



Dye Penetrant Testing

Product Data Sheet

MR[®]68NF

SOLVENT & WATER WASHABLE PENETRANT

Red & Fluorescent

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®68NF is an Ultra-sensitive, Solvent and water washable biodegradable penetrant designed for non-destructive testing (NDT) applications, boasting the Biodegradable label for its environmentally conscious formulation. This penetrant offers exceptional sensitivity in flaw detection while being easily removable with both solvents and water, minimising environmental impact.

MR®68NF prioritizes sustainability without compromising on performance. It efficiently detects surface flaws in various materials, including metals, plastics, ceramics, and composites. Its low toxicity and reduced environmental footprint make it suitable for use in eco-sensitive areas.



Benefits

- Reliable, easy to use
- Easy removability of excess penetrant using water
- Vivid colour contrast for clear indications
- Versatility across various materials
- Enhances quality assurance processes
- Meets and exceeds most industry standards

Features

- Biodegradable 
- Visible & Fluorescent
- Solvent & Water washable
- Sensitivity Level 2
- Controlled/Optimal Bleed-out
- Instant Indications
- Over-wash resistance
- Low Surface Tension for quick penetration
- Excellent Surface Wetting
- Very Low odour
- Free of aromatic solvents

Applications

Defect Location: Surface Cracks

Test Surface Type: Super-finished to unfinished

Defect Types:

Cracks	Weld porosity
Leaks	Incomplete weld penetration
Undercutting	Incomplete weld fusion
Slag inclusions	
Flux inclusions	

Usage Instructions

NDT Method	Dye Penetrant Testing, visible & fluorescent
Type	Type II & III
Method(s)	A / C / E
Sensitivity level (ISO 3452)	2
Recommended Usage	-10°C to +52°C 14°F to 126°F

Compliances

ASME Code V. Art. 6

DIN EN ISO 3452

PMUC (EDF)

ASTM E165

ASTM E1417

VDA 236-150

TLV 9017 01

NPCIL

Physical & Chemical Properties

Appearance	Dark pink liquid
Chemical Composition	Dye, Solvent & Additives
Basis	Glycol
Colour in visible light	Bright Pink
Colour in UV light	Orange
Odour	Characteristic
Flash Point (Slurry)	> 93°C / 200°F
Density	0.970 g/cm3

Suggested Products

MR®79 - Special Cleaner (Non-Aqueous)

MR®85 - Remover (Non-Aqueous)

MR®70 - Developer (Non-Aqueous)

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: Dipropylene Glycol, Monomethyl Ether, Non-Azo Dye

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

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TDS / MSDS / TC



Notice

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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
2511-0004	Aerosol - 400ml	10
2511-0043	Bulk- 1L	6
2511-0071	Bulk - 5L	-



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