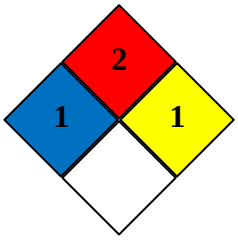
MATERIAL SAFETY DATA SHEET
(MSDS)

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT

Product Name	: **EHC 50**
Other Name	:
Product Description	: Severely Treated Base Oil
Intended Use	: Base Oil



COMPANY IDENTIFICATION

Supplier	: **PT. Pacific Lubritama Indonesia** Jl. Raya Bojonegara Km. 06 Serang 42454 – Banten
Supplier General Contact	
Telephone	: (0254) 5750 555
Fax	: (0254) 5750 333

SECTION 2 **MATERIAL COMPOSITION / IDENTITY INFORMATION**	No Reportable Hazardous Substance(s) or Complex Substance(s)

SECTION 3 **HAZARD IDENTIFICATION**	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.

SECTION 4 **FIRST AID METHODS**	**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. **EYE CONTACT** Flush thoroughly with water. If irritation occurs, get medical assistance. **INGESTION** First aid is normally not required. Seek medical attention if discomfort occurs.

	SKIN CONTACT Wash contacted area with soap and water. If product is inject into or under the skin, or into any part of the body, regardiess of the appearence of the wound or its size, the individual should be evaluated immedeately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent or injury.

SECTION 5 **FIRE FIGHTING METHODS**	**EXTINGUISHING MEDIA** **Appropriate Extinguishing Media :** Use water fog, foam, dry chemical or carbon dioxide (CO_2) to extinguish flames. **Inappropriate Extinguishing Media :** Straight streams of water **FIRE FIGHTING** **Fire Fighting Instruction :** 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. **Hazardous Combustion Products :** Aldehydes, Sulphur Oxide, Oxides of Carbon, Smoke, Fume, Incomplete combustion products. **FLAMMABILITY PROPERTIES** **Flash Point [Method] :** > 210°C (410°F) [ASTM D-92] **Flammable Limits (Approximate Volume % in air) :** LEL : 0.9 UEL : 7.0 **Autoignition Temperature :** 370°C (698°F)

SECTION 6 **SPILL AND LEAK** **HANDLING METHODS**	**NOTIFICATION PROCEDURE** 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. Warm other shipping. Remove from the surface by skimming or with suitable absorbents. Seek the advice of specialist before using dispersant.

	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 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 spill: dyke far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewer, basements or confine areas.

SECTION 7 **PRECAUTIONS FOR HANDLING AND STORAGE**	**HANDLING** Prevent small spills and leakage to avoid slip hazard. **Static Accumulator :** This material is static accumulator. **STORAGE :** Do not store in open or unlabelled containers.

SECTION 8 **CONTROL MEASURE / PERSONAL PROTECTIVE EQUIPMENT**	**Exposure limits/standards for materials that can be formed when handling this product :** When mists / aerosol can occur, the following are recommended: 5 mg/m^3 – ACGIH TLV, 10 mg/m^3 – ACGIH STEL. Note : Limits/standards shown for guidance only. Follow applicable regulations **ENGINEERING CONTROL** The level of protection and types of control 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 air borne contaminant concentrations at a level which is adequate to protect worker health, an approve respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Type of respirators to be considered for this material include : No special requirements under ordinary conditions of use and with adequate ventilation. Particulate 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/vapor 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. Work conditions can greatly effect glove durability; inspect and replace worn or damaged gloves.
The type of gloves to be considered for this material include :

No protection is ordinarily required under normal conditions of use. Nitrile

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 manufacture data.
The types of clothing to be considered for this material include :

No skin protection is ordinary required under normal condition 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 measure, 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.

ENVIRONMETAL CONTROL
See Section 6, 7, 12, 13.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Typical physic and chemical properties are given below.

GENERAL INFORMATION

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

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION

Relative Density (at 15°C)	: 0.87
Flash Point [Method]	: > 210°C (410°F) [ASTM D-92]
Flammable Limits (approximate volume % air)	: LEL = 0.9 ; UEL = 7.0
Autoignition temperature	: 370°C (698°F)
Boiling Point / Range	: > 316°C (600°F)
Vapour Density (Air = 1)	: > 2 at 101 kPa
Vapour Pressure	: < 0.013 kPa (0.1 mmHg) at 20°C
Evaporation Rate (N-Butyl Acetate = 1)	: N/D

pH	: N/A
log Pow (n-Octanol / Water Partition Coefficient)	: > 3.5
Solubility In Water	: Negligible
Viscosity	: 28 cSt (28 mm^2/sec) At 40°C | 5.2 cSt (5.2 mm^2/sec) at 100°C
Oxidising Properties	: See Section 3, 15, 16

OTHER INFORMATION

Freezing Point	: N/D
Melting Point	: N/A
Pour Point	: - 15°C (5°F)
DMSO Extract (mineral oil only), IP-346	: < 3% wt

SECTION 10
REACTIVITY

Stability :
Material is stable under normal conditions.

Conditions To Avoid :
Excessive heat. High energy sources of ignition.

Materials To Avoid :
Strong oxidizers.

Hazardous Decomposition Products :
Material does not decompose at ambient temperatures.

Hazardous Polymerization :
Will not occur.

SECTION 11 **TOXICOLOGICAL INFORMATION**

ACUTE TOXICITY

ROUTE OF EXPOSURE		CONCLUSION / REMARKS
Inhalation		
Toxicity (Rat)	: LC50 > 5000 mg/m^2	Minimally Toxic. Based on test data for structurally similar materials.
Irritation	: No end point data	Negligible hazard at ambient / normal handling temperatures. Based on assessment of the components.
Ingestion		
Toxicity (Rat)	: LD50 > 2000 mg/kg	Minimally Toxic. Based on test data for structurally similar materials.
Skin		
Toxicity (Rabbit)	: LD50 > 2000 mg/kg	Minimally Toxic. Based on test data for structurally similar materials.
Irritation (Rabbit)	: Data available.	Negligible irritation to skin at ambient temperatures. Based on test data for structurally similar materials.
Eye		
Irritation (Rabbit)	: Data available.	May cause mild, shor-lasting discomfort to eyes. Based on test data for structurally similar materials.

CHRONIC / OTHER EFFECTS

For the product itself:

Base on oil severaly refined: not carcinogenic in animal studies. Representative material passes IP-346, Modified Ames Test, and / or other screening tests. Demal and inhalation studies showed minimal effects; lung non-spesific infiltration of immune cells, oil deposition and minimal granuloma formation. Not sensitising in test animals.

Additional information is available by request.

IARC Classification :

The following ingredients are Cited on the Lists Below : None.

- - REGULATORY LIST SEARCHED - -

1 = IARC 1 2 = IARC 2A 3 = IARC 2B

SECTION 12 **TOXICOLOGY DATA**	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 organism. **MOBILITY** Material : 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 :** Material : expected to be inherently biodegradable. **BIOACCUMULATION POTENTIAL** Material : Has the potential to bioaccumulate, however metabolism or physical properties may reduce the bioconcentration or limit bioavailability.

SECTION 13 **DISPOSAL COSIDERATIONS**	Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristic 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. **Empty Container Warning** (where applicable) **:** Empty containers may retain residue and can be dangerous. 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. Do not attempt to refill or clean container since residue is difficult to remove. Empty drums should be completely drained, properly bunged and promptly returned toa drum reconditioner. All containers should be disposed of in an environmentally safe maner and in accordance with governmental regulations.

SECTION 14 **TRANSPORTATION INFORMATION**	**LAND** : Not Regulated for Land Transport **SEA (IMDG)** : Not Regulated for Sea Transport according to IMDG – code **AIR (IATA)** : Not regulated for Air Transport

SECTION 15 **INFORMATION**	Material is not hazardous as defined by the EU Dangerous Substances / Preparations Directives. **EU LABELING :** Not regulated according to EC Directives. **REGULATORY STATUS AND APPLICABLE LAWS AND REGULATIONS** **Complies with the following nation / regional chemical inventory requirements :** AICS, IECSC, DSL, EINECS, ENCS, KECI, PICCS, TSCA.

SECTION 16 **OTHER INFORMATION**	**N/D =** Not determined **N/A =** Not applicable **THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS :** No revision information is available. The information and recommendations contained herein are, to the best of PT. PLI knowledge and belief, accurate and reliable as of the date issued. You can contact PT. PLI to insure that this document is the most current available from PT. PLI. 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 buyer repackages this product, it is the user's responsibility to insure proper health, safety and other necessary information is include with and/or on the container. Appropriate warnings and safe-handling procedure should be provide to handlers and user. Alternation of this document is strictly prohibited. Except to the extent required by law, re-publication or retransmission of this document, in whole or in part, is not permitted. The term, "PT. PLI" is used for convenience, and may include any one or more of PT. PLI, or any affiliates in which they directly or indirectly hold any interest. (AP Core) DGN : 2025837XSG (541491)