



## VpCl™ ADDITIVES FOR COATINGS, FLUIDS, ADHESIVES AND PLASTICS

# M-528/528L



#### **PRODUCT DESCRIPTION**

M-528/528L are the additives for hydraulic fluids used in subsea production control systems.

They provide corrosion protection for steel, copper, brass, aluminum, bronze, galvanized steel, and other ferrous and non-ferrous metals and their alloys. M-528/528L prevent corrosion in both phases: contact and vapor.

#### **FEATURES**

- Stable in aqueous systems at pH of 6 or above
- Soluble in water, glycols and alcohols; insoluble in hydrocarbon-based solvents; dispersible in oils
- Non-phenolic
- Seawater compatible
- Thermostable
- Was evaluated with good results in Ethylene Glycol/water blend according to IP287 with and without seawater addition
- Falex test data show that antiwear properties of Ethylene glycol/water based fluid containing M-528L are excellent
- Biodegradable

- Non-hazardous, environmentally friendly
- M-528 is in compliance with HOCNF (Harmonized Offshore Chemical Notification Format) environmental requirements

#### TYPICAL PROPERTIES

Appearance Clear yellowish to amber

liquid

pH 9-10.5 (1% un water)

8.5-8.6 lb/gal (1.02-1.03 kg/l)

Non-volatile (weight) 65-80%

#### **APPLICATIONS**

Density

- Hydraulic fluids used in subsea production control systems
- Synthetic coolants and cutting fluids
- Industrial cooling towers
- Water based lubricants
- Aerosol formulations
- Alkaline metal cleaners
- · Radiator fluid additive

#### **TEST RESULTS\***

Test Performed		Results
IP287	a. Liquid corrosion test on neat	No Corrosion
	fluid	
	b. with 10% of seawater	No Corrosion
	c. with 2.5% of seawater	No Corrosion
IP125: Vapor phase corrosion test		Pass
10% by volume seawater contamination		Clear Fluid
Stability	Room temperature	Clear Stable
at	70C	Clear Stable
	-20C	Clear Stable

\*All test were performed in the solution Ethylene Glycol/water = 40:50 with added 10% of M-528 or M-528 L



#### **Falex Lubricant Testing** Ethylene Glycol/water 40:50 with 10% of M-528L

Load (lb) at (min)	Torque values (lb.in)
100(1)	6.3
200(1)	10.7
300(1)	13.3
400(1)	17.8
500(1)	21.3
500(30)	18.2
Number of tests	6
% Weight loss on pin	0.058%

#### **STORAGE and PACKAGING**

M-528/528L are packaged in 5 gallon (19 liter) pails, 55 gallon (208 liter) drums, liquid totes and bulk.

These products should be stored sealed in a heated warehouse to avoid freezing. M-528/528L have a shelf life of 24 months.

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

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