



Master Fluid
SOLUTIONS®

***Improve Performance,
Streamline Production,
Enhance Profitability***



INNOVATIONS
FOR LONGER SUMP AND TOOL LIFE



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AND TOOL LIFE

TRIM® Metalworking Fluids

Achieve cutting edge production with
TRIM® cutting and grinding fluids

- > significantly reduce fluid and tool costs
- > reduce downtime and labor
- > lower disposal costs
- > assure code compliance
- > excellent operator acceptance
- > a safer workplace for employees
- > immediate savings to the bottom line



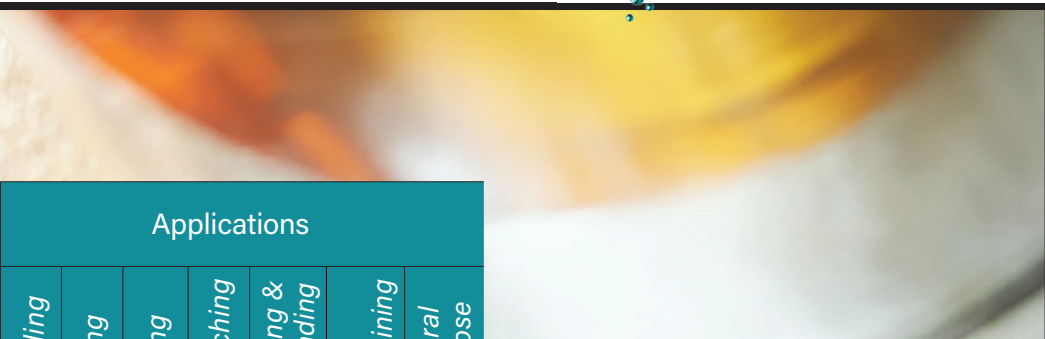
	TRIM® Product	Product Characteristics
Neo-Synthetics	TRIM® HyperSol™ 888NXT <i>Neo-Synthetic Precision Aerospace Machining Fluid</i>	Revolutionary, patented neo-synthetic technology offers unsurpassed versatility and performance on hard aerospace metals– titanium and high-nickel alloys, stainless steels, and Inconel® – and superior lubricity for machining soft, gummy aluminum alloys. Low foam, low odor, long running, meets most strict environmental regulations.
Microemulsions	TRIM® MicroSol® 465 <i>Low-foam Semisynthetic</i>	Low-foam semisynthetic microemulsion coolant is optimized for high-volume cast iron, ferrous, and some aluminum and nonferrous metalworking operations. It prevents leaching of elemental iron and eliminates clinkering and oxidation of ferrous micro fines.
	TRIM® MicroSol® 585XT <i>Extended-life, 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, titanium and aluminum alloys.
	TRIM® MicroSol® 590XT <i>Advanced Technology Aerospace Semisynthetic</i>	Specifically designed for aerospace; protects sensitive alloys from surface stains and corrosion. Maximum lubricity. Unsurpassed sump life and foam control. No boron or DCHA, nonchlorinated, needs no tankside additives.
	TRIM® MicroSol® 642RX <i>High-lubricity, Low-foam, Medical Grade Microemulsion</i>	Specifically formulated for the medical device industry. Low-foaming, clean running, highly-lubricious with long sump life, and free of animal-derived raw materials. Fluid of choice for medical instruments, ortho instruments, prosthetic devices, endoscopy, and surgical tools.
	TRIM® MicroSol® 685XT <i>High-lubricity, Low-foam Semisynthetic</i>	High-lubricity, low-foaming, semisynthetic microemulsion coolant designed for extended sump life. It delivers the heavy-duty performance of a soluble oil while maintaining the cleanliness of a semisynthetic. Offering superior cooling and mechanical lubricity, it is an excellent alternative to traditional soluble oils, especially for high-silica aluminum alloys. Compatible with a wide range of materials.
	TRIM® MicroSol® 692XT <i>Premium, High-lubricity, Low-foam Microemulsion</i>	Ultimate lubricity. Delivers extended sump and tramp oil life, greater bio stability, and better foam control versus previous generation semisynthetic microemulsions. Compatible with very wide range of materials including titanium, high nickel alloys, steels, copper, and aluminum alloys.
Emulsions	TRIM® E715 <i>DCHA-free, High-performance Emulsion</i>	High-quality, universal soluble oil requires minimal maintenance, even in the most demanding fluid management systems. It has broad applications in machining and grinding across a wide range of materials. With high levels of both chemical and mechanical lubricity, it excels in medium to high-duty machining and grinding operations.
	TRIM® E923 <i>Chlorine-free, Extreme-lubricity Emulsion</i>	Boron- and formaldehyde-free emulsion with extremely high EP content. For use in the most difficult applications, often replacing neat oils.
	TRIM® E925 <i>Chlorine-free, High-performance Emulsion</i>	Superior finish on aerospace titanium and aluminum alloys, exotics, stainless, and high tensile strength steels. Exceptional performance and sump life with more lubricity to the point-of-cut. Nonchlorinated.
Semi-Synthetics	TRIM® SC520 <i>General-purpose Semisynthetic</i>	Low cost, low odor 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.
Synthetics	TRIM® C270CG <i>High-performance Synthetic</i>	Synthetic coolant concentrate operates at very high fluid pressures and volumes with little to no foam. Very stable formula; exceedingly long operational life with consistent performance. Nonchlorinated.
	TRIM® C276 <i>Clean-running Synthetic</i>	Specially synthesized. Machine- and operator-friendly, great sump life and tramp oil rejection. For centerless and cylindrical form grinding, high-speed, single-point turning, and down-the-hole work.
	TRIM® C290 <i>Economical Fluid for Aluminum Machining</i>	Synthetic metalworking fluid is optimized for the chemical, environmental, and machining requirements of general aluminum parts. It is a high-performance, easy-to-use, and low-maintenance metal removal fluid with very high levels of usable lubricity at the point of cut. Its unique chemical formula provides excellent nonferrous corrosion prevention on most aluminum alloys.
	TRIM® C350 Premium, <i>High-lubricity Synthetic</i>	Longer tool life, less residual stress on machined parts. PRTR compliant; free of chlorine, phenol, nitrite, copper, triazine, silicone; NO NPE or SARA 313 chemistry. Rust protection on aluminum, titanium, nickel, and steel alloys.
	TRIM® C390 <i>High Performance Aerospace Synthetic</i>	High-performance aerospace synthetic coolant customized for machining composites for the global aerospace industry. Proprietary synthetic lubricant technology provides superior lubricity. Extremely low foaming.

TRIM® Straight Oils

Product	Physical Properties		Chemical Properties				Performance					
	cSt @104°F (40°C)	Color	Flash Point °C	Flash Point °F	Extreme Pressure	Base Fluid	Ferrous	Carbide	Aluminum	Alloys	Ceramics	Exotics
TRIM® OE209	8.7	Colorless	200	392	EP	Saturated Esters	***	***	***	**	***	**
TRIM® OE310 NS	10.6	Straw Yellow	250	482	EP	Ester	**		***	**		***
TRIM® OE315 NS	15.0	Straw Yellow	230	446	EP	Ester	**		***	***		***
TRIM® OM 287	20.3	Brown	152	305	EP	Mineral Grp I Hydrocracked	***	**	***	***		**
TRIM® OM 100	20.9	Clear Amber	165	330	-	Mineral Grp I/II Hydrocracked	***		**	**		*
TRIM® OE322 NS	21.9	Straw Yellow	235	455	EP	Ester	***		***	***		***
TRIM® OV 2200	26.0	Clear Amber	235	455	-	Vegetable Ester	***	**	**	***		***
TRIM® OM 303	32.4	Yellow	169	336	-	Mineral Grp I/II Hydrocracked	***	**	*	***		***

*** Excellent





Applications							Description
Grinding	Honing	Drilling	Broaching	Tapping & Threading	Fine Machining	General Purpose	
***	***	***		**	***	***	Very low misting, synthetic oil-based product for machining/grinding all materials. Well suited to very high-pressure, chip-breaker applications.
**	***	**	*	***	***	***	High lubricity, ester-based fluid for machining all materials. Suitable for heavy-duty machining processes where a light viscosity is also advantageous.
**	**	***	*	***	***	***	High lubricity, ester-based product for machining all materials. Specially suited to heavy-duty machining processes, such as deep-hole drilling and broaching.
*		**	*	**	*	***	Contains chlorine and inactive sulfur for multi-metal capability. Works well in modern higher speed Swiss-style machines and machining centers. Very easy to wash off.
*		*		*	*	**	Straight cutting oil for general machining of all metals including aluminum, copper, brass, and cast iron. Provides excellent lubricity without staining nonferrous metals.
**		***	*	***	**	***	High lubricity ester-based product for machining of all materials. Proven product for machining of high-strength materials, cast metals and gear machining.
**	**	**	*	***	**	***	Bio-based straight oil for machining difficult alloys and steels. Environmentally friendly and V.O.C. free. Nonchlorinated, no sulfur or animal fat. Reduces unpleasant odors and residues.
**	***	***	**	***	*	***	Nonchlorinated medium- to heavy-duty straight oil. Works well in screw machines, roll form threading, and other high-lube operations.

** Good * Suitable





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Master STAGES™ Cleaners

Rely on hard-working

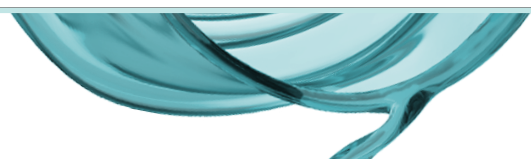
Master STAGES™ to clean and protect

- > spray, immersion, or ultrasonic parts cleaning
- > multi-metal operations
- > metalworking fluid removal
- > cleaners with built-in and water-based RPs
- > vibratory finishing
- > reduce disposal costs
- > immediate savings to the bottom line
- > superior floor and surface cleaners



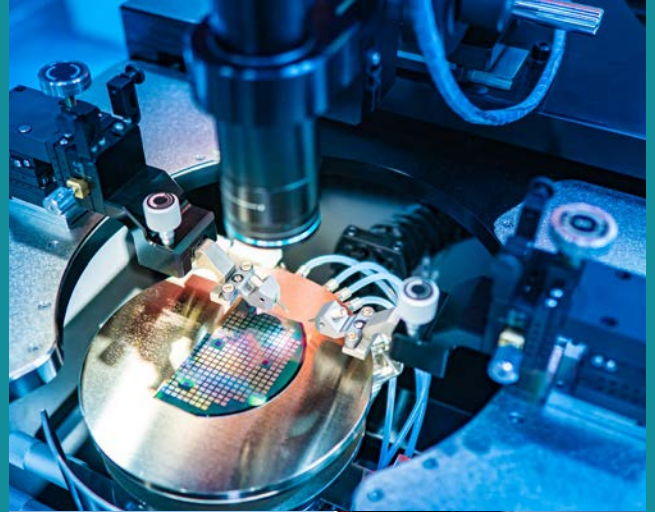


Master STAGES™ Product		Product Characteristics
Parts Cleaners	Master STAGES™ CLEAN 2017 <i>Economical, Heavy-duty Spray Cleaner</i>	Removes heavy soils and oily residue from ferrous and magnesium parts. Often used in rebuild operations and for cleaning up cast iron, stamped or drawn steel parts, or removing heavy RP coatings.
	Master STAGES™ CLEAN 2029 <i>"One Step" Parts Washing Fluid with 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.
	Master STAGES™ CLEAN 2115AL <i>Low-foam Spray Washing Compound</i>	Aluminum-compatible, high-performance, low-foam synthetic washing compound; for very high-pressure spray washers, de-burring, and water jet cutting. Exceptional sump life, foam control, and tramp oil rejection.
	Master STAGES™ CLEAN IP 2019s <i>Silicated Low-foam Cleaner</i>	Very low foaming, concentrated. Removes 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.
	Master STAGES™ 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.
	Master STAGES™ 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.
Corrosion Inhibitors	Master STAGES™ RPO 6BF <i>Barium-free, Low-odor, Corrosion Inhibitor</i>	Nonstaining, water displacing, thin-film rust preventative for use on a variety of metals, bearings, and precision parts. Six- to eight-months protection for indoor and in-process parts in storage, as well as parts in transit.
	Master STAGES™ NOCOR® E6 <i>Low V.O.C. Emulsion, Corrosion Inhibitor Concentrate</i>	Super-concentrated, barium-free, water-based emulsion protects steel and ferrous metals for up to six months indoors at dilutions of 4%–16%. Low V.O.C., economical. Moderate pH, very low odor, and nonflammable.
	Master STAGES™ 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	Master STAGES™ 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. For use with emulsions and semisynthetics.
	Master STAGES™ Whamex XT™ <i>Low-foam Machine Tool Sump and System Cleaner</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.
	Master STAGES™ Task2™ <i>Grime Fighter</i>	Super-concentrated, industrial strength cleaner/degreaser. NO butyl, caustic, silicate, phosphate, nitrite, phenol, or borate. Safe on all metals. Full strength or dilute up to 100:1. Certified "Readily Biodegradable" by OECD. Pratt & Whitney Aerospace Approval PMC 1247-1. Handy 1-quart spray bottle.
	Master STAGES™ Task2™ <i>All Purpose Cleaner</i>	Removes heavy, oily, or greasy soils from all common surfaces. NO butyl, caustic, silicate, phosphate, nitrite, phenol, or borate. Safe on all metals. Use full strength or dilute. Certified "Readily Biodegradable" by OECD. Pratt & Whitney Aerospace Approval PMC 1247-1. Handy 1-quart spray bottle.
	Master STAGES™ Task2™ <i>Glass Cleaner</i>	Cuts through tough shop soils to clean glass, ceramics, stainless steel, chrome, and plastic surfaces. Free of butyl, caustic, silicate, phosphate, nitrite, phenol, or borate. Safe on all metals. Handy 1-quart spray bottle.
	Master STAGES™ CLEAN F2™ <i>Non-butyl Floor and 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!
	Master STAGES™ CLEAN AMO™ <i>Natural-solvent Cleaner and Degreaser</i>	A maize 'N Orange.™ Natural solvent cleaner 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.



Contact us

Let us create a detailed, fact-based, customized analysis to prove just how much we can save your operation in time, material, and cost, while improving quality, with the premium coolant just right for your production.



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