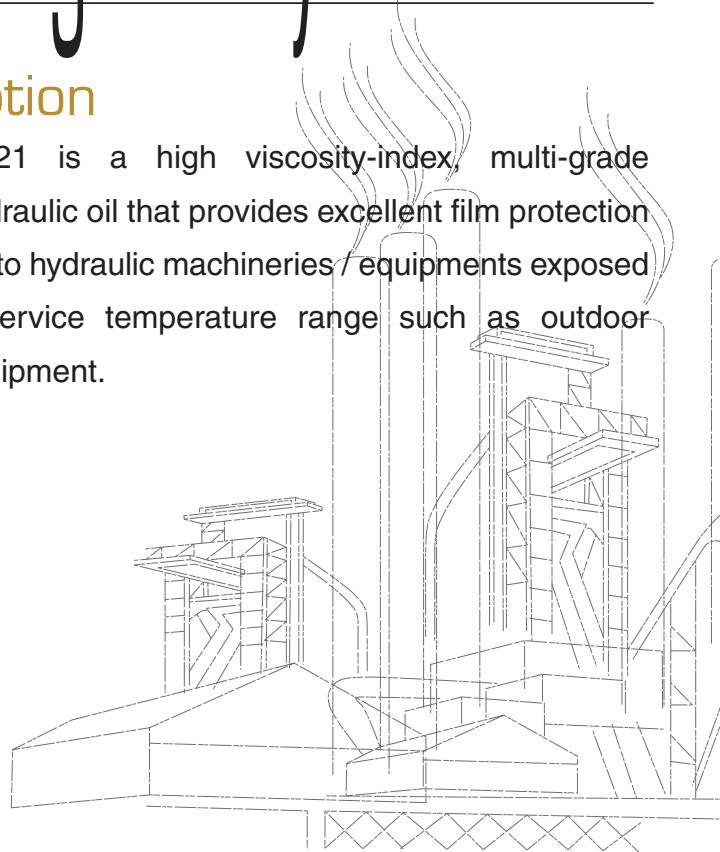
A New Lubricity Dimension
Evolved From Experience



ZetaLube 221 High VI Hydraulic Oil

Description

ZetaLube 221 is a high viscosity-index, multi-grade anti-wear hydraulic oil that provides excellent film protection and strength to hydraulic machineries / equipments exposed to a wide service temperature range such as outdoor hydraulic equipment.



MAGNA INDUSTRIAL CO. LIMITED
Total Quality Maintenance

www.magnagroup.com

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Features and Benefits

- High viscosity and anti-wear additive to provide superior load-carrying capability and protection against wear to the load bearing surfaces of machinery/equipment.
- High viscosity index and wide service temperature range.
- Excellent oxidation resistance – prevents build-ups of sludge and varnish which causes breakdown.
- Low acid value and good resistance to corrosion – extends service life of machinery/equipment.
- Good shear stability and lubricity to provide extra anti-wear protection to machinery/equipment.

Recommended Applications

- For all types of hydraulic machineries and equipments in nearly all industries.
- Particularly suitable for hydraulic systems operating in environments exposed to wide variance of temperatures such as industrial equipments constantly operating at low temperatures or outdoor hydraulic equipment.
- For high load hydraulic equipment operating at high ambient temperatures.
- For chain drives, electric motors, bearings, enclosed gears, etc. where anti-wear fluid is specified.

Typical Data

| TEST | ASTM TEST METHOD | ISO VG 100 |
|--|------------------|------------|
| Density, kg/L @ 15°C | D-1298 | 0.890 |
| Viscosity, cSt @ 40°C | D-445 | 98 |
| @ 100°C | D-445 | 14.3 |
| Viscosity Index | D-2270 | 152 |
| Flash Point, COC, C(°F) | D-92 | 240(464) |
| Pour Point C(°F) | D-97 | -33(-27) |
| Total Acid Number, mg KOH/g | D-974 | 0.6 |
| Foaming Characteristics All Sequences, After Settling | D-892 | Nil |
| Rust-Preventing Characteristics | D-665 | Pass |

The data shown are typical value and may vary.

Pack-size

205 Litre Metal Drum & 20 Litre Plastic Container

Authorized Distributor

Alshawi Trading,
Block 351, Road 51, Bldg 20, Manama - Bahrain.
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MATERIAL SAFETY DATA SHEET

May be used to comply with OSHA's Hazard Communication Standard, 29 CFR 1910. 1200, Standard must be consulted for specific requirements.

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| | |
|--|-----------------------------------|
| IDENTITY (As Used on Label and List) ZETALUBE 221 | LAST ASSESSED: 29 May 2007 |
|--|-----------------------------------|

SECTION I - HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

| <i>Hazardous Components (Specific Chemical Identity: Common Name(s))</i> | <i>CAS NO.</i> | <i>ACGIH TLV</i> | <i>Other Limits Recommended</i> |
|--|----------------|----------------------|-------------------------------------|
| Highly refined mineral oil** | 64742-65-0 | 5mg/m ³ * | - |

SECTION II - PHYSICAL CHARACTERISTICS

| | | | |
|-------------------------------------|------|--|-------|
| <i>Boiling Point</i> | N.A. | <i>Specific Gravity (H₂O = 1)</i> | ~0.90 |
| <i>Vapor Pressure (@25°C, mmHg)</i> | N.A. | <i>Melting Point</i> | N.A. |
| <i>Vapor Density (AIR = 1)</i> | N.A. | <i>Evaporation Rate (Ether = 1)</i> | N.A. |

Solubility in Water < 0.1 g/l

Appearance and Odor Clear liquid with negligible odour

SECTION III - FIRE AND EXPLOSION HAZARD DATA

| <i>Flash Point (Method Used)</i> | <i>Flammable Limits</i> | <i>LEL</i> | <i>UEL</i> |
|----------------------------------|-------------------------|------------|------------|
| >150°C | N.A. | - | - |

Extinguishing Media

Dry chemical, water fog, carbon dioxide, foam, and sand.

Special Fire Fighting Procedures

Fire fighters should wear an approved self-contained breathing apparatus.

Unusual Fire and Explosion Hazards

None expected.

SECTION IV - REACTIVITY DATA

| <i>Stability</i> | <i>Conditions to Avoid</i> |
|------------------|----------------------------|
| Stable | None |

Incompatibility (Materials to Avoid)

Strong oxidizing agents

Hazardous Decomposition or Products

Oxides of carbon

Hazardous Polymerization

Will Not Occur

Condition to Avoid

None

SECTION V - HEALTH HAZARD DATA***Threshold Limit Value***

See section I hazardous ingredients

Effects of Overexposure

There is no lethal dose information available.

Inhalation: Inhalation of vapours can cause irritation of the respiratory tract. High concentrations of oils, mists or vapours can cause chemical pneumonitis.

Skin: May cause irritation, drying and cracking.

Eyes: Cause irritation.

Ingestion: May cause irritation in mouth and stomach, thirst, nausea, vomiting, diarrhoea, with possible collapse if large amounts ingested.

Aspiration of material upon vomiting may cause chemical pneumonitis.

Emergency & First Aid Procedures

Eyes: Flush with large amounts of water for at least 15 min. Call a physician immediately.

Skin contact: Wash thoroughly with soap and water.

Inhalation: N.A.

If swallowed: Call a physician immediately.

SECTION VI - PRECAUTIONS FOR SAFE HANDLING AND USE**Steps to Be Taken In Case Material Is Released or Spilt**

Transfer bulk of material into another container. Absorb remaining residue with proper absorbents such as sand, earth, and vermiculite. Sweep up and dispose of as solid waste comply with all local and national regulations.

Waste Disposal Method

By methods consistent with local and national regulations.

Precautions to Be Taken in Handling and Storing

Keep containers closed. Avoid contact with skin, eyes and clothing. Wash thoroughly after handling. Wash clothing before re-use. Keep away from feed and food products.

Other Precautions

Keep out of the reach of children.

SECTION VII - CONTROL MEASURES**Respiratory Protection (Specify Type)**

None required

| Ventilation | Local Exhaust | Special |
|--------------------|-----------------------------|----------------|
| | N.A. | N.A. |
| | Mechanical (General) | Other |
| | N.A. | N.A. |

Protective Gloves

Rubber or plastic oil resistant gloves.

Eye Protection

Safety goggles and full-face shield when handled hot.

Other Protective Clothing or Equipment

None required

Work/Hygienic Practices

N.A.

Remarks

* The ACGIH TLV for mineral oil mists is 5mg/m³ for a daily 8-hour exposure.
** Contains less than 3% DMSO extract as measured by IP346.

Transportation: Not classified.

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