



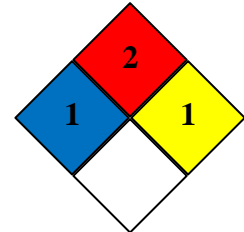
MATERIAL SAFETY DATA SHEET  
( MSDS )

SECTION 1

PRODUCT AND COMPANY IDENTIFICATION

PRODUCT

Product Name : MINYAK BAKAR  
Other Name : FUEL OIL  
Product Description :  
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

Hydrocarbon and Additive

SECTION 3  
HAZARD IDENTIFICATION

Hazard Communication Standard :  
OSHA 29 CFR 1910, 1200 (hazardous)

Expose Effects :

Irritation to the respiratory tract, dizziness, nausea, and unconsciousness. Repeated contact with the skin for a long time can cause skin irritation or more serious skin defects. It is reported by a study that this product can cause skin cancer in poor conditioned hygiene strengthened by repeated long exposure of strong sunlight.

Emergency Rensponse Data :

Combustible liquid

SECTION 4  
FIRST AID METHODS

Eye Contact :

Flush the eyes continuously with copious amount of water. If irritation persists seek medical advice.

Skin Contact :

Wash the contacted part with water and soap. Wash the contaminated clothes before being worn again.

Inhaled :

Stop / Avoid further exposure. If there is occurrence of irritation in the respiratory tract, dizziness, unconsciousness, seek medical advice. When BREATHING STOPS, GIVE RESUSCITATION FROM MOUTH TO MOUTH.

Swallowed :

When is swallowed, give 1 or 2 glasses of water and then once prior to the seeking of doctor, the emergency Installation or other Emergency Centers.

**CAUTION :**

Never stimulate the victims to vomit or to swallow anything when they are unconscious.

**SECTION 5  
FIRE FIGHTING METHODS****Fire Fighting Media :**

Carbon dioxide, dry chemical and foam

**Specific Procedure in Fire Fighting :**

- a. Carbon dioxide :  
Spray it to the base of fire from upwind.
- b. Dry Chemical :  
Spray it to the base of fire from upwind.
- c. Foam :

When the fire is in a container, spray the foam into the inner wall of the container, not to the burning liquid, and from upwind. When the fire is caused by spill of liquid, spray it to the front fire until the spill is covered thoroughly, and from upwind.

**Personal Protective Equipment :**

For fires in relatively closed areas, the fire fighters must be equipped with Self Contained Breathing Apparatus (SCBA).

**Explosion and Fire Hazards :**

These hazards occur in unprotected storage tanks near the fire location.

Flash Point : 150° F or 66° F  
Flammable Limits : Low Flammable Limit = 0,6 %  
Upper Flammable Limit = 7,0 %

**NFPA Hazard ID :**

Flammability : 2 (Ignites at when moderately heated)  
Instability : 1 (Unstable if heated – use normal precautions)

**Hazardous material Decomposition :**

Carbon Monoxide

**SECTION 6  
SPILL AND LEAK  
HANDLING METHODS****Notification Procedure :**

Notify the authority promptly about the occurrence of the spills, in accordance with the determined local authorization when the spills are suspected to contaminate the water channel.

**Spill or Leakage Procedure :**

Put away all conditions that can enable the occurrence of ignition. Adsorb the spill by using sorbent, sawdust mixed with clay and other fire inhibitor materials. Clean and dispose it at the determined place of disposal according to the local regulation.

**Environmental Protection :**

Prevent the entrance of the spill into the water ditches, disposal channels, or its seepage into the earth.

**SECTION 7  
PRECAUTIONS FOR  
HANDLING AND STORAGE****Handling :**

When absorbed by skin, it will cause serious effect. Avoid the vapor or mist from being inhaled. Portable containers for storage must be placed on the ground and the nozzle must be attached to the container to prevent static electricity.

**Storage :**

Ventilation system must be considered when we store inside room. The classification of fuel must be considered when we store in the storage tank. The flammable vapor can be formed although stored at below flash point.

The storage tanks must be grounded and bonded and must be equipped with self closing valves, pressure vacuum bungs and flame traps. Avoid from flammable substance, fire, electric or other hot surface.

**SECTION 8  
CONTROL MEASURE /  
PERSONAL PROTECTIVE  
EQUIPMENT****Ventilation :**

When Fuel Oil is used in a relatively closed room, a local ventilation must be provide. Ventilation and the equipment used must be explosion proof.

**Breathing Protection :**

Use breathing apparatus when the polluted concentration in the air is higher than the permissible threshold limit value.

**Eye Protection :**

Use echemical type goggles.

**Skin Protection :**

Use rubber or PVC gloves. Apply good Personal Hygiene Practices.

**Threshold Limit Value :**

500 ppm.

**SECTION 9****PHYSICAL AND CHEMICAL PROPERTIES**

CHARACTERISTIC	UNIT	RANGE		METHODE	
		MIN	MAX	ASTM	IP
1. Spesific Gravity at 60/60 <sup>o</sup> F	<sup>o</sup> F		0,990	D 1296	
2. Viscositas Redwood I/1000 <sup>o</sup> F	Secs	400	1250	D 445 *)	IP-70
3. Pour Point	<sup>o</sup> F		80	D 97	
4. Calorific Value Gross	BTU/lb	18000		D 240	
5. Sulphur Content	% wt		3,5	D 1551/1552	
6. Water Content	% vol		0,75	D 95	
7. Sediment	% wt		0,15	D 473	
8. Neutralization Value - Strong Acid Number	mgKOH/gr		Nul		
9. Flash Point P.M.c.c.	<sup>o</sup> F	150		D 93	
10. Contradson Carbon Residu	% wt		14	D 189	

\*) Conversion of Kinematic Viscosity

**FOOT NOOT**

Note 1; This spesification is alterable according to requirment anytime

*The above mentioned spesification are in accordance with the attachment of the Letter of Decision of Directorate General of Oil and Gas No.. 03 P/DM/MIGAS/986 dated April 14<sup>th</sup> 1986 and alterable anytime*

**SECTION 10  
REACTIVITY****Thermal Stability and Light :**  
Stable**Conditions that should be avoided :**  
Heat, flame, ignition or conditions that can cause static electricity**Inappropriate materials that should be avoided :**  
Halogen, strong acid, hydroxide and strong oxidations**Decomposition of hazardous materials :**  
Carbon monoxide**Polymerization of hazardous material :**  
Does not exist formation**SECTION 11  
TOXICOLOGY DATA****Acute Toxicity Data :**

The result of acute toxicology shows that there is no acute effect through breathing when the test using oil mist or its vapor is conducted.

**Sub Chronic Toxicology Data :**

Experiment are conducted towards mice with exposure through skin for 5 days a week for 90 days with exposure dosage presumably higher than normal conditions. During the experiments, the effect to the internal parts of the body and the clinical chemical body liquid were observed. It turned out that this product has no bad effect.

**Reproduction Toxicology Data :**

Exposure through the skin of pregnant mice at representative dosage does not give bad effect to the mother mice and to their descendants.

**Chronic Toxicology Data :**

Base oil which is contained in this product is refined and hydro treated solvent. A study conducted by rubbing this product on the mice skin does not show carcinogenic effect.

**Other Toxicology Data :**

None

**SECTION 12  
WATER POLLUTION****Environmental Effects and Damage :**

Seepage of this substance to the soil can contaminate soil water or equifer.

**SECTION 13  
DISPOSAL CONSIDERATION****Effluent Disposal :**

Can be burned in the incinerator or according to Governmental Regulation.

**Regulation Information :**

Sludge of this product can be categorized as Hazardous Waste except if the test result of TCLP (Toxicity Characteristic Leaching Procedure) unproved and disposal methode in accordance with goverment regulation on effluent disposal of Hazardous Waste.

**SECTION 14  
TRANSPORTATION  
INFORMATION**

**USA DOT :**  
SHIPPING NAME : FUEL OIL  
HAZARD CLASS & DIV : Combustible Liquid  
ID NUMBER : NA 1993  
ERG NUMBER : 182  
STCC : 4915112  
PACKING GROUP : PG III  
DANGEROUS WHEN WET : None  
POISON : No  
PLACARD (s) : Combustible

**RID / ADR :**  
HAZARD CLASS : 3  
HAZARD SUB CLASS : 31 (c)  
LABEL : 3  
DANGER NUMBER : 30  
UN NUMBER : 1202

**IMO :**  
HAZARD CLASS & DIV : 3.3  
ID/UN NYMBER : 1202  
PACKING GROUP : PG III  
SHIPPING NAME : Fuel Oil

**ICAO / IATA :**  
HAZARD CLASS & DIV : 3  
ID/UN NUMBER : 1203  
PACKING GROUP : PG III  
LAIBEL (c) : Combustible Liquid

**SECTION 15  
INFORMATION**

**Inventory Status :**  
Registered in TSCA and EINECS / ELINCS

**EEC Labeling :**  
None

**Symbol :**  
Xn = Harmful, F = Flammable  
EU labeling : None  
Risk phrase(s) :  
R40, Possible risk of irreversible effects.

**Safety Phrase(s) :**  
S24 - 2 - 36/37 - 62.  
Avoid contact with the skin. Keep away from the children's reach. Wear special protective clothes and gloves. When swallowed, do not stimulate to vomit, and seek medical help at once.

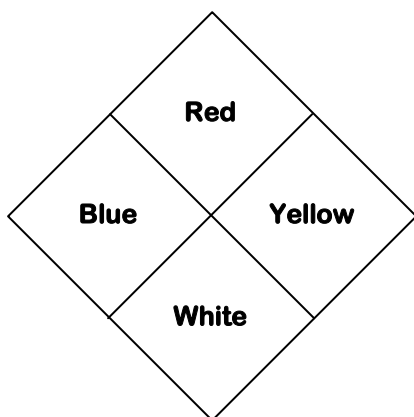
**SECTION 16  
OTHER INFORMATION**

**WARNING LABEL :**  
Content Aromatic Petroleum Oil.  
Do not contact it with skin repeatedly.



This product is combustible  
Do not swallowed

When in contact with fuel oil, wash the contacted parts of your body at once. If not, it can be fatal as it can cause cancer, damage to liver and blood components and it can be dangerous for the fetus in the womb.

**SECTION 17  
SYMBOL REMARK NFPA**



Degrees	Red	Blue	Yellow
0	Will not burn	Live ordinary material	Normally stable
1	Must be preheated to burn	Slightly hazardous	Unstable if heated – use normal precautions
2	Ignites at when moderately heated	Hazardous – use breathing apparatus	Violent chemical change possible – use hose streams from distance
3	Ignites at normal temperature	Extremely dangerous – use full protective clothing	Strong shock or heat may detonate – use monitors from behind explosion resistant barriers
4	Extremely flammable	Too dangerous to enter vapor or liquid	May detonate – vacate area if materials are exposed to fire

White	
	Radioactive
	Never contact with water