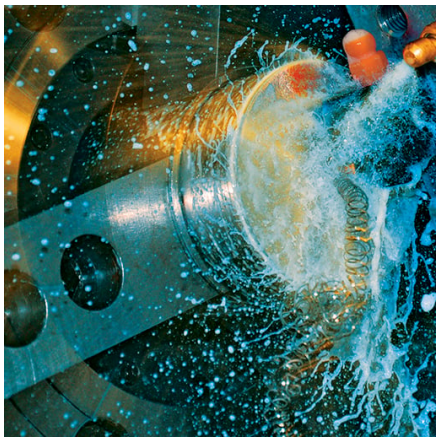
TRIM™ MicroSol™ 690XT-em

High-lubricity, Low-foam Premium Semisynthetic

TRIM MicroSol 690XT-em is a high-lubricity, semisynthetic, microemulsion coolant. The formula delivers extended sump life and better foam control versus previous generation semisynthetics. It provides excellent cooling and mechanical lubricity, along with the machine friendly characteristics you expect from a premium TRIM coolant. It does very well in mixed metal situations and is compatible with a very wide range of materials including titanium, high nickel alloys, steels, copper and aluminium alloys.

MicroSol



For ultimate performance:

TRIM™ MicroSol™ semisynthetic microemulsion coolants deliver high-performance lubricity and ultimately lower costs. Achieve precision parts, exceptional tool life, extended sump life, assured regulatory compliance and greater profitability with the MicroSol product just right for your production.

Designed to meet the rigorous demands of the aerospace, medical, automotive and high-production precision parts manufacturing industries, there's a MicroSol to answer your concerns, ramp up your production, and boost your bottom line.

Choose MicroSol 690XT-em:

- Dramatically extends useful life without the need for tank-side biocides or fungicides
- Boron and halogen free
- Low foaming for todays demanding high-pressure, high-volume applications
- Compatible with a very wide range of materials including titanium, high nickel alloys, steels, copper and aluminium alloys
- Excellent alternative to chlorinated soluble oils on high-silica aluminium alloys
- Contains no nitrites, triazines, phenols, chlorinated or sulfurised EP additives
- Provides superior corrosion inhibition on all ferrous and nonferrous metals
- Keeps machines very clean while leaving a soft fluid film for ease of cleaning and reduced maintenance
- Uses standard metalworking recycling and disposal techniques

MicroSol 690XT-em especially for:

Applications — band sawing, cylindrical form grinding, drilling, grinding, high-pressure, high-volume, internal grinding, plain grinding, reaming, roll threading, surface grinding, surface milling, tapping, thread forming, through-feed centreless grinding and turning

Metals — 6000 series aluminium, aerospace aluminium alloys, aluminium alloys, brass, bronze, cast aluminium, cast iron, composites, copper, copper alloys, exotic alloys, glass, heat-treated steel, high-carbon steel, high-nickel alloys, high-silica aluminium alloys, nonferrous metals, plastics, stainless steels, steels, titanium and wrought aluminium

Industries — aerospace, automotive, bearing, compressor, diecast, energy, green, job shop, machine tool and medical

MicroSol 690XT-em is free of — boron, chlorinated EP additives, formaldehyde releasers, halogens, nitrites, phenols and sulphurised EP additives

Master Fluid SOLUTIONS™

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Application Guidelines

- MicroSol 690XT-em performs well where traditional soluble oils may not cool sufficiently.
- In mixed-metal situations, concentration control is critical to fight galvanic corrosion (7.5% plus).
- Running at or above 7.5% offers the best sump life and corrosion inhibition on cast iron chips.
- Please use safe handling precautions including proper ventilation when machining reactive materials such as magnesium.
- For additional product application information, including performance optimisation, please contact your Master Fluid Solutions' Authorised Distributor at https://www.masterfluids.com/eu/en/distributors/index.php, your District Sales Manager, or call our Tech Line at +49 211 41 72 8 -900.

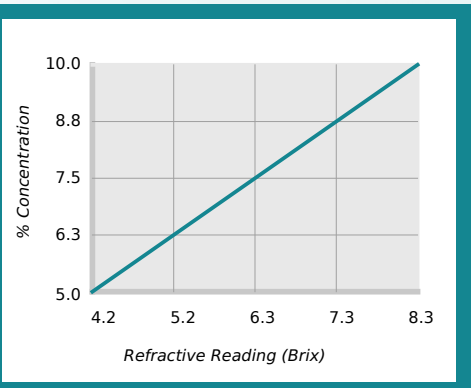
Physical Properties Typical Data

Colour (Concentrate)	Light yellow
Colour (Working Solution)	White microemulsion
Odour (Concentrate)	Mild amine
Form (Concentrate)	Liquid
Flash Point (Concentrate) (ASTM D93-08)	> 160°C
pH (Concentrate as Range)	9.6 - 10.6
pH (Typical Operating as Range)	9.4 - 10.4
Coolant Refractometer Factor	1.2
Titration Factor (CGF-1 Titration Kit)	0.64

Recommended Metalworking Concentrations

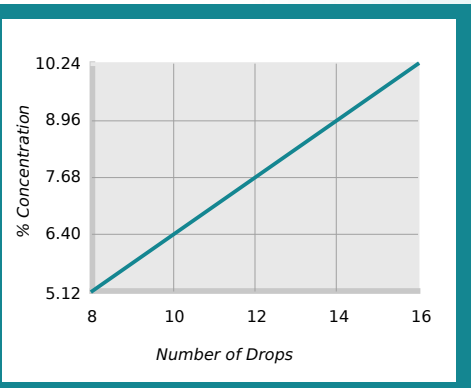
Light Duty	5.0% - 6.5%
Moderate Duty	6.5% - 8.5%
Heavy Duty	8.5% - 10.0%
Design Concentration Range	5.0% - 10.0%

Concentration by % Brix



% Concentration = Refractive Reading x Refractive Factor
Coolant Refractometer Factor % Brix = 1.2

Concentration by Titration



% Concentration = No. of Drops x Titration Factor
Titration Factor = 0.64

Health and Safety

Request SDS

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Mixing Instructions

- Recommended usage concentration in water: 5.0% - 10.0%.
- To help ensure the best possible working solution, add the required amount of concentrate to the required amount of water (never the reverse) and stir until uniformly mixed.
- Use premixed coolant as makeup to improve coolant performance and reduce coolant purchases. The makeup you select should balance the water evaporation rate with the coolant carryout rate. Use our Coolant Makeup Calculator to find the best ratio for your machine: apps.masterfluids.com/makeup/.
- Use mineral-free water to improve sump life and corrosion inhibition while reducing carryoff and concentrate usage.

Ordering Information

20-litre pail

204-litre drum

1000-litre IBC

Additional Information

- Use Master STAGES™ Whamex™ for a quick and thorough precleaning of your machine tool and coolant system.
- Consult Master Fluid Solutions before using on any metals or applications not specifically recommended.
- This product should not be mixed with other metalworking fluids or metalworking fluid additives, except as recommended by Master Fluid Solutions, as this may reduce overall performance, result in adverse health effects, or damage the machine tool and parts. If contamination occurs, please contact Master Fluid Solutions for recommended action.
- TRIM™ and MicroSol™ are trademarks of Master Chemical Corporation d/b/a Master Fluid Solutions.
- Master STAGES™ and Whamex™ are trademarks of Master Chemical Corporation d/b/a Master Fluid Solutions.
- The information herein is given in good faith and believed current as of the date of publication and should apply to the current formula version. Because conditions of use are beyond our control, no guarantee, representation or warranty expressed or implied is made. Consult Master Fluid Solutions for further information. For the most recent version of this document, please go to this URL:

https://2trim.us/di/?i=eu_en_MS690XT-EM

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