

MILITEC-1 Metal Conditioner Specifications

CHEMICAL AND PHYSICAL PROPERTIES

Flash & Fire Point COC (D92)

<i>Flash Point, °F</i>	410
<i>Fire Point, °F</i>	455

Autoignition Temperature (D2155)

<i>Autoignition Temperature, °F</i>	715
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Pour Point (D97)

<i>Pour Point, °F</i>	-45
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Cloud Point (D2500)

<i>Cloud Point, °F</i>	-25
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Kinematic Viscosity (D445)

<i>Viscosity @ 100 °F, CST</i>	43.41
<i>@ 104 °F, CST</i>	39.03
<i>@ 210 °F, CST</i>	5.80
<i>@ 212 °F, CST</i>	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)

	<u>Description</u>	<u>Results</u>
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

<u>Load, Lbs.</u>	<u>Starting Torque</u>	<u>Final Torque</u>
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

<u>Load, Lbs.</u>	<u>Starting Torque</u>	<u>Final Torque</u>
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; O₂: 200 ml/min; Time: 6 hours