



# Dye Penetrant Testing

Product Data Sheet

## MR<sup>®</sup>70

**DEVELOPER**

(Non-Aqueous)

## The Method

Dye penetrant testing (DPT) is a non-destructive inspection method used to detect surface flaws in materials. The process begins with surface cleaning to remove contaminants. A penetrant dye is then applied, allowed time to seep into any surface defects, and excess dye is removed. A developer is then applied, drawing the penetrant out of the flaws, making them visible against the background. The inspection can be conducted under UV light or with a contrasting colored dye, enhancing visibility. This method is effective for detecting cracks, porosity, and other defects in non-porous materials like metals, plastics, and ceramics. DPT is widely used in industries such as aerospace, automotive, and manufacturing for quality assurance purposes.

## Description

MR<sup>®</sup>70 is an advanced ultra-bright, non-aqueous based developer designed to enhance the inspection process for non-destructive testing (NDT) applications creating a uniform, opaque white background. This developer facilitates the visualisation of indications by drawing out penetrant from surface flaws, cracks, and discontinuities in various materials, including metals, plastics, ceramics, and composites. Its innovative formulation ensures rapid and uniform coverage, enabling quick and accurate interpretation of inspection results.

It offers excellent sensitivity, revealing even the smallest defects with clarity. Its non-aqueous nature makes it ideal for use in environments where water-based developers are not suitable or practical. MR<sup>®</sup>70 is easy to apply and provides consistent results, enhancing efficiency and reliability in flaw detection processes.

With its exceptional performance and versatility, MR<sup>®</sup>70 is widely used across industries such as aerospace, automotive, manufacturing, and engineering, meeting the stringent quality standards required for critical inspections.



## Benefits

- Reliable, easy to use
- Bright white, optimally covers underlying surface cover
- Excellent spray pattern
- Easy removability of developer after application
- Optimal colour contrast for clear indications
- Versatility across various materials
- Enhances quality assurance processes
- Meets and exceeds most industry standards

## Features

- Ultra-bright white
- Controlled/Optimal Bleed-out with all compatible penetrants
- Fast dry - optimal
- Instant Indications, features excellent reverse-capillary action
- Excellent Surface finish, matte
- Very Low toxicity
- NPE free. Contains no aromatic compounds.

## Applications

**Defect Location:** Surface Cracks

**Test Surface Type:** All Types

**Defect Types:** All Types

**Compatibility:**

**Ideal for:** All Generation 2 & 3 Penetrants  
(Glycol and Solvent-free penetrants)

*\*Check compatibility for other visible and fluorescent penetrants with manufacturer before use.*

## Usage Instructions

NDT Method	Dye Penetrant Testing, visible
Form	D/E
Recommended Usage	+5°C to +52°C 41°F to 125°F

## Compliances

AMS 2644

ASME Code V, Art. 6

DIN EN ISO 3452

ASTM E165

ASTM E1417

NPCIL

RCC-M

TLV 9017 01

## Physical & Chemical Properties

Appearance	White suspension in clear liquid
Chemical Composition	White pigments, Solvents
Basis	Solvent
Colour in visible light	Bright White (suspension form)
Colour in UV light	Non-fluorescence
Odour	Characteristic - solvent like

## Suggested Products

**MR®79** - Special Cleaner (Non-Aqueous)

**MR®85** - Remover (Non-Aqueous)

**MR®67** - Solvent & Water Removable Penetrant (red & fluorescent)

**MR®68NF** - Solvent & Water Removable Penetrant (red & fluorescent)

**MR®670/1/2/3** - Solvent & Water Removable Penetrant (fluorescent)

## Safety

Dye Penetrant Inspection (DPI) is generally safe when conducted by trained professionals who follow appropriate safety measures.

**Wear the appropriate safety gears while using the product. Use in a well-ventilated area.**

**Please read the Material Safety Data Sheet before use!**

(Available at: <https://www.3akchemie.com/resources-mrchemie>)

**Ingredients:** 2-Hydroxypropane, Acetone

**Storage Temperature:** 41°F to 113°F / +5°C to +45°C

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## Limitation of Remedies & Liabilities

If this product is proved to be defective, the exclusive remedy at 3AK CHEMIE's option shall be to refund the purchase price or to repair or to replace the defective MR® CHEMIE product. The company shall not otherwise be liable for loss or damages, whether direct or indirect, special, incidental or consequential regardless of the legal theory asserted including negligence, warranty or strict liability.

## Packaging & Order Instructions

SKU	Pack Size	Case
2511-0007	Aerosol - 400ml	10
2511-0046	Bulk- 1L	6
2511-0074	Bulk - 5L	-



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