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- ✓ METALON M
- ✓ METALON C2
- ✓ HI-TECH GREASE
- ✓ METALON SPRAY
- ✓ MEGALENE
- ✓ MEGASEL

METALON M

ANTI-WEAR FRICTION FIGHTER

INFORMATION and ASTM/ENGINEERING DATA

METALON M is a hydrocarbon complex specifically formulated to help reduce friction and wear of ferrous and non-ferrous metals and save energy. Unlike oil additives, **METALON M** unites chemically with the metal component molecules to form a microscopic, monomolecular wear-resistant shield. Blended with most synthetic or petroleum oils, the exclusive **METALON M** formula helps to reduce maintenance costs and increase production and service life of mechanical equipment.

When combined with conventional metal cutting and machining oils, **METALON M** helps to maintain the sharpness of the tool cutting edges, allows deeper cuts per pass, while producing a smoother finish with less energy.

Applied to the lubrication systems of new equipment, **METALON M** substantially reduces the extensive wear and metal removal associated with 'break-in' periods; thereby increasing equipment longevity. **METALON M** creates a burnished, precision fit between mating parts, which reduces friction.

One of the significant and unique characteristics of **METALON M** is its chemical bonding capability. **METALON M** will not drain off metal surfaces during idle periods, but rather remains in place to protect the parts during cold starts.

METALON M is applied at a ratio of 5% (min.) or 100mL for every two litres of lubricant to: Crankcases, Mechanical Gearboxes, Differentials, Transfer Boxes, Sliding Mechanisms, Cutting and Machining Oils, Bearings, Filtered Compressor Sumps, Bushings and much more. (Some applications may require a higher ratio of **METALON M** to realize maximum benefit as dictated by results and experience.)

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INSPECTION DATA:

(According to ASTM Specifications)

DESCRIPTION	ASTM	RESULTS
Specific Gravity	D-1298	1.015
Colour	D-1500	1.5
Flash Point °F (°C)	D-992	200 (94)
Cloud Point °F (°C)	D-97	-40. (-40)
Pour Point °F (°C)	D-97	-60. (-51)
Viscosity, SUS @ 100°F (40°C)	D-445	57
@ 210°F (100°C)		9.50 cSt
		29.0
		1.90 cSt
Viscosity Index		30.0
Rust Test by Synthetic Sea Water PASS		D-665
Corrosion Test, Copper Strip @ 212°F (100°C)	D-130	NO CORROSION
Foam Test (1,2,3)	D-892	NO FOAM
Ash Content	D-482	.6% by wt.
TIMKEN OK LOAD @ 5% concentration	D-2782	> 60 lbs.
FALEX FINAL TORQUE @ 4500 lb. Jaw Load	D-2271	< 60 in.-lb.



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✓ **KEEPS WEAR IN CHECK**



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MEGASEL

DIESEL FUEL SYSTEM TREATMENT

New, Highly-Concentrated Formula with METALON

INFORMATION and ASTM/ENGINEERING DATA

MEGASEL DIESEL FUEL SYSTEM TREATMENT, now with **METALON**, is a new and improved hydrocarbon complex that is used to maintain distillate fuel in a sludge-free stabilized condition. **MEGASEL** arrests many of the problems related to storage, transportation and combustion of fuels used in diesel turbines, fuel-oil burning boilers, steam generators and internal combustion engines.

Diesel fuel stability is adversely affected by the widespread practice of blending fuels from different sources. Fuel degradation is accelerated causing sludge and bacteria formation and reduced combustibility. Sticking fuel injectors, contaminated fuel lines, filters and pumps waste costly fuel, reduce operating efficiency and increase maintenance costs. The problems of corrosion, rust, acid formation and water damage are also prevalent in diesel fuel systems.

MEGASEL DIESEL FUEL SYSTEM TREATMENT incorporates the quality multi-functional components required to efficiently arrest the inherent problems noted. In addition, **METALON** bonds chemically with the metal component molecules, forming a microscopic, monomolecular friction-reducing, wear resistant shield that **will not drain off**. The **burnishing action** of **METALON** produces a more precise metal-to-metal fit that increases component life. The efficiency of the critical fuel injectors is substantially enhanced, maintaining consistent spray patterns and accurate fuel metering. Upper cylinders are lubricated. Cold weather 'gelling' is also retarded. Water droplets - a great potential hazard when locked in suspension are emulsified (broken up) and allowed to pass through the system efficiently. **MEGASEL** is virtually **ashless** (contains no inorganics or metallics), is compatible with most hydrocarbon fuel stocks and is non-extractable. **MEGASEL** dissolves carbon deposits, reduces black smoke and other emissions considered harmful to the environment. **MEGASEL** components comply with the EPA regulations listed in the Additives Manufacturer Notification, form EPA(DUR)365.

MEGASEL DIESEL FUEL SYSTEM TREATMENT, when used continuously as directed, helps to:

- | | | |
|--------------------------------|-----------------------------|-----------------------------|
| > CLEAN AND PROTECT INJECTORS | > REDUCE EXHAUST EMISSIONS | > PREVENT SLUDGE FORMATION |
| > PREVENT FUEL SYSTEM ICING | > LUBRICATE UPPER CYLINDERS | > FREE STICKY VALVES |
| > ELIMINATE CARBON DEPOSITS | > KEEP FUEL SYSTEM CLEAN | > NEUTRALIZE ACIDS |
| > REDUCE BLOW-BY DILUTION | > IMPROVE FUEL COMBUSTION | > RETARD BACTERIAL GROWTH |
| > ARREST SYSTEM RUST/CORROSION | > SPEED SUB-ZERO STARTS | > IMPROVE POWER AND ECONOMY |
| | > CONTROL CONDENSATION | |

INSPECTION DATA:

DESCRIPTION	ASTM METHOD	TEST RESULTS
Specific Gravity @ 60°F (15°C)	D-1298	0.8418
Gravity A.P.I. @ 60°F (15°C)	D-1298	36.6
Viscosity SSU @ 100°F (37.7°C)	D-88	31.5 (1.7 Cst)
Colour	D-1500	1-LIGHT AMBER
Appearance	D-1500	BRIGHT & CLEAR
Flash Point °F (°C) (PM Closed Cup)	D-93	70. (21)
Cloud Point °F (°C)	D-97	00. (-17)
Pour Point °F (°C)	D-97	-90. (-67)
B.T.U. per Gallon	D-1405	168,304
Sulfur Content (% by Weight)	D-1266	0.04
BS & W, Water, Sediment (% by Volume)	D-96	0. 0. 0
Rust Test (Synthetic Sea Water)	D-665	PASS
Corrosion Test (Copper Strip @ 212°F)	D-139	1a PASS

DIRECTIONS: **MEGASEL** should be added before filling the tank to aid blending, especially if there is no agitation.

Initial Treatment: Add 20 mL of **MEGASEL** to every 40 litres of No. 1 and No. 2 diesel fuel to clean and prime the system.

Regular Treatment: Add 10 mL to every 40 litres. For No. 3 to No. 6 fuels, **double** or **triple treatment**, respectively.

CAUTION: **MEGASEL** is flammable. Keep away from open flame or spark. It contains petroleum distillates. If swallowed, **DO NOT** induce vomiting. Call a physician immediately.

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MEGALENE GAS SYSTEM TREATMENT

New, Highly-Concentrated Formula with METALON

INFORMATION and ASTM/ENGINEERING DATA

MEGALENE GAS SYSTEM TREATMENT, now with **METALON**, is a new and improved hydrocarbon complex that incorporates components which are ashless, non-phosphorous, and perform as multi-functional detergents and dispersants. Supplementary to the data below, these proprietary components exceed the Military Specifications MIL-I-25017B and MIL-I-25017C, providing excellent rust protection in both leaded and unleaded gasolines.

Extensive engine tests were conducted on 250 CID, 216 CID straight six-cylinder engines as well as 350 CID V-8 and 140 CID four-cylinder engines. Positive results in carburetor and fuel injector detergency, anti-icing, intake valve deposit cycling and octane requirement tests were achieved, respectively.

MEGALENE GAS SYSTEM TREATMENT, with **METALON**, can be added to all gasolines used in internal combustion engines. It is compatible with catalytic converters.

MEGALENE GAS SYSTEM TREATMENT exclusive formulation, used consistently as recommended, helps to:

- | | | |
|---|---|---|
| > LUBRICATE THE UPPER CYLINDER COMPONENTS | > MAINTAIN OPTIMUM CARBURETOR AND FUEL INJECTOR PERFORMANCE | > NEUTRALIZE ACIDS |
| > ENHANCE COMBUSTION | > CLEAN PVC SYSTEM | > IMPROVE COLD WEATHER STARTS |
| > CLEAN VARNISH AND GUM RESIDUES THROUGHOUT THE FUEL SYSTEM | > REDUCE BLOW-BY OIL DILUTION | > PREVENT FUEL SYSTEM ICING |
| > ELIMINATE CARBON DEPOSITS | > CONTROL CONDENSATION | > MAINTAIN EMISSION CONTROL SYSTEM EFFICIENCY |
| > FREE STICKY VALVES | > REDUCE SLUDGE FORMATION | > IMPROVE ECONOMY |
| | > PREVENT ENGINE "RUN-ON" | > ARREST RUST AND CORROSION |

RECOMMENDATIONS: MEGALENE GAS SYSTEM TREATMENT highly-concentrated formula is very cost-effective. For the first 200 litres (=50 U.S. gallons) of gasoline, add **20mL (= .75 oz.)** to every **40L (=10 gal.)** (For rapid results, slowly pour **50mL** directly into the carburetor with the engine at **fast idle**.) Regularly add **10mL** for every **40 litres**.

CAUTION: MEGALENE is flammable. Keep away from open flame or spark. It contains petroleum distillates. If swallowed, **DO NOT** induce vomiting. Call a physician immediately.

INSPECTION DATA:

<u>DESCRIPTION</u>	<u>ASTM METHOD</u>	<u>TEST RESULTS</u>
Specific Gravity @ 60°F	D-1298	0.8454
Appearance	D-1500	CLEAR
Flash Point °F (Closed Cup)	D-93	68
Pour Point °F	D-97	-55
Viscosity SUS @ 100°F	D-88	40.0 (4.25 cSt)
Corrosion Test-Copper strip @ 212°F	D-139	1a - PASS

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METALON C2 ANTI-WEAR FRICTION FIGHTER

INFORMATION and ASTM/ENGINEERING DATA (Industrial Applications)

METALON C2 is distinctly different from any of the so-called "additives", which only try to improve the 'film strength' of lubricants. In contrast, **METALON C2** is a **Metal Surface Treatment**. **METALON** combines chemically with the surfaces of bearing metals, (ferrous and non-ferrous), to form a microscopic monomolecular shield.

Logically, *wear* or material removal occurs when oil or grease films separate momentarily and metal is allowed to contact metal. The result: *instant friction* and removal of small amounts of material every time. This process, which is more or less frequent, (depending on the design of the equipment), adversely affects the equipment life and costly downtime for repairs.

Therefore, any additive that claims to improve 'lubrication film strength' is only *marginally* effective. Since lubrication films do separate and expose bare metal under load, any improvement is momentary. Costly wear and friction occur until the film is re-established.

With **METALON** chemically bonded in place, metal surfaces are protected against devastating 'cold starts'. Every time the lubrication film separates, the metal contact surfaces merely burnish (polish) each other, instead of being ground away continuously. This burnishing action 'levels' the high spots and ridges, virtually increasing the contact surface area. **METALON** arrests excessive wear and the significant reduction of friction creates energy savings.

The uniqueness of **METALON C2** permits its use in a wide range of Industrial Applications. When blended with a gas-oil mixture for two-stroke power saws, Dyno Tests showed **METALON C2** increased the power by 10%, eliminated vapour lock and reduced vibration substantially. When applied to the most demanding Hydraulic Systems, such as; Hydraulic Cranes, Self-Loaders, Hydraulic Blenders and Pumping units, oil temperature drops of 50°F are commonplace.

Since **METALON C2** contains no solvents or detergents, it performs extremely well in Compressors and other non-filtered systems. It is used with cutting, machining and metal-forming oils, resulting in faster production, smoother finished parts and greater tool life.

An initial **METALON C2** treatment is 5% by volume (10% in severe applications, such as vibrators, compactors, areas of constant high heat, etc.). Future treatments of 2.5% by volume only in areas where oil is changed regularly. All "sealed systems" (transmissions, hydraulics) require only one application, unless the oil is lost or changed. Then, 2.5% is applied to the new oil to maintain the chemical reservoir.

INSPECTION DATA:

DESCRIPTION	ASTM METHOD	TEST RESULTS
Pour Point	D-97	-60°F (-34°C)
Viscosity, @ 100°F	D-445	65.7 SUS, 11.92 cSt
Specific Gravity @ 60°F	D-1298	0.9692
Foaming Characteristics	D-892	0, 0, 0
Water Content % by Volume	D-96	0.00%
Ash Content % by Weight	D-482	0.01%

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METALON SPRAY PENETRANT

ANTI-WEAR FRICTION FIGHTER

"DOES NOT CONTAIN 1,1,1 TRICHLOROETHANE"

INFORMATION and ASTM/ENGINEERING DATA

METALON SPRAY PENETRANT is a hydrocarbon complex specifically formulated to help reduce wear and friction of ferrous and non-ferrous metals. **METALON** unites chemically with the metal component molecules, forming a microscopic, monomolecular, wear-resistant shield. This exclusive lubricating formula combines the extraordinary features of **METALON** with other components that meet Military Specification requirements. **METALON SPRAY PENETRANT** will help to increase production and service life of equipment, reduce down-time and crucial wasteful maintenance expenditures.

METALON SPRAY PENETRANT is Non-Flammable. This provides an important margin of safety where potential hazards exist. Its high dielectric strength permits effective cleaning and retardation of electrical corrosion. The penetrating and "creep" properties help to free, lubricate and protect rusted and seized components. Moisture is driven out. A little goes a long way, which makes **METALON SPRAY PENETRANT** very cost effective.

APPLICATION: METALON SPRAY PENETRANT, aerosolized for convenience, uses CARBON DIOXIDE (CO₂) as a propellant, which is classed as "OZONE SAFE". Spray at a distance of 6" to 18". Gentle pressure on the nozzle will produce a "conical" spray pattern, whereas full nozzle pressure causes a "jet stream" spray. The extension tube allows directional application to remote locations. It will penetrate, clean and lubricate, permitting the device to perform as intended. A protective film is left on exposed surfaces to guard against rust and corrosion.

TYPICAL USES: Tools, Locks, Valves, Guns, Mechanical Linkages, Rusted Bolts, Nuts and Parts, Air Tools, Fishing Gear, Electric Motors, Jack Hammers, Sliding Mechanisms, Bicycles, Hinges, Chainfalls, Chain Saws, Nailing and Fastening Tools, Machine Threads, Tool & Dies, Drilling, Tapping, Metal Drawing and Forming, Broaching, Sawing, Milling Operations, Carburetor Linkages, Motorbikes, etc.

NOTE: METALON SPRAY PENETRANT should be used only with adequate ventilation. Avoid prolonged inhalation of vapours. Some plastics, natural rubber and paint finishes may be adversely affected by overspray. Test on an inconspicuous area first to insure safe application. **METALON SPRAY PENETRANT** cannot repair mechanical or electrical defects.

INSPECTION DATA:	ASTM METHOD	TEST RESULTS
DESCRIPTION	D-482	1.275
Specific Gravity	D-97	-70 (-57)
Pour Point °F (°C)	D-92	NON-FLAMMABLE
Flash Point	D-130	1a
Copper Strip Corrosion Test @140°F for 3 hours	D-117	PASS
Dielectric Strength		37 KV
COMPONENT DESIGNATIONS:	Military	MIL-C-23411A (YD)
	Joint Services	PX 24
	NATO	C-634

PACKAGING: METALON SPRAY PENETRANT is packaged 12 (400g) cans per case.

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METALON HI-TECH EP 1.5 GREASE

INFORMATION and ASTM/ENGINEERING DATA

METALON HI-TECH EP 1.5 GREASE is a superior multi-use, high temperature, over-based complex lubricant. The principle of over-basing is not new. Calcium sulphonates have provided mechanical and thermal stability and exceptional resistance to water and corrosion for many years. However, the dispensing, pumpability and low temperature properties were poor. Through sophisticated research in complexing methods, a new generation of grease has been developed, which offers extra bonuses.

The unique combination of this latest grease technology of over-based complex calcium sulphonates, PLUS 1.5 penetration, PLUS **METALON EP** offers characteristics and qualities unmatched by lithium or other greases. Its penetration of **NLGI 1.5** bridges the #1 and #2 grades, reduces inventories and misapplication problems, while enhancing the pumpability and dispensing properties.

METALON HI-TECH EP 1.5 GREASE protects against rust, corrosion, oxidation, water washout and displays excellent stability through temperatures ranging from -40°C/F to 300°C (>570°F) and it is **reversible**. The METALON component of the formula will chemically bond to the metal contact surfaces, providing **residual anti-wear protection**, even when the grease is squeezed out.

METALON HI-TECH EP 1.5 GREASE is catalogued in the Canadian Government Cataloguing System (CGCS) and assigned the **NATO Stock No. (NSN) 9150-21-905-7275**, and is listed at the **NATIONAL DEFENSE HEADQUARTERS**.

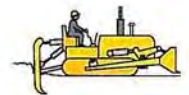
TYPICAL USES: Industrial, Farm Production and Construction Machinery, Automotive, Mining and Marine Equipment, Gears, Bearings, Stuffing Boxes, Automatic Lube Systems, Oven Conveyors, High/Low Speed Mechanisms, Military Equipment, Tractor Fifth Wheels and most other Grease Applications.

INSPECTION DATA:
(According to ASTM Specifications)

DESCRIPTION	ASTM	TYPICAL
DROPPING POINT °C/F	D-2265	300/575
SHEAR STABILITY: Penetration @ 250°C Worked 60 strokes @ 10,000 strokes @ 100,000 strokes @ 10,000 strokes w/ 50% water	D-217	285-315 1% 2% 285-315
ROLL STABILITY:	D-1831	+3%
EXTREME PRESSURE: Timken Value Kg/lb 4-Ball Wear Test @ 40kg-scar (mm) LWI, kg Weld Point, kg	D-2509 D-2266 D-2783	34/75 0.32 70+ 500+
WHEEL BEARING LEAKAGE gms. @ 163°C/325°F	D-1263	0.4
WATER WASHOUT: @ 79°C/175°F, % Loss	D-1264	< 3
RUST, (1-PASS):	D-1743	1,1,1
CORROSION RESISTANCE: Copper Corrosion Bearing Corrosion	D-1261 D-1743	PASS PASS
OXIDATION (PSI LOSS) @ 100 Hrs. @ 500 Hrs. @ 1000 Hrs.	D-0942	0 2 9
LOW TEMP. TORQUE: @ -40°C/-40°F After 5 Min. After 10 Min.	D-G311	8.0 3.7 3.5
BASE OIL: Visc. SUS @100°F @210°F Pour Point °C/°F Flash Point °C/°F	D-2161 D-97 D-92	600 70 -17/+2 245/475

COLOUR-TEXTURE: BLUE, BUTTERY & SMOOTH

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Your Application Here

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