14A Redi-Bath™

Water-Based Fluorescent Magnetic Particle Concentrate



14A Redi-Bath is a highly sensitive water-based magnetic particle liquid with for locating very fine discontinuities in critical parts during fluorescent magnetic particle inspection.

A concentrated liquid with Magnaflux's best-in-industry 14A magnetic particles with water conditioners and corrosion inhibitors, 14A Redi-Bath is designed to be diluted with water to make magnetic particle water bath. The ultra-sensitive 14A particles provide clear, bright, fluorescent green indications under ultra-violet black light for unbeatable inspection quality and accuracy, with superior corrosion protection.

14A Redi-Bath is an ideal choice for high-volume testing of machined parts, forgings and castings where the magnetic particle bath needs to be changed out frequently due to drag-in or heavy-use.

14A Redi-Bath meets all major industry and NDT specification requirements, including automotive, API and ASTM standards.

BENEFITS

Increases indication detection with 14A particles

- Find smaller, finer indications in critical applications using the highly sensitive, strong ferromagnetic 14A particles
- Optimized particle size and shape help particles move freely to stick to a wide variety of discontinuities with less particle clumping

Minimizes inspection time

- Clear, bright fluorescent indications form quickly due to the highly fluorescent, highly mobile 14A particles
- Minimal background fluorescence help indications stand out more so inspectors need to spend less time examining each part

Improve inspection consistency and reliability

- Maintain magnetic particle system performance over greater periods of time thanks to the highly-durable, easily-dispersed 14A particles
- Reduced particle clumping helps maintain particle concentration in the suspension bath for dependable inspections

Convenient to use

- Fast, reliable particle bath prep with the easy-to-use premix of 14A magnetic particles, water conditioners and corrosion preventatives
- Designed to mix with water in low concentrations for an ideal balance of performance and economy

FEATURES

- Clear, bright indications under ultra-violet light
- High sensitivity
- Easy post-testing clean up
- Excellent fluorescent contrast for quick identification
- Excellent particle mobility
- Good dispersion stability
- Great concentration consistency
- Superior surface wetting
- Non-foaming
- Even surface coverage and higher probability of detection
- Good corrosion protection

SPECIFICATION COMPLIANCE

- AMS 3044
- ASTM E709
- ASTM E1444
- ASME
- MIL-STD-2132
- MIL-STD-271
- NAVSEA 250-1500-1
- NAVSEA T9074-AS-GIB-010/271

USE RECOMMENDATIONS

NDT Method	Magnetic Particle Testing, Fluorescent, Wet Method
Suspension Vehicle	Water
Required Equipment	Magnetizing device, UV light source
Usage Temperature†	42 to 120°F / 6 to 48°C
Storage Temperature	50 to 86°F / 10 to 30°C
Settling Volume	0.10 – 0.40 mL

† Particle integrity and mobility may decline beyond these temperature limits.

APPLICATIONS

Defect location: Surface and slightly subsurface

Ideal for:

- Very fine to fine discontinuities
- Machined parts
- Smooth surface finish
- Critical applications
- High volume testing
- After secondary processing
- Mixing with hard-water

Defect examples:

- Inclusions
- Seams
- Shrink cracks
- Tears
- Laps
- Flakes
- Welding defects
- Grinding cracks
- Quenching cracks
- Fatigue cracks

PRODUCT PROPERTIES

Appearance	Liquid and fine particle solution
Color in Visible Light	Brown
Color in UV Light	Fluorescent yellow-green
Odor	Subtle amine
Particle Size Range*	5 - 12 µm
SAE Sensitivity**	8 - 9

* As determined by industry-typical method for measuring particle size

** Representative of the number of indications on a tool steel ring as defined in ASTM E1444.

PREPARATION INSTRUCTIONS

Dilute with water for use. Shake the bottle well to suspend particles; the concentrate must be uniformly mixed before the bath is prepared. Fill tank or container with water. Measure out the appropriate amount of 14A Redi-Bath and add to water. Recommended dilution is 80 mL of 14A Redi-Bath per 1 gal of water. Refer to graduation marks on side to measure out 14A Redi-Bath. Mix for 15 minutes or until the particles are completely dispersed. Check particle concentration before use. Do not mix 14A Redi-Bath with oil.

Water	14A Redi-Bath
1 gallon	80 mL
1 liter	21 mL

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INSTRUCTIONS FOR USE

Use 14A Redi-Bath with appropriate magnetization procedure and equipment. For best results, all components, parts, or areas to be tested should be clean and dry prior to testing to provide an optimal test surface and reduce particle suspension contamination. Particle suspension must be properly mixed and continuously agitated when in use to ensure uniformity and concentration.

The suspension can be applied by gently spraying or flooding the area to be tested using the continuous or residual application method. Inspect under ultra-violet black light. Check particle concentration before use.

Maintenance Recommendations

Magnetic particle suspensions need to be properly maintained to provide consistent results. Suspension concentration and contamination should be monitored at least once a day, or according to applicable specifications.

Contaminated suspensions, or those in use for an extended length of time, should be replaced. Properly cleaning all components, parts, or inspection areas before testing helps to significantly reduce particle suspension contamination.

Particle concentration should be determined after initial bath preparation and at least once a day, or according to applicable specifications, to maintain the proper level of particles in the suspension. The most widely used method of control is by settling volume measurement in a graduated ASTM pear-shaped centrifuge tube. For testing 14A Redi-Bath, Magnaflux centrifuge tube 8493 is recommended: 100 ml capacity, stem graduated from 0 to 1 mL in 0.05 mL increments.

REMOVAL

All components, parts, or inspection areas must be properly demagnetized before cleaning to ensure easy particle removal. Cleaned parts may be treated with a temporary film protective coating if longer corrosion protection is required.

STORAGE

Store in a well-ventilated area away from magnetizing equipment and heat sources. Protect from sunlight. Product age, exposure to elevated temperatures, and/or exposure to a strong magnetic field may adversely affect particle redistribution. Refer to Safety Data Sheet for additional storage instructions.

PACKAGING

27 fl oz / 798 mL bottle (case of 6)	01-9130-41
1 gal / 3.78 L jug (case of 4)	01-9130-35

HEALTH AND SAFETY

Review all relevant health and safety information before using this product. For complete health and safety information, refer to the product Safety Data Sheet, which is available at www.magnaflux.com.