



## VpCI® Heavy Duty Lubricants & Greases

# M-531 T

## Ashless Oil Based Corrosion Inhibitor



### PRODUCT DESCRIPTION

M-531 T is an oil-based package of ashless corrosion inhibitors that can be added to petroleum and synthetic lubricants in turbine systems during lay-up. Using M-531 T in turbine oil or other industrial lubricant applications that require ashless oils protects systems from the rust that could otherwise lead to failure of equipment components. Corrosion inhibitors in M-531 T protect metal surfaces with which they are in direct contact and also release molecules in the vapor phase. These Vapor phase Corrosion Inhibitors form a protective molecular layer on metal surfaces above the fluid level, allowing economical and efficient rust protection at a low dose. M-531 T provides outstanding non-staining properties and is effective in most hydrocarbon-based lubricants (including naphthenic, paraffinic, PAO, etc.). It is an excellent choice for industrial lubricant applications that require rust protection during lay-up.

### FEATURES

- Ashless
- Provides contact and vapor phase rust protection
- Designed for use with turbine oils
- Has little-to-no effect on pour point or viscosity at recommended dose
- Generally compatible with PAO and mineral-oil-based lubricants
- Suitable for lay-up conditions
- Economical dosage

### APPLICATION

M-531 T can be used to prevent rust in lubricating systems for turbines, gear boxes, bearings, and a wide variety of ashless lubricant applications that require rust protection and water resistance.

**Solubility and compatibility:** M-531 T is soluble in petroleum and synthetic lubricant base stocks and most common solvents. However, verifying its solubility in base oils and its compatibility with other additives is recommended before use. M-531 T is insoluble in water. It is not recommended for operating systems. Please contact Cortec® Technical Service with any questions on product compatibility.

**Typical dosage rate:** 2% by weight in wet lay-up, or 1 oz./ft<sup>3</sup> (1 L/m<sup>3</sup>) for dry lay-up.

### TYPICAL PROPERTIES

Oil Characteristics		Typical Values
<b>Appearance</b>		Amber Color
<b>Specific Gravity</b>		0.94
<b>Viscosity (ISO3119)</b>	40 °C (104 °F)	212 cSt
	100 °C (212 °F)	24.1 cSt
	Index	141
<b>Pour Point (ASTM D6749)</b>		-27 °C (-17 °F)
<b>Flash Point (ASTM D92)</b>		126 °C (259 °F)
<b>Fire Point (ASTM D92)</b>		182 °C (360 °F)
<b>Total Acid Number (ASTM D664)</b>	mg KOH/g	53.0
<b>Oil Separability (ASTM D1401) @ 82 °C (180 °F)</b>	Oil, mL	0
	Water, mL	0
	Emulsion, mL	80
	Time, min	60
<b>Foaming Characteristics (ASTM D892)</b>	Seq. I	440/15/600+
	Seq. II	25/0/10
	Seq. III	355/0/399
<b>Turbine Oil Rust Test (ASTM D665)<sup>1</sup></b>	Method B	Pass
<b>Copper Corrosiveness (ASTM D130)<sup>1</sup></b>		1b
<b>Vapor Phase Corrosion Protection (ASTM D5534)<sup>2</sup></b>		Pass

<sup>1</sup>0.5% in Mineral Oil  
<sup>2</sup>1% in Mineral Oil

Properties listed above are typical of those obtained through normal production and do not constitute a specification. M-531 T is generally soluble in hydrocarbon-based fluids; however, compatibility and solubility should be verified prior to use. Please contact Cortec® Technical Service for more information.

## PACKAGING AND STORAGE

M-531 T is available in 5 gallon (19 liter) plastic pails and 55 gallon (208 liter) metal drums. Store in a cool (less than 46°C [115°F]), dry place away from any direct source of heat and moisture. M-531 T should be sealed before storage. The shelf life is up to 24 months.

**FOR INDUSTRIAL USE ONLY  
KEEP OUT OF REACH OF CHILDREN  
KEEP CONTAINER TIGHTLY CLOSED  
NOT FOR INTERNAL CONSUMPTION  
CONSULT SAFETY DATA SHEET FOR MORE  
INFORMATION**

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