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## HYDROPHILIC EMULSIFIER ER-83A



**MANUFACTURER: SHERWIN (USA) / NDT-Europa (NL)**

### **DESCRIPTION / APPLICATION(S):**

Concentrated product that is diluted in water to emulsify the excess of post-emulsifiable penetrants such as the RC-series.

**Companion products:** Cleaner N120, DR-62  
Remover N106A, DR-60  
Developer D-100, D-106  
Dry powder developer D-90G  
All post-emulsifiable penetrant Sherwin RC-XX

### **SPECIFICATION(S) / STANDARD(S):**

- Conforms to code(s) : ASME  
standard(s) : ISO 3452-2  
specification(s): AIRBUS  
EADS  
SAFRAN  
ROLLS-ROYCE (OMAT: 621L) (all levels but aerosols)  
DASSAULT  
PRATT & WHITNEY (all levels)  
GENERAL ELECTRIC (all levels)
- Homologation : QPD-AMS2644
- This product complies with REACH regulation.

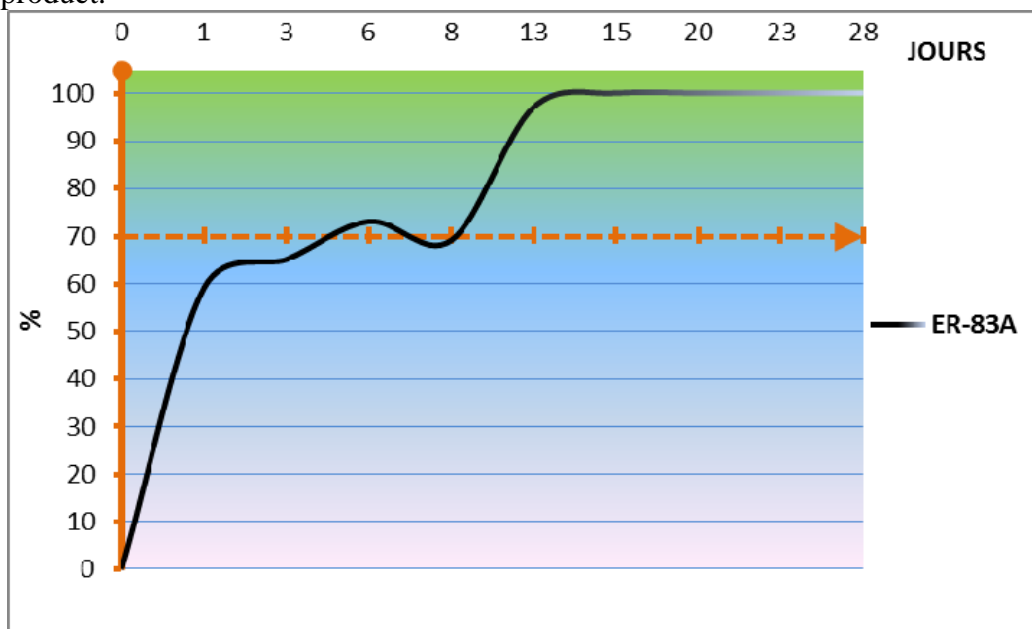
**PHYSICO-CHEMICAL PROPERTIES:**

- Aspect : pinkish liquid
- Maximum water content : 2 %
- Flash point (pure) : > 93°C
- Viscosity (pure) : 40 mm<sup>2</sup>/s ± 10 % at 38°C
- Recommended dilution :
  - Immersion : < 20 % (max. homologated 30%)
  - Spraying : 0,1 to 3 %
- Very low halogen and sulphur content
- Compatible with all metals and certain plastics

**BIODEGRADABILITY:**

According to the biodegradability test in aerobic and according to OECD 302 B criteria, ER-83A has shown capacities at inherent biodegradability.

The sample of ER-83A is 'inherent biodegradable without pre-adaptation' and further evidence of an "ultimate inherent biodegradability" according to OECD criteria extrapolated to a finish product.



*The result is positive (biodegradability >70%) but this does not mean that the effluents of ER-83A can be released into natural environments, however an effluent discharge into water treatment plant is entirely possible: contact the entity managing the wastewater networks in your area.*

## PACKAGING / TRANSPORT / STORAGE:

- **Packaging:** 200mL spraycan  
1, 5, 10, 25, 60L can  
200L drum
- **Transport / Handling:** Refer to Material Safety Data Sheet (MSDS).
- **Storage / Shelf life:** Keep away from moisture  
Temperature range : 0°C à 50° C.  
Keep packaging closed after taking out some of the product  
Can / drum: 60 months  
Spraycan: 48 months

## INSTRUCTIONS:

### 1. Spray

A highly diluted solution of **ER-83A** is better (0.1% to 3%). However, a greater concentration may also be used.

The concentration is to be determined according to:

- Pre-washing result,
- Surface condition,
- Attractiveness between part surface and penetrant
- Strength of the spray,
- Dwell time of the emulsifier (washing time + time elapsed before rinsing).

Smooth surfaces, or a relatively non-adhering penetrant, can allow you to use a 0.2% solution for 10 seconds, for example.

### 2. Spray cans

ER-83A is available in spray cans, diluted at 5% in water.

After penetrant dwell time, it is suggested to pre-rinse the penetrant with water or wipe with dry cloth, and then apply the ER-83A ready for use **without rubbing**. Allow 30 to 180 seconds contact time, depending on prior tests, and rinse with an air + water gun.

### 3. Immersion

It is recommended to pre-wash parts to eliminate as much excess of penetrant as possible due to mechanical action of water.

Then, dip the parts into an ER-83A solution, let drain and rinse with water.

**Nota: it is not necessary to move the parts during immersion, nor to stir the emulsifier.**



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## TECHNICAL

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As there is no mechanical agitation or action other than the incoming and outgoing movement, plus the final rinsing, a solution more concentrated than for spraying is required to eliminate the penetrant.

The typical concentration is 5 to 20%, but, depending upon the case, more diluted or more concentrated solutions can be used.

### **NOTES:**

ER-83A concentration should be regularly checked. The superficial tension of the mixture being very low, water evaporates significantly more quickly than observed on pure water.

Therefore, water should be added regularly, because increased concentration inevitably causes greater activity for the emulsifier.

The emulsifier concentration in water can be measured using a refractometer.

In addition, the ER-83A solution should be checked for its penetrant content, because contamination with penetrant interferes with the emulsifying process and, after some time, the ER-83A solution should be replaced. Bubbling is useful to oxygenate the bath and avoid odours of anaerobic bacteria.

### **HEALTH AND SAFETY:** Refer to Material Safety Data Sheet (MSDS).

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