

# MILITEC-1 Metal Conditioner Specifications

## CHEMICAL AND PHYSICAL PROPERTIES

### Flash & Fire Point COC (D92)

Flash Point, °F	410
Fire Point, °F	455

### Autoignition Temperature (D2155)

Autoignition Temperature, °F	715
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### Pour Point (D97)

Pour Point, °F	-45
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### Cloud Point (D2500)

Cloud Point, °F	-25
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### Kinematic Viscosity (D445)

Viscosity @ 100 °F, CST	43.41
@ 104 °F, CST	39.03
@ 210 °F, CST	5.80
@ 212 °F, CST	5.63

### Rust Prevention Procedure ASTM(D665)

Pass

### Neutralization Number by Potentiometric Titration (D664)

0.25

Total Acid Number

### Sonic Shear Stability (MIL-L-23699C)

0.92

Viscosity Loss @ 100 °F, Percent

0.00

### Precipitation Number (D91)

<7.10

### Gravity, API (D282)

### Color (D1500)

3.50

ASTM Number

### Description of Militec-1

Militec-1 is a synthetic hydrocarbon derivative (i.e. a synthetic lubricant) with synthetic additives and halogenated hydrocarbons, corrosion inhibitors, and pour point depressant. Militec-1 has a high molecular weight and high chemical stability. It is **not** a listed "Hazardous Waste" and does **not** contain any compounds that are listed as hazardous under 40 CFR Section 261 such as solvents (which have low molecular weights), PCB's, and compounds with low chemical stability.

**Four Ball Wear ASTM (D-4172)** modified with coefficient of friction. 1200 RPM @ 40Kg load, temperature 167°F for 1 hour. Wear scar = 0.91 mm Grand Avg. 0.059 Y-O Intercept = 0.076.

**Falex Load Carrying Capacity** in accordance with Para. 4.7 of MIL-L-63460 D Exceeding 60 seconds @ 750lbs.

### Falex Peak Load, ASTM (D-5620) Procedure B Pin + "V"

<u>Load, Lbs.</u>	<u>Starting Torque</u>	<u>Final Torque</u>
300 lbs @ 5min	9 1/2 lb-in	7 lb-in
500 lbs @ 1min	11 1/2 lb-in	13 lb-in
750 lbs @ 1min	24 1/2 lb-in	30 lb-in

**Load wear index (4 ball EP) ASTM (D-2783)**

	<b><u>Description</u></b>	<b><u>Results</u></b>
a.	Load wear index	158.75
b.	Last non-seizure (scar)	100 Kg (0.45mm)
c.	Last seizure (scar)	620 Kg (1.53mm)
d.	Weld Load	800 Kg

**Falex Pin+"V" Block Test, ASTM (D-3233) Procedure A 4,500 lb gauge 120°R pre-heat**

<b><u>Load, Lbs.</u></b>	<b><u>Starting Torque</u></b>	<b><u>Final Torque</u></b>
300 lbs @ 5min	8 1/2 lb-in	8 1/2 lb-in
4500 lbs @ 1min		70 lb-in

**Falex Pin+"V" Block Test, ASTM (D-3233) Procedure B 4,500 lb gauge 120°F pre-heat**

<b><u>Load, Lbs.</u></b>	<b><u>Starting Torque</u></b>	<b><u>Final Torque</u></b>
300 lbs @ 5min	10 1/2 lb-in	10 1/2 lb-in
500 lbs @ 1min	14 1/2 lb-in	15 lb-in
750 lbs @ 1min	17 1/2 lb-in	14 lb-in
1000 lbs @ 1min	18 lb-in	18 lb-in
1250 lbs @ 1min	22 1/2 lb-in	32 lb-in
1500 lbs @ 1min	46 lb-in	44 lb-in
1750 lbs @ 1min	46 1/2 lb-in	46 1/2 lb-in
2000 lbs @ 1min	47 lb-in	46 1/2 lb-in
2250 lbs @ 1min	48 lb-in	47 lb-in smoke
2500 lbs @ 1min	48 1/2 lb-in	48 lb-in smoke
2750 lbs @ 1min	51 lb-in	50 lb-in smoke
3000 lbs @ 1min	52 lb-in	52 lb-in smoke
3250 lbs @ 1min	53 lb-in	53 lb-in smoke
3500 lbs @ 1min	56 lb-in	56 lb-in smoke
3750 lbs @ 1min	58 1/2 lb-in	58 1/2 lb-in smoke
4000 lbs @ 1min	59 lb-in	60 lb-in smoke
4250 lbs @ 1min	62 lb-in	63 1/2 lb-in smoke
4500 lbs @ 1min	68 lb-in	69 lb-in

**U.S. Navy Submarine Materials Atmosphere Contamination Source Control Program -- Off Gassing Analysis (Ref) NAV Tech Manual S9510-AB-ATM-010(C)**

**Reduction of Oxidation Corrosion**

Specimen	Metal Marks		Viscosity Marks	Transmissivity Marks	Total Marks
	Cu	Pb			
Mineral Oil	1.2	4.8	8.9	2.5	16.69
Add 7% Militec-1	0.9	1.3	2.3	1.45	5.65

Test conditions: Temperature: 165°C; O<sub>2</sub>: 200 ml/min; Time: 6 hours