

Accu-Lube®

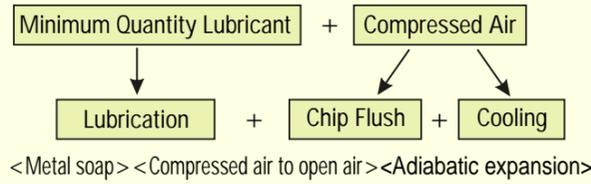
Microlubrication Systems

Accu-lube offers a complete line of natural-based lubricants along with specially-developed, patented micro-lubrication systems. These products are non-toxic, environmentally compatible and can be applied to a variety of materials without fear of contamination or discoloration. As a result, the production process becomes more efficient and the bottom line get improved.

- LB-3000 :**
- Economical High Performance Replacement for 'Mist' Type Coolant.
 - Environmentally Friendly and Worker Safe.
 - Must be Cleaned off Prior to Heat Treating.

- LB-6000 :**
- Suitable as a Replacement for "Mist" Type Lubricants and Coolants Due to Very Light Viscosity.

MQL Machining



	MQL Machining	Coolant Fluid
Coolant Fluid	cc/hour	liter/min.
Coolant Pump	n/a	Electricity
Waste Cost	none	Waste cost
Coolant Storage Mgt.	n/a	Manpower/space
Cleaning cost	vacuum only	Manpower/time
Shop environment	clean	Not clean

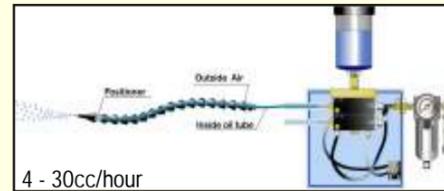
MQL Minimum Quantity Lubrication External Applicator

Minimum Quantity

- ‡ Stable supply : FK pump 0 - 0.015cc/pump/stroke
- ‡ Fresh oil supply: No recycling of contaminated coolant fluid
- ‡ Less oil on work piece: Less cleaning process
- ‡ Dry cutting chips: Less drying process and better working environment

Lubrication

- ‡ Longer tool life
- ‡ Improvement of cutting conditions



4 - 30cc/hour

MQL Proven Technologies Minimum Quantity Lubrication Internal Applicator



MET-L-GARD

Eliminate Rust. Improve Profits.

Rust Preventive Chemicals



MET-L-COOL

Cut Machining Costs. Power Profits.

Metal Working Fluids

Other World Leading Products from ITW Chemin

Maintenance, Repair, Overhaul Solutions



Lubricants, Cleaners, Degreasers



High-performance Industrial Grease



Metal-filled Epoxies and Urethanes



Instant Rust Fighter in Aerosol Can



Contact Cleaner



Marking System, Staining Colours and Steel Blue Layout Liquids

Automotive Solutions



Precision Checks and Solutions Workholding Devices



Aqueous Cleaners

Automotive After Market Solutions



Complete Automotive Maintenance



Brake & Parts Cleaner



Throttle Body & Air Intake Cleaner

Adhesive & Sealant Solutions



Structural Adhesives



Schnee-Morehead



Epoxy Foundation Systems And Repair Compounds

Epoxy Foundation Systems And Repair Compounds



A business unit of ITW Inc. USA
Speciality Chemicals, Lubricants and Equipment Manufacturers

ITW India Limited, Plot No. 34 to 37, Phase-2, IDA, APIC Pashamylaram, Medak Dist. - 502 307(35 km from Hyderabad), A.P. India.
Telephone: +91-8455-224700, 01, 03, 04, 06, 07, 08. Facsimile: +91-8455-224705. Website: www.itwchemin.com



CAT/Fluids Products/1 # Rev/02-09/2009



Microlubrication Systems

MET-L-GARD

Eliminate Rust. Improve Profits.

Rust Preventive Chemicals

Temporary rust preventive oils are for ferrous metals and alloys to protect from atmospheric and situation corrosion. These are widely being used in industrial segments like cold roll, hot roll, galvanized sheets and coils. Other applications like wires, bars, auto components, bearings, shafts, pump parts and all other fasteners, spare parts etc. has enormous usage to protect the surfaces temporarily.

- RP 601CR** : RP - 601 CR is a solvent based rust preventive oil. It finds applications in cold and hot rolled steel industry. It can be applied by spraying, felt roll or brushing. Product leaves an adherent soft oily film protecting metal from the environment. The rust preventive coat can be removed by warm (50-60 Deg. C) aqueous cleaner.
- RP 602CR** : RP - 602 CR is mineral oil based, rust preventive. It provides protection for ferrous cold and hot roll coils and sheets. The oil film renders not only the protection but also the required lubrication for further operations like drawing, punching etc. Normal industrial aqueous cleaners can remove this film easily.
- RWD 403-W** : RWD 403-W is a solvent based rust preventive oil. It provides protection for ferrous and its alloy components. The low viscosity of the product provides better coverage and good penetration. The product readily dislodges the wire drawing additives and other lubricants used in the process in oil dip tanks. It leaves a thin oily protective film over the applied surface. Normal industrial aqueous cleaners can remove this film easily.
- RWD 403** : RWD 403 is a solvent based, de-watering rust preventive oil, provides inprocess protection for ferrous and its alloy components. The low viscosity of the product provides better coverage and good penetration. The product spreads instantaneously and leaving a thin oily protective film over the surface of the component. Normal industrial aqueous cleaners can remove this film easily.
- RP 701CR** : RP - 701CR is a careful blend of highly refined low viscous oils with high polarity rust preventive additives and industrial anti corrosion lubricants. The high polarity of the product forms a fully covered protective oily film. The applied coat gets de-greased uniformly through out the coil in normal cleaning bath conditions and concentrations.
- RP 7001CR** : RP - 7001CR is an oil-based rust preventive. It contains rheology-modifiers besides the good rust preventive additive package. A rheology-modified product is viscous at normal temperature and becomes thin at slightly elevated temperatures (>45°C). This property helps in, oily film intact on the coated surface. It offers good oily film and useful for excellent protection as well as for drawing applications. The basic nature of the product also facilitates corrosion protection in case of any aqueous contaminations.
- RP 5002CR** : RP 5002CR is approved product for all electrostatic oilers being used in cold and hot roll coils and sheets. It has all approvals of electrostatic oilers such as PEABODY, RAVARINI CASTOLDI, ECT Corp., USA and DUMA.
- RP 631** : RP - 631 is a solvent based rust preventive oil. It finds applications in most of the ferrous and non-ferrous and its alloy components for excellent protection for sea shipments. RP - 631 is an ideal rust preventive compound for costly and precious components due to its superior protection in salty and humid environments.
- RP 206BRG** : RP - 206 BRG is a careful blend of highly refined oils with high polarity rust preventive additives, and ashless anti- wear additive package. The high polarity of the product offers instantaneous protective oily film. The good anti- wear additive package reduces the noise levels under rotation.

GENERAL PHYSICAL PROPERTIES (Rust Preventive Chemicals)

	RP 601CR	RP 602CR	RWD 403	RP 701CR	RP 7001CR	RP 5002CR	RP 631CR	RP 206BRG
Appearance	Amber Liquid	Amber Liquid	Amber Liquid	Amber Liquid				
Sp. Gravity	0.810 +/-0.01	0.890 +/-0.01	0.810 +/-0.01	0.850 +/-0.01	0.830 +/-0.015	0.890 +/-0.01	0.810 +/-0.01	0.850 +/-0.01
Viscosity 37.8°C CSt	2.2 +/-0.3	30 +/-2.3	2.7 +/-0.4	6.0 +/-1.0	13 +/-2.0	31 +/-3.0	3.5 +/-0.5	10.0 +/-1.0
Flash Point °C PMCC	40 +/-2	160	40.0	> 100	> 145	> 190	40 +/-2	40.0
Film Thickness microns	3.5	10.0	3.5	6.0	-	-	4.0	6.0
Salt Spray (hrs) ASTM B117	42hrs	48hrs	34hrs	44hrs	48hrs	50hrs	72hrs	50hrs
Humidity Protection (hrs)	280hrs	280hrs	260hrs	280hrs	360hrs	300hrs	300hrs	280hrs

MET-L-COOL

Cut Machining Costs. Power Profits.

Metal Working Fluids

Metal working fluids in dilution with water facilitates cooling and lubricates the Metal-Tool interface to improve the productivity. These are essential fluids for all machining operations like cutting, drilling, milling, grinding etc. to provide process improvement.

- WS 600N** : WS - 600N is economical and environment friendly, long life water-soluble oil, suitable for all moderate machining and grinding operations on all ferrous and non-ferrous metals except titanium and magnesium. Formulated with refined naphthenic base oil, natural emulsifiers, corrosion inhibitor package and biocides.
- WS 500N** : WS-500N is economical and environment friendly, long life water-soluble, metal working fluid. It is suitable for all moderate machining and grinding operations on all ferrous and non-ferrous metals except titanium and magnesium. It is formulated with refined naphthenic base oil, corrosion inhibitor package and biocides. WS-500N is designed to give at least two times more sump life as compared to the conventional coolants. Excellent flushing ability of the product enhances the cooling and chip removal ability.
- WS 40 HW** : WS-40HW is water-soluble, enriched with cationic surfactants for moderate machining and grinding operations on all ferrous and non-ferrous metals. It is formulated with refined naphthenic base oil, corrosion inhibitors, biocides and special emulsifiers to perform well even in high hard water (1000 ppm).
- WS 5050** : WS - 5050 is water-soluble metal working fluid, enriched with extreme pressure additives to offer excellent tool life and long life in heavy duty machining operations of all ferrous and its alloy metals. It is formulated with refined naphthenic base oil, corrosion inhibitor package, good performance extreme pressure additives and biocides. WS - 5050 is designed to give good flushing property besides its excellent tool life and more sump life as compared to the conventional coolants.
- BIOCOOL-100** : BIOCOOL-100 is high performance environment friendly, long life semi-synthetic metal working fluid, suitable for all moderate machining and grinding operations on all ferrous and its alloy metals. Formulated with high performance extreme pressure additives, corrosion inhibitor package and biocides, BIOCOOL-100 is designed to give good sump life with better tool life.
- BIOCOOL Blue** : BIOCOOL - Blue is high performance, environment friendly, clear blue semi-synthetic metal working fluid. This product is cost effective. It is suitable for all moderate machining and grinding operations of all ferrous and its alloy metals. It is formulated with corrosion inhibitor package and biocides, BIOCOOL - Blue is designed to give good sump life with better tool life.
- BIOCOOL-CTC** : BIOCOOL - CTC is high performance semi synthetic cutting fluid for all metals and all kinds of operations. Good for centralized tanks to address all types machining operations and conditions. Ideal product for all alloys of aluminium machining
- SYN-C-100** : Syn - C - 100 is high performance environment friendly, long life synthetic metal working fluid, suitable for grinding operations of all ferrous and its alloy metals. It is formulated with high performance corrosion inhibitor package. Syn - C - 100 is designed to give good sump life with good finish.
- EDM 30** : EDM 30 is high flash, low evaporative and odourless oil for all electrical discharge machining operations.



GENERAL PHYSICAL PROPERTIES (Metal Working Fluids)

TESTS	MINERAL SOLUBLE				SEMI SYNTHETIC			SYNTHETIC
	WS 600N	WS 500N	WS40 HW	WS 5050	BIOCOOL-100	BIOCOOL BLUE	BIOCOOL CTC	
Appearance	Amber liquid	Blue clear liquid	Amber liquid	Blue clear liquid	Amber to Pale Yellow	Blue clear liquid	Amber liquid	Yellow to Orange liquid
Sp. Gravity	0.890 +/-0.01	0.910 +/-0.01	0.930 +/-0.01	0.940 +/-0.01	0.980 +/-0.01	1.0 +/-0.02	0.980 +/-0.02	1.03 +/-0.02
Emulsion Type	Milky	Blue opaque	Milky	Blue opaque	Translucent	Blue, Translucent	Translucent	Yellow transparent liquid
Mineral Oil Content	>70	>70	>70	>60	20-30	<25	35-45	Nil
pH@5%in DM Water	9.0-10.0	9.0-10.0	9.4-10.2	9.0-10.0	9.7-10.5	9.5-10.5	8.5-9.5	9.7-10.5