

TRIM SOL[®]

General-purpose Emulsion

TRIM SOL[®] is a soluble oil (emulsion) coolant concentrate which is the world standard general-purpose multi-metal coolant for general machining of ferrous and nonferrous materials. It has the lubricity and "guts" necessary to do heavy-duty machining center work and still provide the wetting and cooling necessary for high-speed turning and grinding operations.

Emulsions



Gear up with the TRIM emulsion designed to meet your production needs.

Gear up for production:

With superior mechanical lubricity and a higher oil content, TRIM[®] emulsions provide a greater boundary layer between the tool and the material. Emulsions are ideal for lower, less than 600 SFPM, applications such as broaching, reaming, deep hole drilling, drilling, tapping, and centerless grinding.

Emulsions work well for machining copper, yellow metals, steel alloys, cast aluminums, wrought aluminums, and tough-to-machine titanium and nickel-based alloys.

Gear up with the TRIM emulsion designed to meet your production needs.



Choose TRIM SOL:

- Proven to be highly effective in controlling built-up edge (BUE)
- Has a very wide application range and is often used in such diverse operations as production surface and centerless grinding, heavy-duty broaching, gear hobbing, and replacing straight oil on some types of screw machines
- Leaves a fluid, nongumming film to prevent sticky ways, chucks, tool holders, and fixtures
- Coolant residue is easily removed with either water, working solution, or aqueous cleaners
- Easy recycling or disposal with conventional techniques and equipment

TRIM SOL especially for:

Applications — broaching, centerless grinding, gear hobbing, heavy-duty broaching, heavy-duty machining center work, high-speed turning, roll threading, sawing, surface grinding, thread forming, and turning

Metals — ferrous metals, nonferrous metals, and steels

Industries — aerospace, automotive, and medical

TRIM SOL is free of — amines, animal derived materials, boron, DCHA, MEA, NPEs, and phosphorous

TRIM SOL[®]

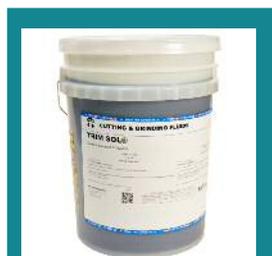
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Mixing Instructions

- Recommended usage concentration in water: 3.0% - 20.0%.
- 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.masterfluidsolutions.com/makeup/.
- Use mineral-free water to improve sump life and corrosion inhibition while reducing carryoff and concentrate usage.



1-gallon jug
SKU: SOL/1
UPC-12: 641238008361



5-gallon pail
SKU: SOL/5
UPC-12: 641238008392



54-gallon drum
SKU: SOL/54
UPC-12: 641238008408



270-gallon tote
SKU: SOL/NR270P
UPC-12: 641238034216

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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[®] is a registered trademark 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/?plr=SOL*en-us*na



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TRIM SOL[®]

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Application Guidelines

- Runs effectively for long periods without the need for costly additives.
- Compatible with all ferrous and nonferrous materials, but not normally intended for use on long runs of gray cast iron or grades 40 or 60 nodular iron.
- Can run at lower concentrations for higher speed operations where heat removal is the key issue.
- Higher concentrations are recommended on soft, gummy materials and for lower speed operations where friction reduction and control of the BUE are critical.
- Concentrations of 7% and higher provide the best sump life with this product.
- For additional product application information, including performance optimization, please contact your Master Fluid Solutions' Authorized Distributor at <https://www.2trim.us/distributors.php>, your District Sales Manager, or call our Tech Line at 1-800-537-3365.

Physical Properties Typical Data

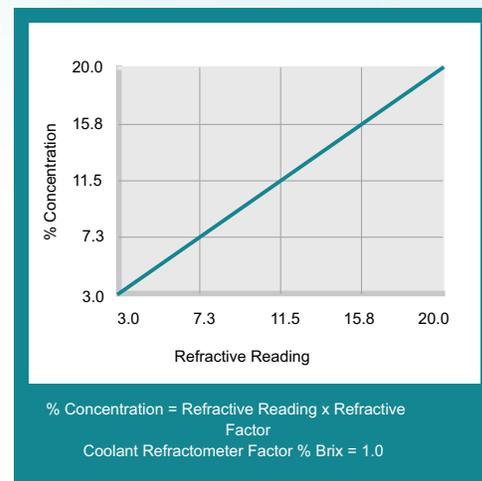
Color (Concentrate)	Blue green
Color (Working Solution)	Light blue
Odor (Concentrate)	Mild, sweet
Form (Concentrate)	Liquid
Flash Point (Concentrate) (ASTM D93-08)	> 208°F
pH (Typical Operating as Range)	8.0 - 9.0
Coolant Refractometer Factor	1.0
Titration Factor (CGF-1 Titration Kit)	6.25
Digital Titration Factor	0.2250
V.O.C. Content (ASTM E1868-10)	94 g/l

Recommended Metalworking Concentrations

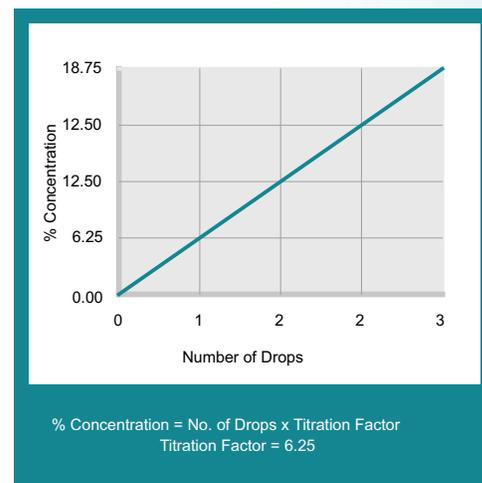
Light duty	3.0% - 6.5%
Moderate duty	6.5% - 8.5%
Heavy duty	8.5% - 20.0%
Design Concentration Range	3.0% - 20.0%



Concentration by % Brix



Concentration by Titration



Health and Safety

See the most recent SDS at

<https://2trim.us/s/?i=1053-0-en-US-US>



1. MATERIAL AND MANUFACTURER IDENTIFICATION

Product name	TRIM® SOL
Material type	Water-miscible cutting and grinding fluid concentrate
Classification/Synonym(s)	Chemical emulsion/Soluble oil
Product use	Coolant and lubricant in metal removal processes
Manufacturer address	MASTER CHEMICAL CORPORATION 501 West Boundary PO Box 220 Perrysburg, OH 43551
Emergency telephone number	(419) 874-7902
Telex number	510-600-1600 Answerback: MASTER CHEM UD
Easylink number	62897774

2. REGULATORY INFORMATION

Department of Transportation	DOT Hazard Class: None TRIM® SOL is not classified as a hazardous material by DOT.
Resource Conservation and Recovery Act	EPA Hazardous Waste Number(s): None TRIM® SOL is not classified as a hazardous waste by EPA.
Toxic Substances Control Act	All TRIM® SOL ingredients are listed on the TSCA Inventory of Chemical Substances.

3. INGREDIENT INFORMATION

The exact chemical identities and percentages of the raw materials used in TRIM® SOL are trade secrets. This information is being withheld as provided for in the Occupational Safety and Health Administration's Hazard Communication Rule (29 CFR 1910.1200).

4. PHYSICAL DATA

Boiling point (at 760 mm Hg)	217°F	Specific gravity (H ₂ O=1)	1.004
Vapor pressure (psi)	<1	Percent volatiles	
Vapor density (Air=1)	not determined	by volume	18.48%
Solubility in water	100%	Evaporation rate	1
Appearance	Dark green viscous liquid with mild, pleasant odor.	(butyl acetate =1)	
		pH of concentrate	not applicable
		pH of 5% solution	9.4

5. FIRE AND EXPLOSION HAZARD DATA

Flash point (test method)	305°F (COC) None (TCC)
Flammable limits	Not determined
Extinguishing media	As appropriate for the surrounding fire
Special fire fighting procedures	None
Unusual fire and explosion hazards	None

6. HEALTH HAZARD DATA

Threshold limit value	None established by ACGIH or OSHA
Acute effects of overexposure	Eye contact Transient irritation Skin contact Possible defatting, nonirritant, nonsensitizer Inhalation Nontoxic Ingestion Nontoxic Skin absorption Nontoxic
Chronic effects of overexposure	None currently known

The National Toxicology Program Annual Report on Carcinogens does not list TRIM® SOL or any of its ingredients:

The International Agency for Research on Cancer Monographs have not found TRIM® SOL or any of its ingredients to be potential carcinogens.

The Occupational Safety and Health Administration does not regulate TRIM® SOL or any of its ingredients as potential carcinogens.

Signs and symptoms of exposure	None
Medical conditions generally aggravated by exposure	None known
Emergency and first aid procedures	Eyes Flush immediately with cool, clean water for at least 15 minutes. Skin Wash with mild soap and warm water. Inhalation Remove to fresh air. Ingestion If large quantities are ingested, pump stomach.

7. REACTIVITY DATA

Stability	<input checked="" type="checkbox"/> Stable	<input type="checkbox"/> Unstable
Conditions to avoid	None	
Incompatibility (materials to avoid)	Strong oxidizers, acids and alkalis	
Hazardous combustion or decomposition products	Thermal decomposition (fire) may produce CO, CO ₂ , HCl, SO ₂	
Hazardous polymerization	<input type="checkbox"/> May occur	<input checked="" type="checkbox"/> Will not occur
Conditions to avoid	None	

8. SPILL OR LEAK PROCEDURES

Steps to be taken if material is released or spilled	Mop up or use dry absorbent
Waste disposal method	Acid-alum split Refer to Data and Information Sheet for suggested procedure.

9. SPECIAL PROTECTION INFORMATION

Respiratory protection (Specify type)	None	
Ventilation	Local exhaust Mechanical (general)	Not normally required General room ventilation should be sufficient
	Special	None
	Other	None
Protective gloves	None	
Other protective equipment	None	
Eye protection	Safety glasses	

10. SPECIAL PRECAUTIONS

Precautions to be taken in handling and storing	Refer to Data and Information Sheet or container labels.
Other precautions	None
Date of preparation	June, 1986