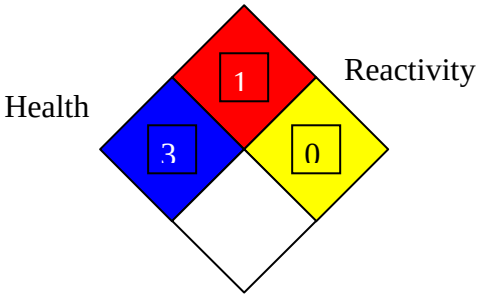
Jordan Petroleum Refinery Company
Material Safety Data Sheet
AL-HASA T4

NFPA: Flammability



JPRC LUB-23

HMIS III:

Flammability	1
Health	3
Reactivity	0

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name:	AL-HASA T4 (10W, 30, 40, 50)
MSDS Number:	JPRC LUB-23
Product Use Description:	Designed for use in the transmission, final drives and differentials of heavy duty off-road construction equipment requiring a fluid that meets Cat TO-4 and Allison C-4 type fluids. Can be used also where fluids of the former TO-4 and Allison C-3 fluids are recommended. May be used in hydraulic systems of construction equipment, where engine oils are normally used.
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.	
Virgin Base oil	SN 500
	SN 150
	SN 100
	BS 150
DI Additives	
PPD	

SECTION 3. HAZARDS IDENTIFICATION

Hazardous identification

US OSHA hazard communication standard for SN 500, BS 150, SN 150, SN 100:	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	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. 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. Flammable limits- LEL: NA, UEL: NA.
NFPA hazard ID	Health : 3, Flammability : 1, Reactivity : 0
Hazardous decomposition products	Carbon monoxide.

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 with 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, SN 100 for oil mist:	5.00 mg/m^3

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Form:	Liquid
Appearance:	Bright and Clear,
Flash point for 10W:	216 ºC (COC)
Flash point for 30:	246 º C (COC)
Flash point for 40:	252 º C (COC)
Flash point for 50:	262 º C (COC)
Pour Point for 10W:	-30 º C
Pour Point for 30:	-18 º C
Pour Point for 40:	-15 º C
Pour Point for 50:	-9 º C
Density for 10W:	0.8835 g/cm^3 @ 15 º C Test Method: ASTMD 1298
Density for 30:	0.8974 g/cm^3 @ 15 º C Test Method: ASTMD 1298
Density for 40:	0.8974 g/cm^3 @ 15 º C Test Method: ASTMD 1298
Density for 50:	0.9035 g/cm^3 @ 15 º C Test Method: ASTMD 1298

Kinematic viscosity for 10W:	28.3 centi-stock @ 40 º C Test Method ASTMD 445
Kinematic viscosity for 30:	94.6 centi-stock @ 40 º C Test Method ASTMD 445
Kinematic viscosity for 40:	141 centi-stock @ 40 º C Test Method ASTMD 445
Kinematic viscosity for 50:	227 centi-stock @ 40 º C Test Method ASTMD 445

SECTION 10. STABILITY AND REACTIVITY

Stability:	The product is stable.
Material to avoid:	Acids. Oxidizing agents.
Condition to avoid:	High temperatures, sparks, and open flames.
Thermal Decomposition:	Smoke, carbon monoxide, carbon dioxide, aldehydes and other products of incomplete combustion. Hydrogen sulfide and alkyl mercaptans and sulfides may also be formed: calcium, phosphorus, sulfur, zinc.

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, SN150, SN 100)	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. REGULATORY INFORMATION

Risk Phrases: (LZ-9692A)	R36/38-Irritating to eyes, Irritating to skin. R43-May causes sensitization by skin contact. R50-Very toxic to aquatic organisms. R51/53Toxic to aquatic organisms may cause long-term adverse effects in the aquatic environment. R62-Possible risk of impaired fertility.

SECTION 15. 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