



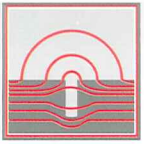
# PENETRANT TESTING

	Type			Sensitivity Class			Approvals					Family Testing					Temperature Range					GHS Labelling		Basis				Delivery Form				Biological Degradability								
	I = fluorescent	II = coloured	III = coloured + fluorescent	0,5	1	2	3	ASME Code V, Art. 6 T-641	EN ISO 3452-2	EN ISO 3452-5	EN ISO 3452-6	PMUC (EDF)	TLV 9017 01	Aa Water + MR® 81 T-R	Ac Water + MR® 703 W / MR® 703 WK	Ad Water + MR® 70	Ae Water + MR® 70 / 70W <sup>1)</sup>	Cd MR® 85, MR® 88, MR® 79 + MR® 70	Ce MR® 85, MR® 88, MR® 79 + MR® 70 / 70W <sup>2)</sup>	Ce MR® 91 H + MR® 70H	Ee Water, MR® 79 + MR® 70	-30°C to +50°C	-10°C to +50°C	+10°C to +50°C	+10°C to +80°C	+50°C to +200°C	Aerosol	Bulk	Oil	Solvent-free	Solvent		Glycol	Aerosol	Compressed Air	Bulk	Foam			
Penetrant – fluorescent	MR® 699 F Penetrant fluorescent	✓		✓				✓	✓				✓	✓	✓								✓			☠ H222	☠ H319	☠ H319					✓	✓	✓	✓	✓			
	MR® 670 F Penetrant fluorescent	✓		✓				✓	✓				✓	✓	✓								✓			☠ H222	☠ H319	☠ H319					✓	✓	✓	✓	✓			
	MR® 671 F Penetrant fluorescent	✓			✓			✓	✓				✓	✓	✓								✓			☠ H222	☠ H319	☠ H319					✓	✓	✓	✓	✓			
	MR® 672 F Penetrant fluorescent	✓				✓		✓	✓				✓	✓	✓								✓			☠ H222	☠ H319	☠ H319					✓	✓	✓	✓	✓			
	MR® 673 F Penetrant fluorescent	✓					✓	✓	✓				✓	✓	✓								✓			☠ H222	☠ H319	☠ H319					✓	✓	✓	✓	✓			
Penetrant – coloured	MR® 67 DL / MR® 67 Penetrant red + fluorescent		✓			✓		✓	✓				✓		✓								✓			♻️ ECO-LINE	♻️ ECO-LINE		✓					✓	✓	✓	✓	✓		
	MR® 67 PS Penetrant red + fluorescent		✓			✓		✓	✓				✓		✓								✓			☠ H222			✓						✓	✓	✓	✓	✓	
	MR® 68 NF Penetrant red + fluorescent		✓			✓		✓	✓	✓	✓	✓	✓	✓							IIIc	IIIAc IIIAe IIIEe				☠ H222	☠ H319	☠ H319					✓	✓	✓	✓	✓	✓		
	MR® 68 C Penetrant red + fluorescent		✓			✓		✓	✓	✓	✓	✓	✓	✓							IIIc	IIIAe IIIEe				☠ H222	☠ H304	☠ H319	☠ H304	☠ H318	✓				✓	✓	✓	✓	✓	
	MR® 312 Penetrant red + fluorescent		✓			✓		✓	✓	✓				✓										✓			☠ H222	☠ H319	☠ H336	☠ H225	☠ H319	☠ H336		✓			✓	✓	✓	✓
Penetrant	MR® 311 Penetrant red		✓			✓		✓	✓					✓									✓			☠ H222	☠ H304	☠ H318	☠ H412	☠ H304	☠ H318	✓				✓	✓	✓	✓	✓
	MR® 311-R Penetrant red		✓			IIAc IIAe IICe		✓	✓				✓		✓								✓			☠ H222	☠ H319	☠ H319					✓	✓	✓	✓	✓	✓		
	MR® 313 DL / MR® 313 Penetrant red		✓			✓		✓	✓				✓		✓								✓			♻️ ECO-LINE	♻️ ECO-LINE		✓						✓	✓	✓	✓	✓	
	MR® 68 H Penetrant red		✓			✓		✓	✓	✓				✓									✓			☠ H222		no ingredients requiring labelling	✓					✓	✓	✓	✓	✓	✓	
Developer	MR® 70 Developer white							✓	✓		✓	✓										✓			☠ H222	☠ H319	☠ H336	☠ H225	☠ H319	☠ H336		✓			✓	✓	✓	✓	✓	
	MR® 70 W Developer white low adhesion							✓	✓													✓			☠ H222	☠ H319	☠ H336	☠ H225	☠ H319	☠ H336		✓			✓	✓	✓	✓	✓	
	MR® 70 H Developer white							✓	✓	✓												✓			☠ H222	☠ H317	☠ H319	☠ H225	☠ H317	☠ H319	☠ H336		✓			✓	✓	✓	✓	✓
	MR® 81-T R Dry Developer Powder							✓	✓														✓			--	♻️ ECO-LINE							✓	✓	✓	✓	✓		
	MR® 703 W Developer white							✓	✓														✓			--	♻️ ECO-LINE		✓						✓	✓	✓	✓	✓	
	MR® 703 WK Developer white Concentrate							✓	✓														✓			--	♻️ ECO-LINE		✓						✓	✓	✓	✓	✓	
Cleaner	MR® 79 Special Cleaner							✓	✓	✓	✓	✓										✓			☠ H222	☠ H319	☠ H336	☠ H225	☠ H319	☠ H336		✓			✓	✓	✓	✓	✓	
	MR® 85 Remover Acetone free							✓	✓	✓	✓											✓			☠ H222	☠ H319	☠ H336	☠ H225	☠ H319	☠ H336		✓			✓	✓	✓	✓	✓	
	MR® 88 Remover Acetone free							✓	✓	✓	✓											✓			☠ H222	☠ H319	☠ H336	☠ H225	☠ H319	☠ H336		✓			✓	✓	✓	✓	✓	
	MR® 91 H Remover							✓	✓	✓												✓			☠ H222		☠ H304					✓			✓	✓	✓	✓	✓	
Pre-Cleaner	MR® 3002 Universal Remover						✓	✓													✓			♻️ ECO-LINE	♻️ ECO-LINE		✓							✓	✓	✓	✓	✓	✓	

✓ = applies      <sup>1)</sup>MR®70 W: Family testing only with MR® 68 NF      <sup>2)</sup>MR®70 W: Family testing only with MR® 68 C, MR® 68 NF







# MAGNETIC PARTICLE INSPECTION

	Carrier Media		Delivery Form				Recommended Concentration						Colour				Particle Size d <sub>50</sub>						Temperature Range			Additive Contained										
	Oil	Water	Concentrate	Ready for use	Dry powder	Compressed air	Aerosol	1:25	1:40	1:50	1:100	1:200	1:1000	black	red	Yellow-green	green	0.2 µm	1-3 µm	2.5-5 µm	3-7 µm	15-160 µm	+10°C to +50°C	+50°C to 130°C	>50°C to 185°C	<150 °C	<315 °C	<500 °C	Anti-foam	Corrosion inhibitor	Wetting agent					
Coloured	MR®76 S <sup>2</sup> Magnetic Powder Suspension (PMUC)	✓		H304			H222 H229							✓				✓					✓													
	MR®76 S Version A Magnetic Powder Suspension	✓		H304			H222 H229							✓				✓					✓													
	MR®76 S Version D <sup>2</sup> Magnetic Powder Suspension	✓		H304			H222 H229							✓				✓					✓													
	MR®76 SH <sup>2</sup> Magnetic Powder Suspension	✓		ECO-LINE			H222 H229							✓				✓		✓			✓													
	MR®76 SR Magnetic Powder Suspension	✓		ECO-LINE			H222 H229							✓				✓		✓			✓													
	MR®210 <sup>1 2</sup> Magnetic Powder	✓	✓		ECO-LINE						✓			✓				✓											✓							
	MR®210 <sup>1</sup> Magnetic Powder	✓	✓		ECO-LINE					✓				✓				✓										✓								
	MR®214 <sup>2</sup> Magnetic Powder Composition		✓	ECO-LINE						✓				✓				✓					✓						✓	✓	✓	✓				
	MR®214 Magnetic Powder Composition		✓	ECO-LINE					✓					✓				✓					✓						✓	✓	✓	✓				
	MR®220 <sup>2</sup> Magnetic Powder Concentrate		✓	ECO-LINE						✓				✓				✓					✓						✓	✓	✓	✓				
	MR®221 <sup>2</sup> Magnetic Powder Concentrate		✓	ECO-LINE						✓				✓				✓					✓						✓	✓	✓	✓				
	MR®221 GF <sup>2</sup> Magnetic Powder Suspension		✓	ECO-LINE	ECO-LINE		ECO-LINE							✓				✓					✓						✓	✓	✓	✓				
	MR®221 GF Magnetic Powder Suspension		✓	ECO-LINE	ECO-LINE		ECO-LINE							✓				✓					✓						✓	✓	✓	✓				
MR®230 <sup>2</sup> Magnetic Powder				ECO-LINE										✓				✓							✓											
Fluorescent	MR®76 F Magnetic Powder Suspension (PMUC)	✓		H304			H222 H229								✓			✓				✓														
	MR®76 FH Magnetic Powder Suspension	✓		ECO-LINE			H222 H229								✓			✓					✓													
	MR®76 FR Magnetic Powder Suspension	✓		ECO-LINE			H222 H229								✓			✓					✓													
	MR®761 F Magnetic Powder Suspension - high brilliance	✓		H304			H222 H229								✓			✓					✓													
	MR®110 <sup>1</sup> Magnetic Powder	✓	✓		ECO-LINE						✓			✓				✓					✓			✓										
	MR®114 Magnetic Powder Composition		✓	ECO-LINE						✓						✓			✓				✓						✓	✓	✓	✓				
	MR®121 Magnetic Powder Concentrate		✓	H315 H319						✓				✓				✓					✓						✓	✓	✓	✓				
	MR®131 Magnetic Powder Concentrate	✓		H304						✓				✓				✓					✓													
	MR®131-R Magnetic Powder Concentrate	✓		ECO-LINE						✓				✓				✓					✓													
	MR®131-R GF Magnetic Powder Suspension	✓		ECO-LINE	ECO-LINE									✓				✓					✓													
	MR®133-R Magnetic Powder Super Concentrate		✓	ECO-LINE							✓			✓				✓					✓						✓	✓	✓	✓				
	MR®153 Magnetic Powder Concentrate – high-brilliance		✓	ECO-LINE						✓				✓				✓					✓						✓	✓	✓	✓				
	MR®153 HS Magnetic Powder Concentrate – high-brilliance		✓	ECO-LINE						✓				✓				✓					✓						✓	✓	✓	✓				
	MR®153 PO Magnetic Powder Concentrate – high-brilliance		✓	ECO-LINE						✓				✓			✓		✓				✓						✓	✓	✓	✓				
	MR®158 Magnetic Powder Concentrate (PMUC)		✓	ECO-LINE						✓				✓				✓					✓						✓	✓	✓	✓				
MR®158-R Magnetic Powder Concentrate		✓	ECO-LINE						✓				✓				✓					✓						✓	✓	✓	✓					
MR®158-R K Magnetic Powder Concentrate		✓	ECO-LINE						✓				✓				✓					✓						✓	✓	✓	✓					
MR®158-R GF Magnetic Powder Suspension	✓		ECO-LINE	ECO-LINE		ECO-LINE							✓				✓					✓						✓	✓	✓	✓					



		Delivery Form		Basis			Temperature Range	
		Ready for use	Aerosol	Solvent	Oil	Water	+10°C to +50°C	>50 °C
Contrast Paint	MR®72 White contrast paint (PMUC)		   	 	  	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>
	MR®72 LS White contrast paint - paintable and over-weldable		  	 	  	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>
	MR®721 White contrast paint aqueous					<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>
Carrier Media	MR®82 Flux oil (ASME)				<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	
	MR®82-R Flux oil (ASME)				<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	

<sup>1</sup> Dual system for dry testing and also for wet testing with addition of additives

<sup>2</sup> not acc. to ASTM E 1444

= applies

		Delivery Form			Basis		Temperature Range	
		Concentrate	Ready for use	Aerosol	Solvent	Water	+10°C to +50°C	>50 °C
Additives	MR®300 Corrosion inhibitor					<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
	MR®302 Corrosion inhibitor concentrate					<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
	MR®400 Wetting agent					<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
	MR®500 Anti-foam emulsion					<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
	MR®602 Bactericide / Fungicide	 	 			<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>
Cleaner	MR®71 Paint remover (PMUC)		  	 	  	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
	MR®603 System cleaner					<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	

30.07.2015

**MR**<sup>®</sup>  
CHEMIE  
NDT-materials