



Application

CIMFREE® VG-991M (formerly CX-990C)

Water-Soluble Vegetable-based Metalworking Fluid Concentrate

CIMFREE® VG-991M metalworking fluid is recommended for a wide variety of medium-duty machining and grinding operations including turning, drilling, tapping, reaming and aluminum wire drawing.

Metals: Carbon Steels, High Speed Steel, Cast Steels, Alloy Steels, Tool Steel, Stainless Steel, Cast Iron, Aluminum, Bronze, Brass, Copper

Duty Range: Medium-duty operations.

Features and Benefits

CIMFREE® VG-991M contains no mineral oil, or nonylphenol ethoxylates. It also does not contain chlorine.

Environmentally Friendly “Green” - utilizes vegetable-based esters in the concentrate, not mineral oil

Excellent Lubricity - provides good lubrication for both machining and grinding operations - provides excellent tool life and surface finishes. Very good aluminum machining and wire drawing ability.

Excellent Biological Control - maintains control of bacteria and mold, resulting in extended fluid life

Excellent Corrosion Control - controls ferrous and non-ferrous corrosion on parts and machine components

Operator Friendly - mild to skin - easy to mix - low foaming - pleasant odor - fluid mixes are very stable

Machine Friendly - cleaner machines and work areas create a more pleasant work environment - residue can be removed with water or alkaline cleaners - no solvent degreasers required as with straight oils

Economical - suitable for a broad range of metals and operations.



Recommended Starting Dilutions

Typical Physical and Chemical Properties

CIMFREE® VG-991M (formerly CX-991)

Water-Soluble Vegetable-based Metalworking Fluid Concentrate

FOR INDUSTRIAL USE ONLY

Use between 5.0% (1:20) and 10.0% (1:10) for machining and grinding ferrous and nonferrous metals.

CIMFREE® VG-991M is to be mixed with water for use (add concentrate to water).

Add no other substances to the concentrate or mix unless approved by CIMCOOL® Technical Services. Not recommended for use with magnesium or alloyed magnesium.

For concentration analysis, use the MI Titration Procedure, Non-Solvent Titration Procedure, Total Alkalinity Titration Procedure, or Refractometer.

Physical State	Liquid
Appearance and odor	Clear / Chemical
Colors available	undyed
Solubility in water	100% miscible
Weight, lb/gal, 60°F (15.6°C)	8.51
Specific gravity, (H ₂ O = 1).....	1.02
Boiling point, °F (°C)	212 (100)
Flash point, COC, °F (°C)	none; self-extinguishing
Fire point, COC, °F (°C).....	NA
Extinguishing media.....	NA
Unusual fire & explosion hazards	None
Freezing point (or pour point), °F (°C).....	30 (-1)

If frozen, product separates. Thaw completely at room temperature and stir thoroughly.

pH, concentrate.....	9.6
pH, 1:20 (5%) mix, typical operating conditions	8.8
Total chlorine/chloride, wt%, calculated	0.00 / < 50 ppm
Total sulfur, wt%, calculated	0.00
Silicones	None
Triazine	None

Available in 5-gallon pails, 55-gallon drums, and bulk containers.

REFRACTOMETER FACTOR = 1.9 Multiply the scale reading obtained on your CIMCOOL® Metalworking Fluid or other acceptable refractometer by the Refractometer Factor to obtain the mix concentration in percent.

NOTE: Calibrate the refractometer so that it reads 0.0 with water, before testing the sample mix. Remove gross contaminants from the sample mix before testing.

For additional information concerning **CIMFREE® VG-991M** refer to its OSHA MSDS or contact CIMCOOL Technical Services at 1-513-458-8199. For Reprints / Updates visit www.cimcool.com or contact your Milacron Representative.

Minor formulation changes or normal variations in the manufacture of this product may cause slight variances in the data presented on this sheet.
Milacron Marketing Company, Cincinnati, Ohio 45209

