

# TRIM® MicroSol® 685

**High-lubricity Semisynthetic Metalworking Fluid**



TRIM MicroSol 685 is a high-lubricity, semisynthetic microemulsion coolant. The formula offers the performance of a heavy-duty soluble oil with the cleanliness of a semisynthetic. It provides excellent cooling and mechanical lubricity, along with the machine friendly characteristics you expect from a premium TRIM coolant.

## 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.*

## Aerospace Approvals

Company	Specification
Lockheed Martin/Sikorsky	G74.0051, G34.62, F35, F22
Lord Corporation	MTL-S-0136

### Choose MicroSol 685:

- Excellent alternative to chlorinated soluble oils on high-silica aluminum alloys
- Reduces oil mist and residues often associated with high-lubricity alternatives
- Provides superior corrosion inhibition on all ferrous and nonferrous metals
- Forms stable microemulsion in hard water environments
- Keeps machines very clean while leaving a soft fluid film for ease of cleaning and reduced maintenance
- Has exceptional sump life without the use of tank side additives
- Uses standard metalworking recycling and disposal techniques
- Performs well where traditional soluble oils may not cool sufficiently

### MicroSol 685 especially for:

**Applications** — band sawing, cooling, cylindrical grinding, drilling, form cylindrical grinding, internal grinding, plain grinding, reaming, roll threading, surface grinding, surface milling, tapping, thread forming, through-feed centerless grinding, and turning

**Metals** — aluminum, cast aluminum, cast iron, composites, copper alloys, exotic alloys, ferrous metals, magnesium alloys, nonferrous metals, plastics, stainless steels, steels, and wrought aluminum

**Industries** — aerospace and medical

**MicroSol 685 is free of** — nitrites, phenols, sulfurized EP additives, and triazine

# TRIM<sup>®</sup> MicroSol<sup>®</sup> 685

**High-lubricity Semisynthetic Metalworking Fluid**

## Application Guidelines

- 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.
- For additional product application information, including performance optimization, please contact your Master Fluid Solutions' Authorized Distributor at <https://www.masterfluids.com/na/en-us/distributors/index.php>, your District Sales Manager, or call our Tech Line at 1-800-537-3365.

## Physical Properties Typical Data

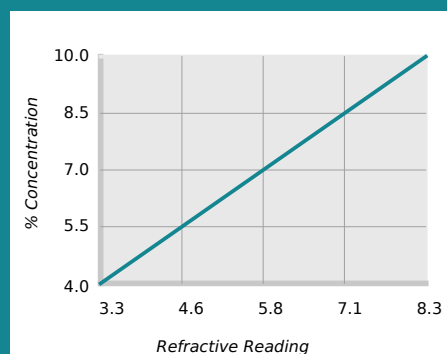
Color (Concentrate)	Amber
Color (Working Solution)	Light yellow
Odor (Concentrate)	Mild Amine
Form (Concentrate)	Liquid
Flash Point (Concentrate) (ASTM D93-08)	> 199°F
pH (Concentrate as Range)	9.5 - 10.5
pH (Typical Operating as Range)	9.5 - 10.0
Coolant Refractometer Factor	1.2
Titration Factor (CGF-1 Titration Kit)	1.00
Digital Titration Factor	0.0213
V.O.C. Content (ASTM E1868-10)	175 g/l

## Recommended Metalworking Concentrations

Light Duty	4.0% - 6.5%
Moderate Duty	6.5% - 8.5%
Heavy Duty	8.5% - 10.0%
Design Concentration Range	4.0% - 10.0%

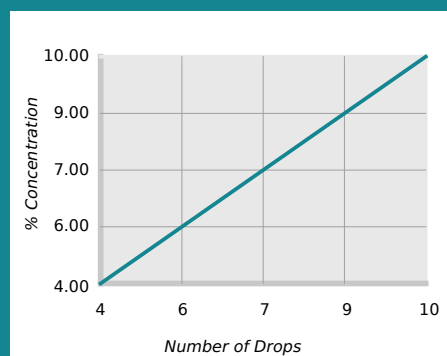


## Concentration by % Brix



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

## Concentration by Titration



% Concentration = No. of Drops x Titration Factor  
Titration Factor = 1.00

## Health and Safety

Request SDS



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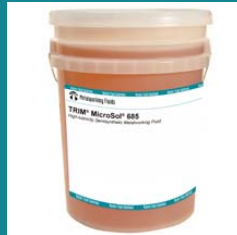


## Mixing Instructions

- Recommended usage concentration in water: 4.0% - 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/](https://apps.masterfluids.com/makeup/).
- Use mineral-free water to improve sump life and corrosion inhibition while reducing carryoff and concentrate usage.



1-gallon jug  
SKU: MS685-1G  
UPC-12: 641238047056



5-gallon pail  
SKU: MS685-5G  
UPC-12: 641238047070



54-gallon drum  
SKU: MS685-54G  
UPC-12: 641238047087



270-gallon tote  
SKU: MS685-270G  
UPC-12: 641238047094

## 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.
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[https://2trim.us/di/?i=na\\_en-us\\_MS685](https://2trim.us/di/?i=na_en-us_MS685)



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