



THUAN PHONG COMPANY LTD.

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QUALITY MANAGEMENT SYSTEM

LUB-LS LUBRICANT

MATERIAL SAFETY DATA SHEET

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1. PRODUCT AND MANUFACTURER IDENTIFICATION

Trade Name: **LUB-LS**
Product Family:
Product Description: Is a liquid modified vegetable oils and other components which is used in water-based drilling fluids. LUB-LS reduces friction between the drill pipe and casing, and between the drill pipe borehole wall. LUB-LS is biodegradable.
Application: Specially formulated to release differentially stuck pipe and remaining effective and stable up to 160°C.
Manufacturer / Supplier: THUAN PHONG Co., Ltd.
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2. COMPOSITION INFORMATION

<u>Component</u>	<u>Content</u> (% by weight)	<u>Hazardous Classification</u>
Vegetable Oils	80 – 85	
Surfactants	5 – 6	
Emulsifiers	7 – 8	
Glycerine	5 – 6	
KOH	0.2 – 0.5	
Total 100%		

3. HAZARDS IDENTIFICATION

Dangerous substances : None
The components of this product may be considered not to be essentially toxic during normal handling.

4. FIRST-AID MEASURES

EYE CONTACT
Promptly wash opened eye for several minutes under running water. Get medical attention promptly if symptoms occur after washing.
SKIN CONTACT
Wash immediately with water and soap. Get medical attention promptly if symptoms occur after washing.
INHALATION
Remove victim immediately from source of exposure. Supply fresh air. Get medical attention.
INGESTION
DO NOT INDUCE VOMITING! Rinse mouth thoroughly. Drink plenty of water. Get medical attention immediately!

5. FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA
Fire can be extinguished using: Water spray, CO₂, foam, extinguishing powder, sand etc.
SPECIAL FIRE FIGHTING PROCEDURES
Use supplied air respirator if product is involved in a fire. Cool containers exposed to flames with water until well after the fire is out.
HAZARDOUS COMBUSTION PRODUCTS
Carbon monoxide (CO), Carbon dioxide (CO₂)

PROTECTIVE MEASURES IN FIRE

Full protective equipment including suitable respiratory protection.

6. ACCIDENTAL RELEASE MEASURES

Evacuate people on the leeward.

Keep people away from the area.

Remove sources of ignition.

Wear proper protective equipment when in work.

Work from the windward side.

Put in an empty container for recovery after preventing spill by sand or sandbags, if the amount of spill is large.

Put in an empty container for recovery after wiping or soaking up in an inert material, if the amount of spill is small.

7. HANDLING AND STORAGE

HANDLING

Wear eye and hand protection when in handling.

Use after well stirring.

STORAGE

Store in a dark, cool place indoors with small temperature changes, with container tightly closed. Be careful as the product freezes at 0°C.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

PROCESS CONDITIONS

Use engineering controls to reduce air contamination to permissible exposure level (explosion-proof general and local exhaust ventilation).

HAND PROTECTION

Use protective gloves made of: rubber, neoprene, nitrile, polyethylene or PVC.

EYE/FACE PROTECTION

Wear approved chemical safety goggles where eye exposure is reasonably probable.

SKIN PROTECTION

Wear protective clothing chemically resistant to this material to prevent any possibility of skin contact

RESPIRATORY PROTECTION

Respiratory protection must be used if air concentration exceeds acceptable level. Use chemical respirator with appropriate organic vapor cartridge.

OTHER PROTECTION

Wear appropriate clothing to prevent repeated or prolonged skin contact.

Wash promptly with soap & water if skin becomes contaminated. Promptly remove any clothing that becomes contaminated. No eating or drinking while working with this material. DO NOT SMOKE IN WORK AREA.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Dark brown liquid
Odor	Faint
Specific gravity @ 15°C, g/l	0.95 – 0.97
Viscosity @ 40°C, mm ² /s	280 – 300
Flash point, °C	> 290
Pour point, °C	< -18
pH (1% solution)	8.5 – 9.5
Toxicity	None-toxic

10. STABILITY AND REACTIVITY

STABILITY

Normally stable at typical use temperatures

No particular stability concerns.

CONDITIONS TO AVOID

Avoid heat, flames and other sources of ignition. Avoid contact with strong oxidizers.

HAZARDOUS DECOMPOSITION PRODUCTS

Carbon monoxide (CO), Carbon dioxide (CO₂)

11. TOXICOLOGICAL INFORMATION

INGESTION

No data

INHALATION

No data

SKIN CONTACT

Liquid may irritate skin in contact with skin.

EYE CONTACT

Vapor in the eyes may cause smarting

12. ECOLOGICAL INFORMATION

The product is inherently biodegradable.

Under anaerobic conditions the product is inherently biodegradable.

Non toxic, non harmful.

13. DISPOSAL CONSIDERATIONS

SPILL PROCEDURES : CONTAIN AND ABSORB USING EARTH, SAND OR OTHER INERT MATERIAL.

TRANSFER INTO SUITABLE CONTAINERS FOR RECOVERY OR DISPOSAL. SPILLS WILL CREATE A FIRE HAZARD.

14. TRANSPORT INFORMATION

Transport under dark, cool conditions.

Not restricted for transport.

15. REGULATORY INFORMATION

Not applicable

16. OTHER/ADDITIONAL INFORMATIONS

THIS MATERIAL IS DEVELOPED AND MANUFACTURED FOR INDUSTRIAL APPLICATION ONLY.

THE INFORMATION HEREIN IS MADE BASED ON REFERENCES, INFORMATION AND DATA AVAILABLE AT PRESENT. IT MAY BE REVISED NEW INFORMATION IS AVAILABLE. THE DESCRIPTIONS HEREIN ARE FOR NORMAL HANDLING. FOR SPECIAL APPLICATIONS, MAKE SAFETY PROVISIONS SUITABLE TO THEM PRIOR TO USE.