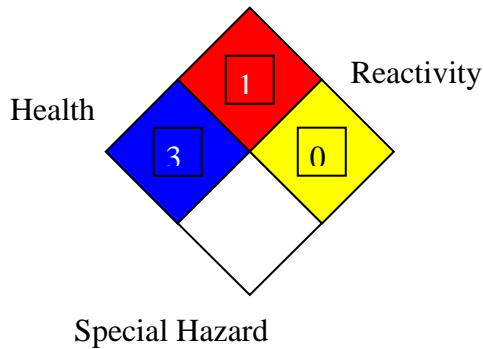




Jordan Lube Oil Manufacturing Company
Material Safety Data Sheet
Hydraulic Oil

NFPA: Flammability

JPRC LUB- 4



HMIS III:

Flammability	1
Health	3
Reactivity	0

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name: Hydraulic Oil (22, 32, 37, 46, 68, 100)
MSDS Number: JPRC LUB-4
Product Use Description: For use in hydraulic power transmission and control systems, that requires high anti-wear and anti-oxidation fluids.
Company: Jordan Lube Oil Manufacturing Co.
Amman – Jordan.
TEL: + 962 6 4630151 or 4657600
FAX: + 962 6 4657934 or 4657939
P.O.BOX: 3396 Amman 11181 – Jordan
P.O.BOX: 1079 Amman 11118 – Jordan
LubOilProduction@jopetrol.com.jo

SECTION 2. COMPOSITION / INFORMATION ON INGREDIENTS.

COMPOSITION :	Base oils GII
	DI package
	PPD

SECTION 3. HAZARDS IDENTIFICATION

Hazardous identification

US OSHA hazard communication standard for SN (500,150, 100), BS 150:

Base oils assessed in accordance with OSHA 29 CFR 1910.1200 & determined to be hazardous

Effects of over exposure: no significant effects expected.

Emergency response data: black semi – solid. Dot ERG NO.- NA

SECTION 4. FIRST AID MEASURES

First Aid Measures:

Eye Contact

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center or doctor.

Skin contact

Wash contact areas with soap & water. Remove contaminated clothing. Get medical attention if irritation developed. Launder contaminated clothing before reuse and discard leather articles saturated with the material.

Inhalation

Remove exposed person to fresh air if adverse effects are observed. If breathing is labored, administer oxygen. If breathing has stopped, apply artificial respiration. If irritation persists or if toxic symptoms are observed, get medical attention.

Ingestion

Do not induce vomiting. If conscious, give 2 glasses of water. Get immediate medical attention.

SECTION 5. FIRE-FIGHTING MEASURES

Fire- Fighting Measure

Extinguishing media:

Carbon dioxide, foam, dry chemical, and water fog.

Special fire fighting procedures:

Water or foam may cause frothing. Use water to keep fire exposed containers cool. Water spray may be used to flush spills away from exposure. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply.

Special protective equipment:

For fires in enclosed areas, fire fighters must use self-contained breathing apparatus (SCBA) and full turnout gear.

Unusual fire and explosion hazards	Storage tank headspace may contain flammable atmosphere.
NFPA hazard ID	Flammable limits- LEL: NA, UEL: NA. Health : 3, Flammability : 1, Reactivity : 0
Hazardous decomposition products	Carbon monoxide, carbon dioxide, some metallic oxides.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Accidental Release Measures	<p>This material if slippery might cause traffic accident. If split on road, it must be cover with sand immediately. in the event of a spill or leak or accident person not wearing protective equipment & clothing should be restricted from contaminated areas until clean up has been completed.</p> <p>the following steps should be undertaken following a spill or leak:</p> <ol style="list-style-type: none"> 1- Notify safety personal. 2- Remove all sources of heat and ignition. 3- Ventilate potentially explosive atmospheres. 4- Do not touch the spilled material; stop the leak if it is possible to do so without risk. 5- Use water spray to reduce vapors; do not get water inside container. Do not flush waste to sewers or open waterways. 6- For liquid spills, cover with sand and then remove for later disposal. 7- Prevent spills from entering storm sewers or drains.
Personal precautions	Immediately contact emergency personnel. Keep unnecessary personnel away. Use suitable protective equipment (see section 8). Follow all fire-fighting procedures.

SECTION 7. HANDLING AND STORAGE

Handling:	Avoid contact with eyes, skin and clothing. Keep container closed. Use only with adequate ventilation. Avoid breathing vapor or mist. Wash thoroughly after handling.
Storage	Keep container tightly closed. Keep container in a cool, well-ventilated area. store away from strong oxidizing agents or combustible material.
IMO Class>	not regulated as dangerous
UN	Not applicable

Transportation

ADR

This material is not classified as dangerous under ADR regulations.

RID

This material is not classified as dangerous under RID regulations.

IMDG

This material is not classified as dangerous under IMDG regulations.

IATA (Country variations may apply)

This material is not classified as dangerous under IATA regulations

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure controls/ personal protection

Respiratory protection

Use appropriate respiratory protection if there is the potential to exceed the exposure limit

Skin and body

Use chemical resistant apron and / or other clothing to protect against hot liquid & to avoid skin contact

Hands

Use nitrile or neoprene gloves.

Eyes

Safety goggles are considered minimum protection. goggles with a face shield may be necessary depending on quantity of material & conditions of yours.

Engineering controls

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limits value.

Occupational exposure limits

Exposure limit of SN 500, SN150 for oil mist: 5.00 mg/m³

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Form:	Liquid
Appearance:	Bright and Clear,
Flash point for 22(COC):	188 ° C
Flash point for 32(COC):	205 ° C
Flash point for 37(COC):	220 ° C
Flash point for 46(COC):	230 ° C
Flash point for 68(COC):	240 ° C
Flash point for 100(COC):	250 ° C
Pour Point for 22:	-30 ° C
Pour Point for 32:	-30 ° C
Pour Point for 37:	-30 ° C

Pour Point for 46:	-30 ° C
Pour Point for 68:	-30 ° C
Pour Point for 100:	-24 ° C
Density for 22:	0.8704 g/cm ³ @ 15 ° C Test Method: ASTMD 4052
Density for 32:	0.8718 g/cm ³ @ 15 ° C Test Method: ASTMD 4052
Density for 37:	0.8791 g/cm ³ @ 15 ° C Test Method: ASTMD 4052
Density for 46:	0.8821 g/cm ³ @ 15 ° C Test Method: ASTMD 4052
Density for 68:	0.8843 g/cm ³ @ 15 ° C Test Method: ASTMD 4052
Density for 100:	0.8886 g/cm ³ @ 15 ° C Test Method: ASTMD 4052
VI for 22:	104
VI for 32:	113
VI for 37:	103
VI for 46:	102
VI for 68:	101
VI for 100:	101
Kinematic viscosity for 22:	22 cSt @ 40 ° C Test Method: ASTMD 7042
Kinematic viscosity for 32:	32 cSt @ 40 ° C Test Method: ASTMD 7042
Kinematic viscosity for 37:	37 cSt @ 40 ° C Test Method: ASTMD 7042
Kinematic viscosity for 46:	46 cSt @ 40 ° C Test Method: ASTMD 7042
Kinematic viscosity for 68:	68 cSt @ 40 ° C Test Method: ASTMD 7042
Kinematic viscosity for 100:	100 cSt @ 40 ° C Test Method: ASTMD 7042

SECTION 10. STABILITY AND REACTIVITY

Stability:	The product is stable.
Material to avoid:	Strong oxidizing and reducing agents.
Condition to avoid:	High temperatures, sparks, and open flames.
Hazardous decomposition products:	Sulphur oxides. Hydrogen sulphide. Carbon monoxide.

SECTION 11. TOXICOLOGICAL INFORMATION

Routes of Entry	Skin, Eyes, Ingestion, and Inhalation
Inhalation	Irritating to respiratory system. May cause nose, throat and lung irritation.
Ingestion	Not determined.
Skin contact	Skin irritant. Repeated or prolonged skin contact as from clothing wet with material may cause dermatitis. Symptoms may include redness, edema, drying, and

Eye contact	cracking of the skin.
LD ₅₀	Weak to moderate eye irritant. >2000 mg/kg

SECTION 12. ECOLOGICAL INFORMATION

Environmental Fate and effects: (Base Oil GI , GII)	This product is expected to be inherently biodegradable. There is no evidence to suggest bioaccumulation will occur. It is not expected to be toxic to aquatic organisms. Accidental spillage may lead to penetration in the soil and groundwater. However, there is no evidence that this would cause adverse ecological effects.
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SECTION 13. DISPOSAL CONSIDERATIONS

Waste disposal	Product is suitable for burning in an enclosed, controlled burner for fuel value or disposal by supervised incineration. Such burning may be limited pursuant to the resource conservation and recovery Act. In addition, the product is suitable for processing by an approved recycling facility or can be disposed of at an appropriate government waste disposal facility. Use of these methods is subject to user compliance with applicable laws and regulations and consideration of product characteristics at time of disposal.
RCRA Information	The unused product, in our opinion, is not specifically listed by the EPA as a hazardous waste (40CFR, Part 261D), nor is not formulated to contain materials which are listed hazardous wastes. It does not exhibit the hazardous characteristics of ignitability, corrosively, or reactivity and is not formulated with contaminants as determined by the Toxicity Characteristic Leaching Procedure (TCLP). However, used product may be regulated.

SECTION 14. REGULATORY INFORMATION

Risk Phrases:	Not Classified. R22-Harmful if swallowed. R23/24/25-Toxic by inhalation, Toxic in contact with skin, Toxic if swallowed. R33-Danger of cumulative effect. R36-Irritating to eyes. R38-Irritating to skin. R43-May cause sensitization by skin contact. R50/53-Very toxic to aquatic organisms, may cause long-term adverse effects in
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the aquatic environment.

R51/53-Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R52- Harmful to aquatic organisms.

R62-Possible risk of impaired fertility.

R65-Harmful: may cause lung damage if swallowed.

SECTION 15. OTHER INFORMATION

LD₅₀

Lethal Dose (mg/kg)

PEL

Permissible Exposure Limits

NFPA

National Fire Protection Association:

PPE

Personal Protective Equipment

SCBA

Self – Contained Breathing Apparatus

TWA

Time – Weighted Average.

OSHA

Occupational Safety And Health Administration

ACGIH

American Conference of

Governmental Industrial Hygienists