PRODUCT BULLETIN

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IND-3502-2007E

# TURBINE OIL

## Turbine Oil without Additive

**Turbine oil** is a highly refined mineral oil from selected crude oil, which contains no additive. It can be used as a lubricant widely especially for general industrial machines and compressors due to its good oxidation stability and high viscosity index. It is available in viscosity grades from 32 to 220, so the optimal grade can be chosen.

## ● SPECIAL FEATURES

1. Small Viscosity Change

   **Turbine oil** has high viscosity index, which means small viscosity change for the temperature variation, and indicates good lubricity.

2. Good Oxidation Stability

   **Turbine oil** is highly refined to remove impurities and acidic compounds. It has good oxidation and thermal stability.

3. Excellent Water Separation Property

   **Turbine oil** has good emulsion resistance property and separates water easily when water is contaminated.

## ● GRADES

**Turbine oil** is available in 7 grades of 32 to 220 according to the ISO viscosity, so the optimal grade can be chosen for any application.

## ● APPLICATIONS

**Turbine oil** can be used as lubricant for a wide range of industrial machinery including the following;

(1) Internal and external lubrication of air and gas compressors.
(2) Bearing lubrication for steel and non-ferrous metal rolling machines, rubber and vinyl rolls and calendars, paper machines, motors, pumps, generators, ventilation equipment.
(3) Lubricant used in reduction equipment.
(4) Circulation lubrication system of gear and bearing
(5) Lubrication of Kaplan turbine runner bosses.
(6) Lubricant for all types of hydraulic devices.

## ● CONTAINERS

200-liter drums and 20-liter cans(except VG220)

## ● TYPICAL PROPERTIES OF TURBINE OIL

| ISO VG | | 32 | 46 | 56* | 68 | 100 | 150 | 220 |
|---|---|---|---|---|---|---|---|---|
| Color(ASTM) | | L0.5 | L0.5 | L0.5 | L0.5 | L1.0 | L2.0 | L2.0 |
| Density(15℃) | $g/cm^3$ | 0.867 | 0.874 | 0.876 | 0.879 | 0.886 | 0.890 | 0.891 |
| Kinematic ( 40 ºC) | $mm^2/s$ | 32.6 | 46.4 | 55.9 | 67.7 | 95.2 | 141 | 225 |
| Viscosity(100 ºC) | $mm^2/s$ | 5.5 | 6.8 | 7.8 | 8.6 | 10.8 | 14.1 | 19.6 |
| Viscosity Index | | 106 | 102 | 103 | 98 | 97 | 97 | 99 |
| Flash Point | ºC | 228 | 242 | 244 | 252 | 274 | 282 | 292 |
| Pour Point | ºC | -15 | -12.5 | -12.5 | -12.5 | -12.5 | -12.5 | -10.0 |
| Acid Number | mgKOH/g | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 |
| Copper Corrosion(100°C, 3h) | | 1 | 1 | 1 | 1 | 1 | 1 | 1 |

*Special viscosity grade which is not included in the ISO viscosity grade.

Note: The typical properties may be changed without notice. (May 2018)

# Handling Precautions

▼ **Follow these precautions when handling this product.**

| | |
|---|---|
| **Composition：** | Highly refined mineral oil |
| **Precautionary pictograms:** | Not applicable |
| **Signal word:** | Not applicable |
| **Hazard Statement:** | Not applicable |
| **Precautionary Statements:**<br>**Prevention** | ・Do not handle until all safety precautions have been read and understood.<br>・Wear protective gloves/protective clothing/eye protection/face protection.<br>・Do not allow the eyes to become exposed to the product. Do not swallow the product.<br>・Wash hands thoroughly after handling.<br>・Do not eat, drink or smoke when using this product. |
| **Response** | ・IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.<br>・IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.<br>・If the eyes are exposed to the product: Rinse the eyes with plenty of running water and immediately contact a physician.<br>・IF ON SKIN: Wash with plenty of soap and water. |
| **Storage** | ・The product must be stored in a cool, well-ventilated location where it will not be exposed to direct sunlight.<br>・Containers that have been opened must be tightly sealed. |
| **Disposal** | ・Dispose of contents/container in accordance with local/regional/national/international regulations.<br>・If there are any doubts about proper methods of handling the product, contact the point of purchase before proceeding with usage. |