



# Vanguard®

## Proven performance Compounded Industrial Gear and Steam Cylinder Oil

Product Data Sheet

### Product description

Vanguard is a proven performance compounded industrial gear and steam cylinder oil. This high viscosity oil is formulated for use in steam cylinder and valve lubrication where steam is wet or of poor quality.

Vanguard contains high viscosity mineral base oils with a low carbon residue, compounded with selected fatty oils, and reliable rust and foam inhibitors.

### Customer benefits

- Tough high viscosity oil film resists wear in worm gears, steam cylinders and valves
- Robust rust and corrosion resistance improves component reliability and service life
- Reliable steam and condensate separation increases lubrication performance
- Good atomizing properties ensure even lubricant distribution over cylinder wall and piston rod surfaces
- Oxidation stability resists thermal breakdown
- Good foam suppression ensures smooth lubricant delivery

### Applications

- Heavily loaded industrial worm gear sets
- Low speed, heavily loaded spur and helical gears
- Low speed or high temperature bearings
- Steam cylinder and valve lubrication where the steam is wet or of poor quality. See below:
  - **Vanguard ISO 460 Grade:**  
Saturated steam applications at pressures in the range 700 to 1000 kPa (100 to 150 lbf/in<sup>2</sup>)
  - **Vanguard ISO 680 Grade:**  
Poor quality steam at pressures in the range up to 1000 kPa (100 to 150 lbf/in<sup>2</sup>)

### Product highlights:

- Tough oil film wear protection
- Reliable oxidation resistance
- Prevents rust and corrosion
- Good steam and condensate separation
- Selected specification standards include:
  - ANSI/AGMA 9005-D94
  - 7 Comp (ISO 460)
  - 8 Comp (ISO 680)

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## Approvals and performance specifications

### Performance specifications

- ANSI/AGMA 9005-D94
- 7 Comp (ISO 460)
- 8 Comp (ISO 680)

### Typical test data

VANGUARD TEST	TEST METHODS	RESULTS	
Viscosity Grade		460	680
Product Code		530452	530453
Kinematic viscosity, 40 °C, mm <sup>2</sup> /s	ASTM D445	460	1000
Kinematic viscosity, 100 °C, mm <sup>2</sup> /s	ASTM D445	30.9	38.0
Viscosity Index	ASTM D2270	97	92
Flash Point COC, °C	ASTM D92	284	290
Pour Point, °C	ASTM D97	-9	-3

The information given in the typical data does not constitute a specification but is an indication based on current production and can be affected by allowable production tolerances. The right to make modifications is reserved. This supersedes all previous editions and information contained in them.

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**Health, safety, storage and environmental** Based on current available information, this product is not expected to produce adverse effects on health when used for the intended application and in accordance with the recommendations provided in the Material Safety Data Sheet (MSDS). MSDS's are available upon request through your local sales office, or via the Internet. This product should not be used for purposes other than its intended use. When disposing of used product, take care to protect the environment and follow local legislation.

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