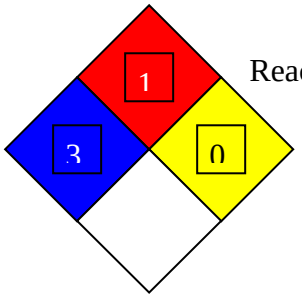
Jordan Petroleum Refinery Company
Material Safety Data Sheet
GEAR OIL HD

NFPA: Flammability



JPRC LUB-9

HMIS III:

Flammability	1
Health	3
Reactivity	0

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name:	Gear Oil HD (90, 140, 80W/90, 85W/140)
MSDS Number:	JPRC LUB-9
Product Use Description:	For use in automotive gear sets, particularly hypoid, in axles operated under high speed / shock load and high speed and / or low speed / high torque conditions.
Company	Jordan Petroleum Refinery 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 Website: http://www.jopetrol.com.jo E-mail: addewan@jopetrol.com.jo

SECTION 2. COMPOSITION / INFORMATION ON INGREDIENTS.

COMPOSITION :	SN 500
	BS 150
	MVIN-40
	Anglamol 99
	Viscoplex 1-244

SECTION 3. HAZARDS IDENTIFICATION

Hazardous identification

US OSHA hazard communication standard for (SN 500, BS 150):	product 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	Flush thoroughly with water for at least 15 min. If irritation occurs , call a physician
Skin contact	Wash contact areas with soap & water Get medical attention if irritation developed.
Inhalation	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.
Ingestion	If affected person is fully conscious, give one glass of water to drink. Never give anything by mouth to an unconscious person. Get medical attention if symptoms appear.

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.

	Flammable limits- LEL: NA, UEL: NA.
NFPA hazard ID	Health : 3, Flammability : 1, Reactivity : 0
Hazardous decomposition products	Carbon monoxide, carbon dioxide, some metallic oxides.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Accidental Release Measures	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. the following steps should be undertaken following a spill or leak: 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.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure controls/ personal protection

Respiratory protection	No special requirements under ordinary conditions of use and adequate ventilation.
Skin and body	No special equipment required. However, good personal hygiene practices should always be followed.
Hands	Use chemical resistant apron and / or other clothing to protect against hot liquid & to avoid skin contact
Eyes	Normal industrial eye protection practices should be.
Engineering controls	Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below there respective threshold limits value.

Occupational exposure limits

Exposure limit of SN 500, BS 150 for oil mist:	5.00 mg/m^3

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Form:	Liquid
Appearance:	Bright and Clear,
VI for 80W/90:	103
VI for 85W/140:	98
VI for 90:	101
VI for 140 :	97
Pour point for 80W/90:	-27º C
Pour point for 85W/140:	-15 º C
Pour point for 90:	-18 º C
Pour point for 140:	-9 º C
Flash point for 80W/90:	190 º C (COC)
Flash point for 85W/140:	210 º C (COC)
Flash point for 90:	196 º C (COC)
Flash point for 140:	236 º C (COC)
Density for 80W/90:	0.9054 g/cm^3 @ 15 º C Test Method: ASTMD 1298
Density for 85W/140:	0.9135 g/cm^3 @ 15 º C Test Method: ASTMD 1298
Density for 90:	0.9028 g/cm^3 @ 15 º C Test Method: ASTMD 1298

Density for 140:	0.9085 g/cm^3 @ 15 ° C Test Method: ASTMD 1298
Kinematic viscosity for 80W/90:	164.9 cSt @ 40 ° C Test Method: ASTMD 445.
Kinematic viscosity for 85W/140:	413.3 cSt @ 40 ° C Test Method: ASTMD 445.
Kinematic viscosity for 90:	178.6 cSt @ 40 ° C Test Method: ASTMD 445.
Kinematic viscosity for 140:	460 cSt @ 40 ° C Test Method: ASTMD 445.

SECTION 10. STABILITY AND REACTIVITY

Stability:	The product is stable.
Material to avoid:	Strong oxidizing
Condition to avoid:	Extreme heat.
Hazardous decomposition products:	Sulphur oxides. Hydrogen sulphide. Carbon monoxide.

SECTION 11. TOXICOLOGICAL INFORMATION

Routes of Entry	Skin, Eyes, Ingestion, and Inhalation
Acute Effects	
Inhalation	Irritating to respiratory system.
Ingestion	Not determined.
Skin contact	Non-irritating to the skin.
Eye contact	Irritating to eyes.
LD_{50}	>2000 mg/kg

SECTION 12. ECOLOGICAL INFORMATION

Environmental Fate and effects: (SN 500, BS 150)	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.

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. OTHER INFORMATION

LD_{50}	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