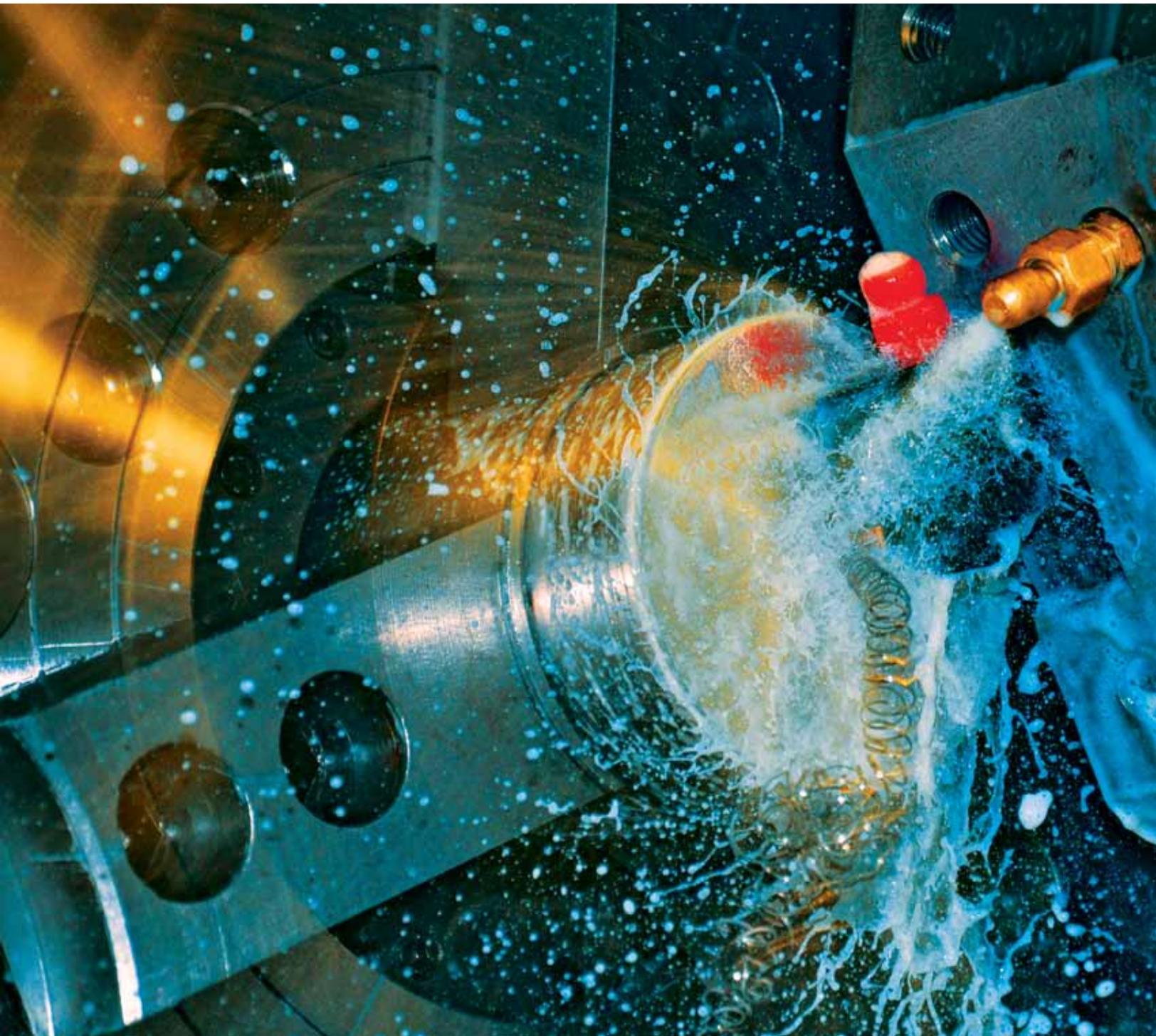




*Improve Your Performance
Streamline Your Production
Enhance Your Profitability*





TRIM® Family of Products – The Solutions You Need



CUTTING & GRINDING FLUIDS

Cutting and grinding fluids that lead the industry

Master Chemical has been recognized for more than 60 years for its TRIM family of metalworking fluids for all types of cutting and grinding operations. Known worldwide for superior performance, TRIM meets the demands of specialized industries such as automotive, aerospace, and medical parts manufacturers.

For the full range of cutting and grinding applications for synthetics, semisynthetics, and soluble oils, TRIM offers customers longer tool and sump life, better finished parts, and a better bottom line.

TRIM coolants help customers realize

- > significantly reduced fluid costs
- > lower machine tool costs
- > reduced downtime and labor
- > lower disposal costs
- > assured code compliance
- > a safer work environment for employees
- > immediate savings to the bottom line

COOLANTS/TRIM MICROSOL®

TRIM® MicroSol® 585XT <i>Nonchlorinated Semisynthetic</i>	Extended-life, high-lubricity, microemulsion coolant delivers excellent cooling and mechanical lubricity. Well suited for machining and grinding gray iron, mixed metal situations, and titanium alloys.
TRIM® MicroSol® 685 <i>High-lubricity Semisynthetic</i>	Heavy-duty soluble oil performance with the cleanliness of a semisynthetic. For a very wide range of materials: aluminum, magnesium, copper alloys, steels, stainless steels, most plastics, composites, and cast iron.
TRIM® MicroSol® 695 <i>Premium Nonhalogenated Semisynthetic</i>	High-lubricity, microemulsion coolant performs like a heavy-duty soluble oil with the cleanliness of a semisynthetic. Provides excellent cooling and mechanical lubricity. Machine-friendly.
TRIM® MicroSol® 485 <i>Long-life Ferrous Semisynthetic</i>	Microemulsion ferrous metalworking coolant optimized for difficult cast iron working environments. Prevents leaching of elemental iron and thus eliminates clinkering and oxidation of ferrous micro fines. Value-priced.

COOLANTS/EMULSION

TRIM® E850 <i>Premium Emulsion</i>	“Green” vegetable-based technology. Easy-to-maintain. Mild contact nature. Low initial-charge odor. Unparalleled lubricity delivers exceptional surface finish on aluminum alloys, exotics, stainless, and high-tensile strength steels.
TRIM® E906 <i>Premium, Low-foaming Emulsion</i>	The newest technology for emulsion-based cutting. Consistent machining and grinding for a wide range of materials and applications. First choice for aerospace, automotive, energy manufacturers, and specialty job shops.
TRIM® E206 <i>Long-life Emulsion</i>	Highly stable emulsion for superior sump life and low mist/low carryoff. Excellent for high-speed milling and turning in most materials. Higher speeds and feeds, long sump life, and low use rates mean higher productivity and profits.
TRIM® VHP® E814 <i>Very High-pressure Emulsion</i>	Chlorine-free, low-to-no foam, high-volume; performs on high-speed through-the-tool coolant delivery systems on VMCs and HMCs. Environmentally friendly. Compatible with all metals and nonmetallic materials.

COOLANTS/SEMISYNTHETIC

TRIM® SC520 <i>General-purpose Semisynthetic</i>	Low odor, low cost for the multi-material, multi-operational shop. Controls built-up edge, improves tool life. Superior machining results on high-speed milling and turning. Controls chip welding on soft, gummy materials.
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COOLANTS/SYNTHETIC

TRIM® C380 <i>Premium Ferrous Machining Synthetic</i>	Very-high performance, easy-to-use for high-tech ferrous materials including stainless steel and Inconel® (widely used in aerospace, medical, and electronics industries). Very high levels of usable lubricity at the point of cut.
TRIM® C350 <i>Premium, High-lubricity Synthetic</i>	Longer tool life, less residual stress on machined parts. PRTR compliant; NO chlorine, phenol, nitrite, copper, triazine, silicone; NO NPE or SARA 313 chemistry. Rust protection on aluminum, titanium, nickel, and steel alloys.
TRIM® C270 <i>High-performance Synthetic</i>	Synthetic coolant concentrate operates at very high fluid pressures and volumes with little or no foam. Very stable formula; exceedingly long operational life with consistent performance. Our most popular cutting fluid product.
TRIM® C115 <i>Synthetic</i>	High-performance synthetic fluid for working cast iron and mild steels; provides excellent cooling and chip settling, good tramp oil rejection, and machine cleanliness while leaving a protective film on the machine tool.

STRAIGHT OILS

TRIM® OM 287 <i>Versatile Cutting Oil</i>	Contains chlorine and inactive sulfur for multi-metal capability. Works well in modern higher speed “Swiss” machines and machining centers. Very easy to wash off.
TRIM® OM 303 <i>Nonchlorinated Oil</i>	Nonchlorinated medium- to heavy-duty semisynthetic straight oil. Works well in screw machines, roll form threading, and other high-lube operations.



Clean, coat, and protect with Master STAGES

Master STAGES surface treatments include cleaners and corrosion inhibitors to keep customers environmentally compliant, running at peak performance, and more profitable.

Have health or safety issues? High disposal costs? Problems with rust on parts? Whatever the production issue, there's a Master STAGES performance-proven product sure to make the difference. The Master STAGES difference: the right solution for the job at the right price.

Master STAGES in-process washing compounds for

- > spray, immersion, or ultrasonic parts cleaning
- > multi-metal operations
- > metalworking fluid removal
- > cleaners with built-in RP
- > water-based RP's
- > vibratory finishing
- > reduced disposal costs

PARTS CLEANERS	
CLEAN 2017 <i>Heavy-duty Spray Cleaner</i>	Removes heavy soils and oily residue from ferrous and magnesium parts. Often used in rebuild operations and for cleaning up cast iron, stamped or drawn steel parts, or removing heavy RP coatings.
CLEAN 2029 "One Step" <i>Parts Washing Fluid Corrosion Inhibitor</i>	High detergent, low foam, and good in-process rust prevention with just "One Step." Mild pH for a safer work environment. Use at 3%–5% and 120°F–180°F (49°C–82°C) for best results and lowest foam.
CLEAN IP 2019s <i>Silicated Low-foam Cleaner</i>	Very low foaming, concentrated. Remove straight oils and coolants from steel, cast iron, and most aluminum parts. An excellent cleaner and very economical. Rejects oil for easy skimming or centrifuging to extend bath life.
CLEAN 2030 <i>Ultrasonic and Immersion Washers</i>	Concentrated, very high performance cleaner for washing all metals including brass, copper alloy, and aluminum in ultrasonic or immersion washers. Oil-rejecting properties for longer bath life and economical operation.
CLEAN 2430 <i>Near-neutral Washing Compound</i>	Mild pH, highly concentrated, washing compound/corrosion inhibitor for aluminum and steel alloys, cast iron, copper, brass, bronze, and zinc. Great detergency and long life in single and multi-stage spray washers.
CLEAN 3011 <i>Residue-free/Multi-metal Cleaner</i>	Concentrated washing compound/corrosion inhibitor. No foam at room temperature in high-pressure spray washers. Removes light oils, water soluble cutting and grinding fluid residues. Leaves thin rust-inhibiting film.
CORROSION INHIBITORS	
RPO 6BF <i>Barium-free, Low-odor, Corrosion Inhibitor</i>	Nonstaining, water displacing, thin-film rust preventative for use on a variety of metals. Provides excellent indoor protection for bearings and other precision parts, in-process parts in storage, as well as parts in transit.
NOCOR® S2 <i>Water-soluble Corrosion Inhibitor</i>	Use NOCOR S2 at 3%–7% in water for up to two months indoor rust prevention. Barium free, low V.O.C., and economical to use. Can be used in rinse stage of parts washers.
MAINTENANCE CLEANERS	
Task2™ Grime Fighter Task2™ All Purpose Cleaner Task2™ Glass Cleaner	Super concentrated, industrial strength cleaner/degreaser. Safe on all metals. For removal of heavy, oily, or greasy soils. Spray bottle cleaning of machines. For cleaning glass and plastic surfaces.
CLEAN F2™ <i>Non-butyl Multi-purpose Cleaner</i>	Strong and super concentrated for use on floors and hard surfaces. Very economical to use and safe for human contact at 20% concentration!
Whamex™ <i>Machine Tool Sump and System Cleaner</i>	Safe, fast-acting concentrated formula saves machine cleaning downtime while removing the oily residues, scums, and insoluble soap deposits that reduce coolant life.
Whamex™ XT <i>For Semisynthetics and Synthetics</i>	Same safe, fast-acting concentrated formula as Whamex yet made for synthetics and semisynthetics. Nonfoaming; saves machine cleaning downtime, removes oily residue and scum and extends coolant life.
CLEAN AMO™ <i>Natural-solvent Cleaner and Degreaser</i>	A maize 'N Orange.™ Natural solvent cleaner that can be mixed with water and used for a wide range of industrial cleaning jobs. Outstanding at removing oily, greasy, or resinous soils at room temperature.



XYBEX®
Fluid Recycling Equipment



FLUID RECYCLING EQUIPMENT

Increase profitability with XYBEX

Master Chemical, the pioneers of coolant technology, also invented systems for recycling those same coolants and even cleaners. Since properly maintained coolant can last almost indefinitely, a fluid management and recycling program using XYBEX equipment pays for itself with savings in material costs, disposal expense, and reduced downtime.

Maximize your productivity and minimize waste with XYBEX fluid recycling equipment.

XYBEX equipment to maximize productivity, minimize waste

Some examples of our full line of quality equipment:

- A.** XYBEX System 600
- B.** 120V Electric Yellow Bellied Sump Sucker™
- C.** Li'L Sucker™
- D.** MCC Reversible LIQUI-VAC™
- E.** Master Coalescer II™
- F.** SCROUNGER® Jr. Oil Skimmer
- G.** UNIMIX™
- H.** Master Mix™
- I.** The Whammer™
- J.** Palm Abbe™ Digital Refractometer



For prices or additional information, contact your Master Chemical Corporation Distributor.



Cleaners Created: 5-20-2009 Revised: 10-30-2012 Revision: 7.0	Applications (Good/Excellent)		Cleaning (Good/Very Good/Excellent)										Foam Characteristics (Low, Med, High)					Metal Compatibility (x=ok)										Builder System		DOT Labeled	RP Days @ 5% Typical	pH in Use					
																		Al Alloy Series																			
																		Minutes at 120°F (49°C)															Magnesium		Zinc		Brass
Product	Immersion	Spray	VHP Spray	Ultrasonic	Vibratory	Coolants	Oils	Chlorinated Oils	Sulfurized Oils	Grease/Wax	80°F (27°C) Foam	110°F (43°C) Foam	140°F (60°C) Foam	Foam Break Point	2024	3003	5052	6061	7075																		
CID 5140	E			E							H	H	M	N/A	0	0	0	0	0																0	1.0-3.0	
CLEAN 2012		G				E	E				H	L	VL	110°F	1	2	1	2	1				X	X											1	8.5-10.0	
CLEAN 2017	G	E				E	E	G	E	E	M	L	L	105°F	0	0	0	0	0	X					X										2	12.5-13.0	
CLEAN 2020	E			G		E	E	E	E	G	H	H	H	N/A	5	5	5	5	2	X	X	X	X			X									0	11.5-12.5	
CLEAN 2023	G	E				E	E	E	VG	E	H	M	L	135°F	5	10	5	5	5					X	X		X	X							7	11.7-12.2	
CLEAN 2029 "One Step"	G	E				E	VG	G	VG		H	M	L	125°F	1	1	0	1	0						X		X	X							14	11.3-11.7	
CLEAN 2030	E			E		E	VG	E	VG		H	H	H	N/A	5	5	5	1	2	X	X	X	X	X	X	X									14	10.5-11.0	
CLEAN 2115		G	E		G	VG	G				VL	VL	VL	85°F	0	0	0	0	0	X	X			X											4	8.8-9.6	
CLEAN 2115AL		G	E		G	VG	G				VL	VL	VL	85°F	2	2	1	5	2		X	X	X	X											7	8.0-9.0	
CLEAN 2430	G	E		G		E	E	VG	E		M	L	L	97°F	2	2	2	2	1		X	X	X	X		X	X								14	8.0-8.7	
CLEAN 3011		E	G		G	VG	G				VL	VL	VL	90°F	1	2	1	2	1		X	X	X	X											21	9.0-9.5	
CLEAN 7140HD	G	E		G		E	E	E	E	E	H	M	L	120°F	0	0	0	0	0		X				X											0	13.0-13.6
CLEAN IP 2019s		E			E	E	VG	VG	E		VL	VL	VL	80°F	30	30	30	30	30		X	X	X	X	X											28	11.0-12.2
CLEAN IP 2026PF	G	G		G		E	G				H	M	L	120°F	30	30	30	30	30		X	X	X	X	X											2	11.0-12.0
RINSE 100	E			G		E	E	E	E	G	H	H	H	N/A	30	30	30	30	30	X	X	X	X	X	X											7	9.0-9.6

CID 5140	Inhibited phosphoric acid for the removal of rust and oxidation on ferrous materials and surfaces. It is easy to manage and out performs its competitors in difficult rust removal applications. Once the oxidation has been removed, an acid neutralization rinse or bath like CLEAN 2029 may be required.
CLEAN 2012	Moderate pH cleaner made for spray washing aluminum at 110°F to 130°F (43°C to 54°C). Good on coolants and light oils.
CLEAN 2017	High-powered cleaner for heavy-duty washing. Can be used for rebuild and for drawing/stamping/quench oil removal. Good oil split. Quite a bargain. High pH. Ferrous only. Very economical.
CLEAN 2020	Excellent cleaner for removing oils and coolants from aluminum, zinc, magnesium, or brass in immersion and ultrasonic washers. Good oil splitting and very rapid and effective cleaning. Works on ferrous metals but has no RP.
CLEAN 2023	Heavy-duty spray washing for aluminum. Also provides up to a week of indoor RP on ferrous parts.
CLEAN 2029 "One Step"	One-step spray cleaning and RP for ferrous metals. Also safe on most other metals. Spray 120°F-130°F (49°C to 54°C). Immersion ambient to 130°F (54°C).
CLEAN 2030	Very fast-acting immersion/ultrasonic cleaner for all metals. Similar to CLEAN 2020 except this one provides a week or two of in-plant RP if not rinsed.
CLEAN 2115	Low-foam cleaner for very high-pressure washers. Use in 3,000 to 10,000 psi washers or in low-pressure spray washers where contamination causes foam problems. For ferrous only above 100°F (38°C). Provides up to a week of indoor RP.
CLEAN 2115AL	Low-foam cleaner for very high-pressure washers. Use in 3,000 to 10,000 psi washers or in low-pressure spray washers where contamination causes foam problems. Provides up to a week of indoor RP. Safe on aluminum and magnesium up to 140°F (60°C).
CLEAN 2430	Maximum oil splitting and good ferrous RP along with near-neutral pH. A great choice for spray washing ferrous and aluminum parts where oil removal is important. Provides two weeks indoor RP.
CLEAN 3011	Super low-foam and residue-free drying make this cleaner a great choice for high-pressure spray washing of engine components, brake parts, and any ferrous part that needs three weeks of indoor RP. Most excellent hydrostatic or leak test fluid.
CLEAN 7140HD	Highly concentrated, heavy-duty spray cleaner specially designed for removing heavy grease and oil residues from ferrous parts. Ideal choice for remanufacturing/rebuilding operations.
CLEAN IP 2019s	Very low-foaming spray cleaner for ferrous, aluminum, and magnesium. Provides two-to-four weeks indoor RP. Rejects oil for easy skimming or centrifuging to extend bath life. Very economical.
CLEAN IP 2026PF	Phosphate-free, multi-metal, highly concentrated liquid parts washing compound for use in spray and immersion washers, including ultrasonics.
RINSE 100	Combination soap and detergent with pine oil. Used in immersion washers for degreasing at moderate temperatures. Provides one week RP on ferrous metals and is safe on brass and aluminum.

Cleaner Cheat Sheet: Maintenance



Maintenance Cleaners	Applications (Good/ Excellent)							Cleaning (Good/ Very Good/ Excellent)					Metal Compatibility						Builder System			pH in Use						
	Product	Spray Bottle	Floor Cleaner	Machine Cleaner (Inside)	Machine Cleaner (Outside)	Glass Cleaner	All Purpose	Parts Washing (Spray)	Parts Washing (Immersion/Ultrasonic)	Coolant Residues	Light Oils	Heavy Oils	Greases/Waxy	Tire Marks	Steel	Cast Iron	Aluminum	Copper	Brass	Zinc	Magnesium		Silicated	Phosphate	Amine			
																										Created: 5-20-2009	Revised: 10-30-2012	Version: 5.0
CLEAN F2™	G	E						G	E	E				X	X				X				X	10.2-11.2				
SkidRid™		E							E	E			E	X	X	X	X	X	X		X		X	11.0-12.5				
Skramex™		E							E	E	E			X	X				X		X			11.3-12.3				
Whamex™		E	E	G				G	E	E	VG	G		X	X									10.0-10.6				
CLEAN AMO™	E			E		E		E	E	E	E	VG		X	X	X	X	X					X	7.0-9.5				
Task2™ All Purpose Cleaner	E			G		E		E	E	VG	G			X	X		X	X	X					9.1-9.5				
Task2™ Glass Cleaner	E				E			E						X	X		X	X	X					9.1-9.5				
Task2™ Grime Fighter	E	E		E		E		E	E	E	VG			X	X		X	X	X					9.1-10.1				

CLEAN F2™	Floor cleaner and other multi-purpose uses. Often used for bucket cleaning and parts washing. Mild pH means it is compatible with most waste treatment systems.
SkidRid™	Specially formulated cleaner to lift off stubborn tire marks. Economical to use. Can be used for general-cleaning tasks.
Skramex™	High-powered cleaner designed for factory floor cleaning and heavy maintenance cleaning. Highly caustic and capable of emulsifying most soils.
Whamex™	Cleaner that is made for clean-out machine tool sumps and larger systems, coolant supply lines, and coolant recycling equipment. Compatible with most waste treatment systems.
CLEAN AMO™	Natural solvent cleaner that can be mixed with water. Can be used to remove oily, greasy, or resinous soil at room temperature.
Task2™ All-purpose Cleaner	All-purpose, water-based cleaning agent that is ready to use. Biodegradable, nontoxic, and safe on all metals.
Task2™ Glass Cleaner	Industrial-strength, water-based cleaner that does an outstanding job on machine tool glass and other hard surfaces.
Task2™ Grime Fighter	Industrial-strength, non-butyl, water-based cleaner. Out-performs all green, crystal, purple, "mean", "complex", and "simple" butyl-based products.

Corrosion Inhibitors	Applications		Foam Characteristics (Low, Med, High)				Rust Inhibition (Days)			Type of Dilution		Builder			pH in use
	Spray	Immersion	80°F (27°C) Foam	110°F (43°C) Foam	140°F (60°C) Foam	Foam Break Point	5%	10%	16%	Emulsion	Synthetic	Amine	Phosphate	Silicate	
Product															
NOCOR® E6		X	H	H	H	N/A	56	112	168	X					9.0-10.0
NOCOR® S2	X	X	L	VL	VL	80°F	14	28	N/A		X	X			9.3-9.6
RPO 6BF		X													

Additives	Foam Characteristics (Low, Med, High)				pH in use
	80°F (27°C) Foam	110°F (43°C) Foam	140°F (60°C) Foam	Foam Break Point	
Products					
CLEAN B1	H	L	L	135°F	6.0-7.5
CLEAN DF1	VL	VL	VL	32°F	6.5-7.5

NOCOR® E6	Barium-free water based emulsion rust inhibitor. Great on steel, cast iron, and other ferrous parts. Will provide up to six months RP.
NOCOR® S2	Synthetic, water soluble, ferrous corrosion inhibitor. Provides a very thin water soluble protective film, will provide up to two months RP.
RPO 6BF	Barium-free, nonstaining, water displacing, thin-film corrosion inhibitor or rust preventative which can be used on a variety of metals.

CLEAN B1	Surfactant booster for spray washers. Low foaming over 110°F.
CLEAN DF1	Paintable siloxane defoamer for Master STAGES™ CLEAN detergents. Does not require pre-mixing. Also works in most other TRIM® fluids.

	PRODUCT	PRICE \$-\$\$\$	CHLORINATED	WORKING SOLUTION COLOR	FOAM CONTROL	SUMP LIFE	CAST IRON	STEEL	HIGH-CARBON STEEL	HEAT-TREATED STEEL	CAST ALUMINUM	6000 SERIES ALUMINUM	AEROSPACE ALUMINUM	STAINLESS STEEL	HIGH-NICKEL ALLOYS	TITANIUM	COPPER, BRASS & BRONZE	GLASS, PLASTICS & COMPOSITES	AEROSPACE APPROVALS	MEDICAL APPROVALS
Synthetic	C115	\$		Colorless	E	E	E	VG	G	G	N	F	N	F	F	G	N	E		
	C270/C270CG	\$\$		Colorless or Blue	E	E	E	E	E	E	N	N	N	VG	G	G	N	VG		
	C350	\$\$\$		Colorless to pale yellow	VG	VG	G	G	VG	VG	E	E	E	VG	VG	VG	VG	E	Yes	
	C380	\$\$\$		Clear	VG	VG	E	E	E	E	G	G	G	VG	VG	G	G	E		

Semisynthetic	SC230	\$\$		Blue or Colorless	E	E	E	E	E	E	N	N	N	VG	G	G	N	VG		
	SC520	\$	Yes	Light Blue	G	G	VG	VG	VG	G	F	G	VG	VG	G	G	G	G		
	SC536	\$\$		Colorless to pale yellow	G	G	VG	VG	VG	VG	G	G	G	VG	G	G	G	G		

MicroSol®	MicroSol® 485	\$		Light amber	G	E	E	VG	G	G	N	N	N	G	G	G	G	G		
	MicroSol® 585XT	\$\$		White Microemulsion	E	E	VG	E	VG	VG	VG	VG	E	VG	VG	E	E	VG	Yes	Yes
	MicroSol® 685	\$\$	Yes	Light yellow	G	E	VG	VG	VG	VG	G	E	E	E	E	VG	VG	VG		
	MicroSol® 695	\$\$\$		Clear/pale yellow	G	VG	G	E	E	E	E	E	E	E	E	E	E	E		

Soluble Oil	SOL®	\$\$	Yes	Light blue or Milky white	G	F	F	E	E	E	E	E	E	E	E	E	E	F	Yes	Yes
	E206	\$\$	Yes	Blue or Light green	G	G	G	E	E	E	VG	VG	E	E	E	VG	VG	G	Yes	Yes
	E906	\$\$\$	Yes	Milky white	VG	E	G	E	E	E	G	E	E	E	E	VG	VG	VG		
	E850	\$\$\$\$		White	G	VG	F	E	E	E	E	E	E	E	E	E	E	VG		

Very, High-pressure Soluble Oil	VHP® E210	\$\$\$\$		Milky white	E	F	F	VG	E	E	E	E	E	E	E	G	VG	VG	Yes	
	VHP® E320	\$\$\$\$		Milky white	E	F	F	VG	E	E	E	E	E	E	E	G	VG	VG		
	VHP® E812	\$\$\$		Milky white	E	G	F	VG	E	E	E	E	E	E	E	G	VG	VG		
	VHP® E814	\$\$\$\$		White	VG	E	E	G	VG	G										

Straight Oils	OM 100	\$		Clear Amber	VG	NA	G	G	G	G	G	G	G	G	G	G	G	G		
	OM 287	\$\$	Yes	Brown	VG	NA	VG	E	E	E	E	E	E	E	E	G	VG	G		Yes
	OM 303/OM 313	\$\$		Yellow	VG	NA	VG	E	E	E	E	E	E	E	E	G	VG	G		
	OD 250	\$\$\$	Yes	Clear yellow	G	NA	VG	E	E	E	E	E	E	E	E	G	VG	G		
	OV 2200	\$\$\$\$		Clear Amber	G	NA	VG	E	E	E	E	E	E	E	E	VG	VG	VG		