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| Hi-Force HYDRAULIC TOOLS | | Safety Data sheet (MSDS) for HFO Hydraulic oil (all grades) | | | TDS:- 1428 |
| Prepared by:- | Mark Dalley | Approved by:- | M. Macfie | Date: 12/03/20 | |
| REV NO:- | 001 | 002 | 003 | 004 | 005 |
| ECO:- | 4476 | 5399 | 5428 | 5444 | 5629 |

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| SECTION 1 | PRODUCT AND COMPANY IDENTIFICATION |
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PRODUCT

Product Name: HYDRAULIC OILS
Product Description: Hydrocarbon Base Oils and Additives
Product Code: 2000 Series
Intended Use: Compressor / Hydraulic / Industrial Gear & Machine oils / Circulating oils

COMPANY IDENTIFICATION

Supplier: HI-FORCE LIMITED
PROSPECT WAY
DAVENTRY
NORTHANTS
NN11 8PL
UNITED KINGDOM

Tel: +44 1327 301000. **Fax:** +44 1327 706555
Email: daventry@hi-force.com **Web:** www.hi-force.com

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| SECTION 2 | HAZARDS IDENTIFICATION |
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This material is not considered to be hazardous according to regulatory guidelines see Section 15.

HEALTH HAZARDS

Low order of toxicity. Excessive exposure may result in eye, skin, or respiratory irritation. High-pressure injection under skin may cause serious damage.

Note: This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

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| SECTION 3 | COMPOSITION / INFORMATION ON INGREDIENTS |
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No reportable hazardous substance(s) or complex substance(s)

Classification under CHIP: This product has no classification under CHIP
Classification under CLP: This product has no classification under CLP

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| SECTION 4 | FIRST AID MEASURES |
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INHALATION

Remove from further exposure. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.

SKIN CONTACT

Wash contact areas with soap and water. If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency.

EYE CONTACT

Flush thoroughly with water. If irritation occurs, get medical assistance.

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INGESTION

First aid is normally not required. Seek medical attention if discomfort occurs.

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

Appropriate Extinguishing Media: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

Inappropriate Extinguishing Media: Straight streams of water

FIRE FIGHTING

Fire Fighting Instructions: Evacuate area. Prevent run-off from fire control or dilution from entering streams, sewers or drinking water supply. Fire-fighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

Unusual Fire Hazards: Pressurised mists may form a flammable mixture.

Hazardous Combustion Products: Smoke, Fume, Aldehydes, Sulphur Oxides, Incomplete combustion products, Oxides of carbon

FLAMMABILITY PROPERTIES

Flash Point [Method]: >150C

Flammable Limits (Approximate volume % in air): LEL: 0.9 UEL: 7.0

Autoignition Temperature: N/D

SECTION 6 ACCIDENTAL RELEASE MEASURES

NOTIFICATION PROCEDURES

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

SPILL MANAGEMENT

Land Spill: Stop leak if you can do so without risk. Recover by pumping or with suitable absorbent.

Water Spill: Stop leak if you can do so without risk. Confine the spill immediately with booms. Warn other shipping. Remove from the surface by skimming or with suitable absorbents. Seek the advice of a specialist before using dispersants.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

ENVIRONMENTAL PRECAUTIONS

Large Spills: Dyke far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas.

SECTION 7 HANDLING AND STORAGE

HANDLING

Prevent small spills and leakage to avoid slip hazard.

Static Accumulator: This material is a static accumulator.

STORAGE

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Do not store in open or unlabelled containers.

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| SECTION 8 | EXPOSURE CONTROLS / PERSONAL PROTECTION |
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Exposure limits/standards for materials that can be formed when handling this product: When mists / aerosols can occur, the following are recommended: 5 mg/m³ - ACGIH TLV, 10 mg/m³ - ACGIH STEL.

ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider:

No special requirements under ordinary conditions of use and with adequate ventilation.

PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

Respiratory Protection: If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:

No special requirements under ordinary conditions of use and with adequate ventilation.

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapour warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

Hand Protection: Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:

No protection is ordinarily required under normal conditions of use.

Eye Protection: If contact is likely, safety glasses with side shields are recommended.

Skin and Body Protection: Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:

No skin protection is ordinarily required under normal conditions of use. In accordance with good industrial hygiene practices, precautions should be taken to avoid skin contact.

Specific Hygiene Measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

ENVIRONMENTAL CONTROLS

See Sections 6, 7, 12, 13.

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| SECTION 9 | PHYSICAL AND CHEMICAL PROPERTIES |
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Typical physical and chemical properties are given below. Consult the Supplier in Section 1 for additional data.

GENERAL INFORMATION

Physical State: Liquid
Colour: Amber
Odour: Characteristic
Odour Threshold: N/D

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION

Relative Density (at 15 C): 0.860 - 0.900
Flash Point [Method]: >150C
Autoignition Temperature: N/D
Boiling Point / Range: > 316C (600F)
pH: N/A
Solubility in Water: Negligible
Viscosity: 22 – 460 cST
Oxidising properties: See Sections 3, 15, 16.

OTHER INFORMATION

Freezing Point: N/D
Melting Point: N/A
Pour Point: -9°C
DMSO Extract (mineral oil only), IP-346: < 3 %wt

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| SECTION 10 | STABILITY AND REACTIVITY |
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STABILITY: Material is stable under normal conditions.

CONDITIONS TO AVOID: Excessive heat. High energy sources of ignition.

MATERIALS TO AVOID: Strong oxidisers

HAZARDOUS DECOMPOSITION PRODUCTS: Material does not decompose at ambient temperatures.

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| SECTION 11 | TOXICOLOGICAL INFORMATION |
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Acute Toxicity

| <u>Route of Exposure</u> | <u>Conclusion / Remarks</u> |
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| INHALATION | |
| Toxicity: LC50 > 5000 mg/m3 | Minimally Toxic. Based on assessment of the components. |
| Irritation: No end point data. | Negligible hazard at ambient/normal handling temperatures. Based on assessment of the components. |
| INGESTION | |
| Toxicity: LD50 > 5000 mg/kg | Minimally Toxic. Based on test data for structurally similar materials. |
| Skin | |
| Toxicity: LD50 > 5000 mg/kg | Minimally Toxic. Based on test data for structurally similar materials. |
| Irritation: Data available. | Negligible irritation to skin at ambient temperatures. Based on assessment of the components. |

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| Eye | |
| Irritation: Data available. | May cause mild, short-lasting discomfort to eyes. Based on assessment of the components. |

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| SECTION 12 | ECOLOGICAL INFORMATION |
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The information given is based on data available for the material, the components of the material, and similar materials.

ECOTOXICITY

Material -- Not expected to be harmful to aquatic organisms.

MOBILITY

Base oil component -- Low solubility and floats and is expected to migrate from water to the land. Expected to partition to sediment and wastewater solids.

PERSISTENCE AND DEGRADABILITY

Biodegradation:

Base oil component -- Expected to be inherently biodegradable

BIOACCUMULATION POTENTIAL

Base oil component -- Has the potential to bioaccumulate, however metabolism or physical properties may reduce the bioconcentration or limit bioavailability.

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| SECTION 13 | DISPOSAL CONSIDERATIONS |
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Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

DISPOSAL RECOMMENDATIONS

Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products.

REGULATORY DISPOSAL INFORMATION

This material is considered as hazardous waste pursuant to Directive 91/689/EEC on hazardous waste, and subject to the provisions of that Directive unless Article 1(5) of that Directive applies.

Empty Container Warning Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. **DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.**

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| SECTION 14 | TRANSPORT INFORMATION |
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LAND (ADR/RID) : Not Regulated for Land Transport

INLAND WATERWAYS (ADNR) : Not Regulated for Inland Waterways Transport

SEA (IMDG) : Not Regulated for Sea Transport according to IMDG-Code

AIR (IATA) : Prohibited.

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| SECTION 15 | REGULATORY INFORMATION |
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Material is not dangerous as defined by the EU Dangerous Substances/Preparations Directives.

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EU LABELING: Not regulated according to EC Directives

Base Oil : CAS/EC number 74869-22-0 / 278-012-2.

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| SECTION 16 | OTHER INFORMATION |
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N/D = Not determined, N/A = Not applicable

The information and recommendations contained herein are, to the best of Hi-Force Ltd's knowledge and belief, accurate and reliable as of the date issued. You can contact Hi-Force Ltd to ensure that this document is the most current available. The information and recommendations are offered for the user's consideration and examination. It is the user's responsibility to satisfy itself that the product is suitable for the intended use. If a buyer repackages this product, it is the user's responsibility to insure proper health, safety and other necessary information is included with and/or on the container. Appropriate warnings and safe-handling procedures should be provided to handlers and users.

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