TRIM™ E738

Magnesium Machining Emulsion

TRIM E738 is a soluble oil or chemical emulsion coolant concentrate designed for magnesium alloy machining. It provides excellent performance for high-temperature aerospace alloy and cast magnesium alloy. TRIM E738 consists of micro-molecular particles that provide advantages such as low mist levels, good cleaning and wetting performance. It provides mechanical lubrication, and is safe and very popular with operators.

Emulsions

Geared up for production:

With superior lubricity and a higher oil content, TRIM emulsions provide a greater boundary layer between the tool and the material, and are ideal for heavy-duty applications such as broaching, reaming, deep hole drilling, drilling, tapping, and centerless grinding.

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

Choose E738:

- Extremely hard water tolerable
- High alkalinity reservation and release capability
- Very tight emulsion particle structure that provides excellent wetting and cooling
- Can reach cutting areas even in very high-speed cutting situations
- Leaves a fluid residue to keep machine tool very clean
- Prevents hydrogen and magnesium salts
- Easy recycling or disposal with conventional techniques and equipment
- Contains a highly effective extreme-pressure (EP) additive to control built-up edge (BUE)

E738 especially for:

Applications — machining

Metals — magnesium alloys

Industries — aerospace

E738 is free of — 2-butoxyethanol (Butyl), active sulfur, alkylphenol ethoxylates, amines, ammonia, animal derived materials, barium, borates, boron, chlorinated compounds, copper, DCHA, DEA, EDTA, formaldehyde releasers, halogens, heavy metals, kerosene, MEA, nitrates, nitride, nitrites, NPEs, petroleum solvents, phenolic compounds, phenols, phosphate, PRTR materials, secondary amines, silicates, silicone, siloxane, sulfonates, sulfur-based additives, sulfurized EP additives, and zinc

Master Fluid SOLUTIONS™

TRIM™ E738

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Application Guidelines

- Very compatible with all ferrous and nonferrous materials, but should be used cautiously on large amounts of cast iron.
- Suitable for magnesium and cast magnesium by control of hydrogen and magnesium salts. However, the safety and cleaning processes are very necessary in the machining of metals, such as magnesium.
- Should be 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 is critical.
- Concentrations in excess of 5% provide the best sump life.
- For additional product application information, including performance optimization, please contact your Master Fluid Solutions' Authorized Distributor at https://www.masterfluids.com/ap/en-ap/distributors/index.php, your District Sales Manager, or email us at apac-info@masterfluids.com.

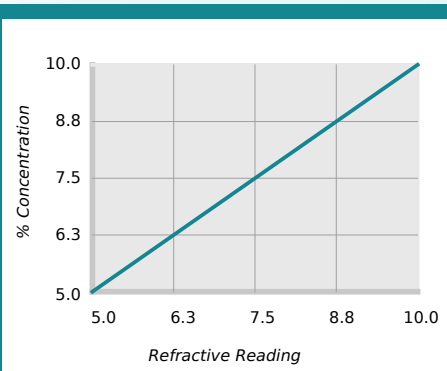
Physical Properties Typical Data

Color (Concentrate)	Clear amber
Color (Working Solution)	White emulsion
Odor (Concentrate)	Mild, pleasant
Form (Concentrate)	Liquid
Flash Point (Concentrate) (ASTM D92-90)	> 100°C
pH (Concentrate as Range)	9.1 - 9.7
pH (Typical Operating as Range)	8.6 - 9.6
Coolant Refractometer Factor	1.0

Recommended Metalworking Concentrations

Light Duty	5.0% - 7.0%
Moderate Duty	7.0% - 9.0%
Heavy Duty	9.0% - 10.0%
Design Concentration Range	5.0% - 10.0%

Concentration by % Brix



% Concentration = Refractive Reading x Refractive Factor
Coolant Refractometer Factor % Brix = 1.0

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-liter pail

204-liter drum

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 trademark of Master Chemical Corporation d/b/a Master Fluid Solutions.
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https://2trim.us/di/?i=ap_en-ap_E738

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