



Penetrant Professor Approved

# Product Data Sheet E-59 Remover



Met-L-Chek manufactures a complete line of cleaner/removers used in the fluorescent (**Type 1**) and visible (**Type 2**) dye penetrant inspection process. All Met-L-Chek cleaner/removers are qualified to **AMS-2644** and are sold under the **Met-L-Chek®** and **Pen-Chek®** trademarks.

**E-59** is a class 2 (non-halogenated), Method C inspection penetrant remover. It is designed for use in the solvent wipe technique for penetrant inspection in general metalworking, welding, nuclear and automotive applications. It is a slow dry rate material and is ideal for penetrant wipe removal. **E-59** is **not** used as a pre-inspection surface cleaner. As a penetrant remover it is sprayed onto wiping media and then the penetrant wiped from the surface. The remover should not be sprayed directly on to the test surface to remove the excess penetrant as the sensitivity will be impaired.

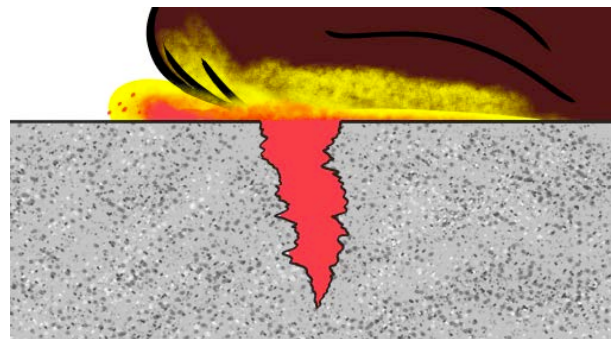
**E-59** is listed on the Qualified Products List for **AMS-2644**. It meets the requirements of **AMS-2647**, **ASME Boiler and Pressure Vessel Code Section V**, **ASTM E-165**, **ASTM E-1417**, and **ISO- 3452** for penetrant inspection materials. It is low in Sulfur, Chlorine, Fluorine and other Halogens, making it safe for use on Titanium and high Nickel alloys found in aerospace, medical and nuclear components.

**E-59** contains combustible solvents and should not be used around open flames or sparks.

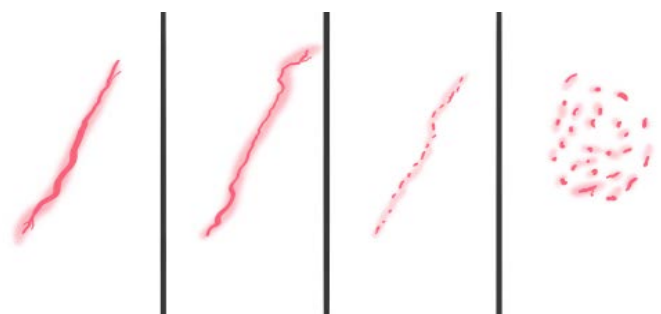
## Guide to METHOD "C" wipe off Processing per **ASTM E-1417**

**E-59A** used as a penetrant remover.  
Spray on wiping media, and wipe remove penetrant.

1. Part must be clean, dry and at a temperature of 4.4°-52°C (40°- 125°F) before penetrant is applied.
2. Apply penetrant using spray, immersion, or wipe on.
3. Wait a minimum of 10 minutes; 20 minutes if temperature is 4.4°-10°C (40-50°F).
4. Moisten cloth with remover and wipe penetrant from surface. **Do not** spray remover on surface to remove penetrant, as sensitivity will be impaired.
5. Apply nonaqueous developer **D-70**, by spraying.
6. Wait a minimum of 10 minutes before inspection.
7. For fluorescent **Type 1** penetrants use UV-A illumination of  $>1000 \mu\text{w}/\text{cm}^2$  @ 15 inches (38.1 cm) in a darkened area of  $<21$  lux visible light ( $<2$  footcandles). For visible **Type 2** penetrants use lighting of 1100 lux/m<sup>2</sup> (100 footcandles) minimum.



## Common Indication Types





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## Typical Physical Properties

Form: clear liquid  
 Density: 780 g/L  
 Flash Point: > 62.2°C (>144°F)  
 Viscosity 1.7 mm<sup>2</sup>/s  
 Fluorescence: none  
 Corrosion of aluminum: none  
 Corrosion of carbon steel: none  
 Corrosion of magnesium: none  
 Corrosion of stainless steel: none  
 Corrosion of titanium: none  
 Residue: < 0.005 g/100 ml  
 Chloride content: < 50 ppm (0.005%)  
 Fluoride content: < 50 ppm (0.005%)  
 Sulfur content: < 50 ppm (0.005%)  
 Mercury: none  
 VOC's: 780 g/L  
 Ozone layer depleting substances: none  
 PCB's: none

## Specifications

**ISO-3452**  
**AMS 2647**  
**AMS 2644**  
**ASTM E-165**  
**ASTM E-1417**  
**ASME B & PV code sec V**

## Product Availability

12 x 16oz (400ml) vol. aerosol (net wt 310g or 10.9oz)  
 1 gallon (3.7L) metal can  
 5 gallon (18.9L) metal pail



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