

TG001. LUBRICANT SUPPLYING (PUMPING) SAFETY GUIDELINESS

“Ensuring safety guidelines are followed and necessary equipment are utilized to create a safety working environment”.

Safety — Electrical Equipment

- Electrical Supply from vessel
 - 1) 440V, 25 amps, 3phase, 50/60Hz
 - 2) EEC standard Reefer plug
 - 3) Supply of own Power Generator is preferred
- Electrical Cable
 - 1) PVC/PVC or higher grade cable of appropriate power rating
 - 2) With adequate dimension and length
 - 3) Suitable for outdoor use
- Per Pump Requirement (Typically 2 pumps are required)
 - 1) One reefer plug
 - 2) One motor starter set individual control
 - 3) One safety valve — control max. Pressure @ 10bar
 - 4) One pressure gauge 0 ~ 15bar — monitor pump discharge pressure
- Pump Starter Panel
 - 1) Suitable for outdoor usage
 - 2) Motor thermal protection
 - 3) Automatic phase sequence to ensure right rotation of pump before starting
 - 4) Emergency stop button
 - 5) Proper grounding



Safety — Personal

- Safety helmet, gloves and non-slippery safety boots are required during operation
- Reflector vests are available during low visibility condition or when necessary
- No smoking or naked fire is allowed during operation
- No consuming of alcoholic drinks or drugs during operation
- Supervisor of the operation is to educate all operators of all the handling procedures before proceeding with the operation.

These characteristics are typical of current production. While future production will conform to Opt-Max's specification, variations in these characteristics may occur.

Safety — Hydraulic Equipment

- Hose Connectors
 - 1) Good and safe-to-use condition
 - 2) Connectors conform to ASA specifications
 - 3) Properly and reliably attached to hose end
- Hose
 - 1) Diameter 2" and/or 3" High pressure rated — withstand 10 bar pressure
 - 2) Good and safe-to-use condition
 - 3) Hose to rest on cloth or soft packing materials/ tie & hang up using ropes/ protected from abrasion, puncture or other damages due to hose movement caused by floating vessel or etc
- Oil inlet connection on vessel
 - 1) Screw type / flange type inlet
 - 2) Hose connector connected to vessel inlet connection using appropriate connectors, gaskets coupler, adaptors, Y-fittings, bolts and nuts to prevent any leakage
- Spill Equipment
 - 1) Racks, cloth, empty pail, drums and other spill kit equipment are in ready-to-use condition

Safety — General Operation

- Adequate and appropriate Fire Fighting equipment are available on site during operation
- Spill kit and equipment are available on site during operation
- Ensure all connections are properly secured, locked or tied before discharging of lubricants take place
- Ensure no leakage at all connections
- Lifting net in good and safe-to-use condition
- Ensure net is secured properly and safely before lifting cargo from land to vessel deck
- Ensure safe and clear lifting distance before any lift
- All spills or leak must be rectified / cleaned up promptly and safely

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Safety — Operation on Vessel

- Board properly anchored vessel with captain's acknowledgement
- Identify nearest fire-fighting equipment and emergency exit route
- Inform captain if inlet is beyond 'safe-to-use' condition



Future Equipment

Contractors should be equipped with their own generator set(s) to supply the necessary electrical power required for the operation in the future.

Insurance

The Supply Contractor must ensure a comprehensive marine cargo insurance for the whole scope of operation, including cargo during transit by land and sea in the process

Life insurance coverage for the personnel involved in the operation will be under the Supply Contractor's care as well.

Connection Responsibility/Liability

The safe pumping and delivery of lubricants to the passage of the flange-on-board will be the responsibility and liability of the supply contractor. Whereas, the advice of the connection possibility to appropriate reefer plugs will be the liability of the vessel. The handling of lubricant after passage of flange connection on-board will be under the responsibility of the vessel.

Pollution Responsibility

In the event of spillage or discharge during the operation, the Supply Contractor shall promptly take any and all necessary actions to remedy or mitigate the consequences thereof. Unless the spillage or discharge is attribute/ contributed by other parties other than the Supply Contractor, the Supply Contractor will be fully responsible and liable for the pollution incurred.

Force Majeure

By reason of force majeure that the Supply Contractor is unable to fulfil the operations, the Supply Contractor must inform all parties within reasonable time. Upon cessation of the force majeure event, the operation must be resumed with due diligence, unless notified otherwise.