



MPI-Fluid C2

Met-L-Chek manufactures a complete line of Nondestructive Testing Materials. Met-L-Chek supplies fluorescent and visible dye penetrants, wet and dry magnetic particles and a variety of specialty testing materials. All Met-L-Chek products are designed to yield maximum value through quality, cost, and usability. Met-L-Chek products are sold under the Met-L-Chek® and Pen-Chek trademarks.

MPI-Fluid C2 is a specialty petroleum based magnetic particle bath vehicle. It is designed for high sensitivity fluorescent magnetic particle suspension. MPI-Fluid C2 is free of natural fluorescence, reducing inspection background noise. It is a high flash point vehicle, reducing potential fire hazards. MPI-Fluid C2 is a low viscosity material, which improves magnetic particle mobility. MPI-Fluid C2 is a low odor material reducing operator discomfort. It meets the requirements of AMS-2641 and ASTM E-1444 for wet method magnetic particle inspection.

General Magnetic Particle Inspection

Magnetic particle inspection is used to locate discontinuities on or near the surface of ferromagnetic materials. A magnetic field is induced in the part to be examined. Discontinuities at or near the surface will cause the magnetic field to concentrate at any discontinuity. Fine magnetic particles are attracted to the magnetic field leakage over the discontinuities forming indications or mapping the discontinuities. Considerable theory, technical training, specialized equipment and trial and error is involved for effective magnetic particle inspection.

Particles

There are two types of materials generally used for magnetic particle inspection, wet method and dry method. Dry method materials are primarily used in weld inspection. Production and overhaul situations require high sensitivity, broad area detection capability best achieved with the wet method. Wet method particles are generally smaller than dry method particles and are more easily attracted to weaker leakage fields. The particles are suspended in a liquid carrier fluid which facilitates the mobility of the particles on the part surface. The particles may be visibly colored relying on contrast with the base material or contrast coating for detectability or they may be fluorescent and produce brilliant indications under UV-A illumination. Fluorescent inspection requires the inspection area be darkened to ensure detection of the fluorescent indications.

Magnetic Particle Bath

Special petroleum based carrier fluids or water, which has been treated with conditioning agents, may be used as the wet method particle bath media. The bath must be continuously agitated during use as the dense particles will settle out of solution upon standing. Materials intended for water bath use should not be placed in equipment that has been used for oil bath applications until the tank and all plumbing have been thoroughly cleaned. Similarly water or wet parts should not be introduced to baths with oil carriers as this will cause the particles to cling to the tank and agglomerate. The particle concentration must be maintained for maximum performance. The settling volume per [ASTM E-1444](#) should be between 0.1 and 0.4 ml/100 ml. for fluorescent particles after 60 minutes in oil and 30 minutes in water and between 1.2 and 2.4 ml/100 ml for visible particles.



PRODUCT DATA SHEET



MPI-Fluid C2

Typical Physical Properties

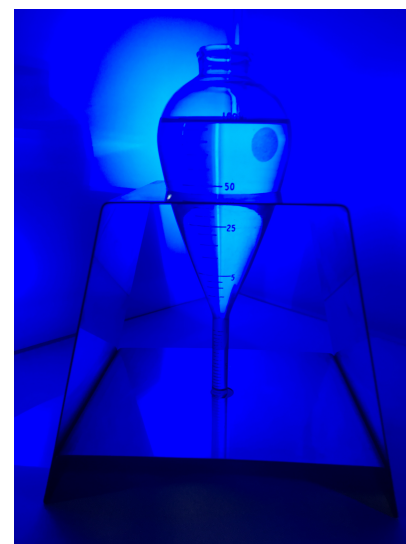
Form: clear liquid
Density: 832 g/L
Flash Point: > 93.3°C (> 200°F)
Viscosity: 2.4 mm²/s
Fluorescence: none
Corrosion of steel: none
Chloride content: < 1000 ppm (< 0.1%)
Fluoride content: < 1000 ppm (< 0.1%)
Sulfur content: < 1000 ppm (< 0.1%)
Mercury: none
VOC's: 0 g/L
Ozone layer depleting substances: none
PCB's: none

Specifications

ISO-9934-2
P&W PMC #1887
MIL-STD-2132D
A-A-59230 2
AMS 2641C-2015, Type I
ASTM E-1444 & ASTM E709-15
NAVSEA T9074-AS-GIB-010/271
T9074-AS-G1B-010/271 (MIL-STD-271F)
ASME B&PVC 2017, SECTION V, ARTICLE 7 & 25

Product Availability

5 gallon (18.9L) metal pail
55 gallon (208L) metal drum



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