

## **CIRCLE SYSTEMS, INC.**

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## **TECHNICAL BULLETIN #265LS RTU**

### **MI-GLOW 820LS RTU**

MI-GLOW 820LS RTU is a Ready-to-Use oil bath used for magnetic particle inspection, packaged in a hand-held spray bottle. The oil bath contains a pre-proportioned combination of non-fluorescent black particles and odorless inspection oil vehicle. MI-GLOW 820LS RTU is designed for revealing very fine defects on both machined and unfinished ferro-magnetic materials.

#### **Properties**

Particle Color: Non-fluorescent black

Concentration: 9.5g/l

Particle Size: Not less than 98% passage through U.S. Standard No. 325 mesh sieve (45  $\mu\text{m}$ ) as defined in AMS 3044. The typical range of particle sizes is from 0.5  $\mu\text{m}$  to 4.0  $\mu\text{m}$ , with an average particle size of 1.5  $\mu\text{m}$ .

Particle Sensitivity: MI-GLOW 820LS RTU shows a minimum of 6 lines on an AISI 01 Ketos tool steel ring (as defined in SAE AS5282), set on a 1-inch diameter copper bar, magnetized with 2500 A of direct current.

Particle Certification: Particles meet all relevant specifications, including but not limited to MIL-STD-1949, AMS 3042, MIL-STD-271, NAVSEA 250-1500-1, NTR-1E, ASTM E 1444. Certification is available with each shipment.

Temperature Limit: 120°F Maximum

#### **Preparation**

Thoroughly shake the bottle, insert the spray nozzle, and apply to the parts for inspection.

#### **Lighting**

A minimum of 100 foot candles (1000 lux) of visible light at the part surface per ASTM E 709 and ASTM E 1444 is recommended.

**System Maintenance:**

**Concentration Test** -- If it becomes necessary to verify the concentration in the bottle, thoroughly shake the bottle and the method of test should be as follows:

1. Fill a 100 ml graduated centrifuge tube as specified in ASTM D96, or equivalent, to the 100 ml mark with suspension directly from the bottle. Demagnetize the suspension, if considered necessary, and let it stand undisturbed for 60 minutes.
2. Read the volume of the precipitate in the graduate. The typical volume should be 1.0 to 2.4 ml. NOTE: Very fine particles may go into colloidal suspension

**Shelf Life:**

1 year, when sealed bottles are not subjected to extreme heat or cold.

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**DISCLAIMER:** OUR TECHNICAL ADVICE, INFORMATION AND STATEMENTS, GIVEN VERBALLY, IN WRITING OR IN THE FORM OF TEST RESULTS, ARE OFFERED FOR YOUR GUIDANCE, WITHOUT WARRANTY. **NO WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE IS MADE.** IT IS THE USER'S RESPONSIBILITY TO TEST THE SUITABILITY OF EACH PRODUCT FOR HIS INTENDED PROCESS AND APPLICATIONS. OUR GUARANTEE IS LIMITED TO THE CONSISTENT QUALITY OF OUR PRODUCTS.

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