

Met-L-Chek Company 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 Company cleaner/removers are qualified to **AMS-2644** and are sold under the *Met-L-Chek*® and **Pen-Chek**® trademarks. Met-L-Chek Company products are manufactured under license in The Netherlands by NDT Europa.

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

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 μ w/cm² @ 15inches (38.1 cm) in a darkened area of <21 lux visible light (<2 footcandles). For visible **Type 2** penetrants use lighting of 1100 lux/m2 (100 footcandles) minimum.



Apply E-59 to cloth to wipe remove surface penetrant.





Visible penetrant indications of porosity on weld and stress cracks on metal clamp.



Form: clear liquid Density:780 g/L Flash Point: > 62.2°C (>144°F) Viscosity 1.7 mm²/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

Product Data Sheet E-59 Remover

2 10/2015

Specifications

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

AMS-2647

ASTM E-1417

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





The warranty shelf life of the product is 5 years from date of batch approval.

GHS Information

GHS Hazard Statements: H227: Combustible liquid. *H229: Pressurized container: may burst if heated. H304: May be fatal if swallowed and enters airways. H315: Causes skin irritation. H336: May cause drowsiness or dizziness.

Danger

GHS Precautionary statements:

- P102: Keep out of reach of children.
- P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- P233: Keep container tightly closed.
- P261: Avoid breathing fumes/gas/mist/vapors/spray. P280: Wear protective glove/clothing/eye protection/face protection.
- **P284:** În case of inadequate ventilation wear respiratory protection
- ***P410:** Protect from sunlight.
- *P412: Do not expose to temperatures exceeding 50°C/122°F

* Specific to aerosol cans

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GHS response statements:

IF INHALED: Remove person to fresh air and keep comfortable for breathing, get medical advice/attention if you feel unwell.

- IF ON SKIN: Wash with plenty of water. If skin irritation occurs, get medical advice/attention.
- **IF IN EYES:** Rinse cautiously with water for several minutes. Remove contact lenses, if present and easily to do. Continue rinsing, get medical attention.
- IF SWALLOWED: Immediately call a poison center/doctor/ physician. Do Not induce vomiting.
- IF ON CLOTHING: Take off contaminated clothing and wash it before reuse.

Transport: Bulk - Not regulated

Aerosol:DOT- Limited Quantity. Aerosol:IATA- UN 1950, Aerosol, flammable, class 2.1,