

# MAK TRIPONOL TDH

## Description

MAK TRIPONOL TDH is high performance viscous pilgering oil containing high levels of lubricity additives.

Pilgering is used to make tubes with small outer diameters or small wall thickness which cannot be extruded. A tube fed between two rollers with a tapered mandrel placed inside. The tube rotates and is rolled back and forth through rollers of reduced diameter to reduce external diameter and wall thickness. This high plastic deformation generates huge amount of heat. Pilgering oil is required both inside and outside the tube to remove heat and reduce wear and Friction between tube and mandrel and between tube and dies.

MAK Triponol TDH has been specifically developed keeping in consideration the loads and materials involved in this severe drawing operation. An appropriate combination of lubricity and load bearing properties in this grade can extend tool and die life.

## Application

MAK Triponol TDH is especially designed for pilgering, cold reducing and deep drawing application of stainless steel & high nickel alloy steels.

MAK Triponol TDH cannot be used with yellow metals.

MAK Triponol TDH has been thoroughly tried and tested for pilgering of Zircorium tubes at Nuclear Fuel Complex .

## Benefits

- Excellent EP properties prevent work piece surface damage and wear during severe operation.
- Improvement in Die life
- Good compatibility with steel, stainless steel and other high nickel alloys
- Good lubricity : Ensures smooth operation and Good surface finish of the tube

## Performance Level

- Proprietary grade

## Technical Specifications

Characteristics	ASTM Test methods	MAK TRIPONOL TDH
Appearance	Visual	Light Yellow to Amber
Relative Density at 29°C	ASTM D 1298	1.214
Closed flash point	ASTM D 92	> 180°C
Pour Point	ASTM D 97	-9°C
Weld Load	ASTM D 2783	900 kg pass
Kinematic viscosity at 40 °C	ASTM D 445	260 cst
Copper corrosion, 1000 C, 3 hrs	ASTM D 130	4a (Black)

All the mentioned values are typical which may vary from batch to batch.

## Storage and Handling

- Indoor Storage is always preferable
- Barrels should be kept horizontally with bung position at 3'o clock 9 'o clock position
- Barrels should be kept away from dusty or heated areas as much as possible
- During handling any contact with dust must be avoided.

## Health & Safety

This grade is not hazardous under normal conditions of use. For further guidance appropriate Material Safety Data Sheet may be referred

## Advice

For any further advice on applications or otherwise please contact the nearest Bharat Petroleum Territory Office or Technical Services Department at the address given below.

### **Bharat Petroleum Corporation Ltd.**

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