Safety data sheet

according to Regulation (EC) No 1907/2006, Article 31

Printing date 27.05.2024 Version number 1 Revision: 27.05.2024

SECTION 1: Identification of the substance/mixture and of the company/undertaking

· **1.1 Product identifier**
· **Trade name: MR® 313 Penetrant red**
· **1.2 Relevant identified uses of the substance or mixture and uses advised against**
· **Life cycle stages**
F Formulation or re-packing
IS Use at industrial Sites
· **Sector of Use**
SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites
SU14 Manufacture of basic metals, including alloys
· **Product category** PC14 Metal surface treatment products
· **Process category**
PROC7 Industrial spraying
PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities
PROC13 Treatment of articles by dipping and pouring
· **Environmental release category**
ERC4 Use of non-reactive processing aid at industrial site (no inclusion into or onto article)
· **Article category** AC7 Metal articles
· **Application of the substance / the mixture**
Testing material for nondestructive surface crack detection

· **1.3 Details of the supplier of the safety data sheet**
· **Manufacturer/Supplier:**
MR Chemie GmbH
Nordstr. 61-63
59427 Unna (Germany)
Tel. +49 (0)2303 95151 0
Fax: +49 (0)2303 95151 10
post@mr-chemie.de
www.mr-chemie.de

· **Further information obtainable from:**
MR Chemie GmbH, Dep. safety data sheets, Tel.: +49/(0)2303/95151-38, QS@mr-chemie.de
· **1.4 Emergency telephone number:**
24h- Emergency Contact Phone Number For Chemical Emergency, Spill, Leak, Fire, Exposure or Accident (WISAG FMO Cargo Service GmbH & CO.KG)
Call Day or Night within USA and Canada: 1 800 424 9300
Outside USA and Canada: 001 703 527 3887
In-Country Emergency Number for:

Germany:	0800-181-7059	
China:	4001 204937	(Mandarin)
Hong Kong:	800 968 793	(Cantonese)
India:	000 800 100 7141	(Hindi)
South Africa:	0 800 983 611	(English)

SECTION 2: Hazards identification

· **2.1 Classification of the substance or mixture**
· **Classification according to Regulation (EC) No 1272/2008**
The mixture is classified according to Regulation (EC) No 1272/2008 according to the most recent ATP.
The product is not classified, according to the GB CLP regulation.

· **2.2 Label elements**
· **Labelling according to Regulation (EC) No 1272/2008** Void
· **Hazard pictograms** Void
· **Signal word** Void
· **Hazard statements** Void

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· **2.3 Other hazards**
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.

SECTION 3: Composition/information on ingredients

· **3.2 Chemical characterisation: Mixtures**
· **Description:** Mixture of substances listed below with nonhazardous additions.

· **Dangerous components:**		
CAS: 34590-94-8 EINECS: 252-104-2 Reg.nr.: 01-2119450011-60-XXXX	Dipropylene glycol monomethyl ether substance with a Community workplace exposure limit	80 - 90%
CAS: 68891-38-3 NLP: 500-234-8 Reg.nr.: 01-2119488639-16-XXXX	Fatty alcohol-C12/14-2 EO-sulfat, Na-salt Skin Irrit. 2, H315; Eye Irrit. 2, H319	1 - 5%

· **Additional information:**
Wording of the listed hazard phrases are indicated in section 16 and relate to individual raw components.

SECTION 4: First aid measures

· **4.1 Description of first aid measures**
· **General information:**
Seek medical advice if symptoms occurs or in cases of doubt.
Immediately remove any clothing soiled by the product.
· **After inhalation:** Supply fresh air; consult doctor in case of complaints.
· **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
· **After eye contact:**
Rinse opened eye for several minutes under running water. Then consult a doctor.
· **After swallowing:** If symptoms persist consult doctor.
· **Information for doctor:**
Grease with skin-cream to restore fat film in order to prevent skin inflammation.
· **4.2 Most important symptoms and effects, both acute and delayed**
No further relevant information available.
· **4.3 Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

SECTION 5: Firefighting measures

· **5.1 Extinguishing media**
CO_2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
· **Suitable extinguishing agents:**
CO_2, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
Use fire extinguishing methods suitable to surrounding conditions.
· **5.2 Special hazards arising from the substance or mixture**
In case of fire, the following can be released:
Carbon monoxide (CO)

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· **5.3 Advice for firefighters**
· **Protective equipment:** Wear self-contained respiratory protective device.

SECTION 6: Accidental release measures

· **6.1 Personal precautions, protective equipment and emergency procedures** Not required.
· **6.2 Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
· **6.3 Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose contaminated material as waste according to section 13.
· **6.4 Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

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SECTION 7: Handling and storage

· **7.1 Precautions for safe handling** Open and handle receptacle with care.
· **Information about fire - and explosion protection:** No special measures required.

· **7.2 Conditions for safe storage, including any incompatibilities**
· **Storage:**
· **Requirements to be met by storerooms and receptacles:**
Store in a cool location.
Condition of the tanks and stockrooms is to be co-ordinated with the responsible authorities.
Keep receptacles tightly sealed.
· **Information about storage in one common storage facility:** Not required.
· **Further information about storage conditions:** Protect from heat and direct sunlight.
· **Recommended storage temperature:** 5 - 45°C, 41 - 113 °F
· **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

· **8.1 Control parameters**
· **Additional information about design of technical facilities:** No further data; see section 7.

· **Ingredients with limit values that require monitoring at the workplace:**	
34590-94-8 Dipropylene glycol monomethyl ether	
IOELV (EU)	Long-term value: 308 mg/m³, 50 ppm Skin
WEL (Great Britain)	Long-term value: 308 mg/m³, 50 ppm Sk
AGW (Germany)	Long-term value: 310 mg/m³, 50 ppm 1(I);DFG, EU, 11
102-71-6 2,2',2''-nitrilotriethanol	
MAK (Germany)	Long-term value: 5E mg/m³

· **DNELs**		
102-71-6 2,2',2''-nitrilotriethanol		
Dermal	Long-term - systemic effects, worker	6.3 mg/kg bw/day (worker)
Inhalative	Long-term - systemic effects, worker	5 mg/m³ (worker)
	Long-term - local effects, worker	5 mg/m³ (worker)
68891-38-3 Fatty alcohol-C12/14-2 EO-sulfat, Na-salt		
Dermal	Long-term - systemic effects, worker	2,750 mg/kg bw/day (worker)

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Inhalative	Long-term - systemic effects, worker	175 mg/m³ (worker)

· **DNEL (Derived No Effect Level) for the general population**

102-71-6 2,2',2''-nitrilotriethanol		
Oral	Long term - systemic effects, general population	13 mg/kg bw/day (general population)
Dermal	Long term - systemic effects, general population	3.1 mg/kg bw/day (general population)
Inhalative	Long term - systemic effects, general population	1.25 mg/m³ (general population)
	Long term - local effects, general population	1.25 mg/m³ (general population)
68891-38-3 Fatty alcohol-C12/14-2 EO-sulfat, Na-salt		
Oral	Long term - systemic effects, general population	15 mg/kg bw/day (general population)
Dermal	Long term - systemic effects, general population	1,650 mg/kg bw/day (general population)
Inhalative	Long term - systemic effects, general population	52 mg/m³ (general population)

· **PNECs**

102-71-6 2,2',2''-nitrilotriethanol	
Aquatic compartment - freshwater	0.32 mg/L (freshwater)
Aquatic compartment - marine water	0.032 mg/L (marine water)
Aquatic compartment - water intermittent releases	5.12 mg/L (intermittent release water)
Aquatic compartment - sediment freshwater	1.7 mg/kg sed dw (sediment fresh water)
Aquatic compartment - sediment marine water	0.17 mg/kg sed dw (sediment marine water)
Terrestrial compartment - soil	0.151 mg/kg dw (soil)
Sewage treatment plant	10 mg/L (sewage treatment plant)
68891-38-3 Fatty alcohol-C12/14-2 EO-sulfat, Na-salt	
Aquatic compartment - freshwater	0.24 mg/L (freshwater)
Aquatic compartment - marine water	0.024 mg/L (marine water)
Aquatic compartment - water intermittent releases	0.071 mg/L (intermittent release water)
Aquatic compartment - sediment freshwater	0.9168 mg/kg sed dw (sediment fresh water)
Aquatic compartment - sediment marine water	0.09168 mg/kg sed dw (sediment marine water)
Terrestrial compartment - soil	7.5 mg/kg dw (soil)
Sewage treatment plant	10,000 mg/L (sewage treatment plant)

· **Additional information:** The lists valid during the making were used as basis.

· **8.2 Exposure controls**
· **Personal protective equipment:**
· **General protective and hygienic measures:**
The usual precautionary measures are to be adhered to when handling chemicals.
Avoid contact with the eyes.
· **Respiratory protection:**
Filter A/P2
For good ventilation provide, this can be achieved by local or space exhaust. If the concentration lies over the job limit values, then, a certified respirator suitable for this purpose must be used.
· **Protection of hands:**
Check the permeability prior to each anewed use of the glove.

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For the protection against chemicals in areas with heightened risk of injury (mechanical hazard) no recommendation for a suitable glove material can be given.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**
Butyl rubber, BR
Fluorocarbon rubber (Viton)
Recommended thickness of the material: ≥ 0.5 mm
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· **Penetration time of glove material**
Value for the permeation: Level ≤ 6
Supplier for suitable protection gloves:
ASD ArbeitsSicherheit Dortmund
Torstr. 101 - 37355 Niederorschel OT Rüdigershagen
Tel.: 02301 / 919543 - Fax: 02301 / 9453893
E-Mail: m.schnellhardt@t-online.de - http://www.arbeitssicherheitdortmund.de
The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:**

Tightly sealed goggles

· **Body protection:** Protective work clothing

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SECTION 9: Physical and chemical properties

· **9.1 Information on basic physical and chemical properties**	
· **General Information**	
· **Appearance:**	
Form:	Fluid
Colour:	Red
· **Odour:**	Characteristic
· **Odour threshold:**	Not determined.
· **pH-value at 20 °C:**	10.7
· **Change in condition**	
Melting point/freezing point:	Undetermined.
Initial boiling point and boiling range:	190 °C
· **Flash point:**	106 °C Basis: active substance
· **Flammability (solid, gas):**	Not applicable.
· **Auto-ignition temperature:**	305 °C
· **Decomposition temperature:**	Not determined.
· **Ignition temperature:**	Product is not selfigniting.
· **Explosive properties:**	Product does not present an explosion hazard.
· **Explosion limits:**	
Lower:	1.1 Vol %

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Upper:	14 Vol %
· **Vapour pressure at 20 °C:**	0.4 hPa
· **Density at 20 °C:**	0.981 g/cm³
· **Relative density**	Not determined.
· **Vapour density**	Not determined.
· **Evaporation rate**	Not determined.
· **Solubility in / Miscibility with water:**	Not miscible or difficult to mix.
· **Partition coefficient: n-octanol/water:**	Not determined.
· **Viscosity:**	
Dynamic:	Not determined.
Kinematic at 20 °C:	10.65 mm²/s
· **Solvent separation test:**	
Organic solvents:	87.4 %
Water:	3.9 %
VOC (EU)	87.40 %
· **9.2 Other information**	No further relevant information available.

SECTION 10: Stability and reactivity

· **10.1 Reactivity** No further relevant information available.
· **10.2 Chemical stability**
· **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
· **10.3 Possibility of hazardous reactions** No dangerous reactions known.
· **10.4 Conditions to avoid** No further relevant information available.
· **10.5 Incompatible materials:** No further relevant information available.
· **10.6 Hazardous decomposition products:** No dangerous decomposition products known.

SECTION 11: Toxicological information

· **11.1 Information on toxicological effects**

· **LD/LC50 values relevant for classification:**		
34590-94-8 Dipropylene glycol monomethyl ether		
Oral	LD50	5,135 mg/kg (rat)
Dermal	LD50	> 19,000 mg/kg (rab)
102-71-6 2,2',2''-nitrilotriethanol		
Oral	LD50	8,000 mg/kg (rat)

· **Primary irritant effect:**
· **Skin corrosion/irritation** Based on available data, the classification criteria are not met.
· **Serious eye damage/irritation** Based on available data, the classification criteria are not met.
· **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
· **General remarks:**
· **CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)**
· **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
· **Carcinogenicity** Based on available data, the classification criteria are not met.
· **Reproductive toxicity** Based on available data, the classification criteria are not met.
· **STOT-single exposure** Based on available data, the classification criteria are not met.
· **STOT-repeated exposure** Based on available data, the classification criteria are not met.

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· **Aspiration hazard** Based on available data, the classification criteria are not met.

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SECTION 12: Ecological information

· **12.1 Toxicity**
· **Aquatic toxicity:** No further relevant information available.
· **12.2 Persistence and degradability** No further relevant information available.
· **12.3 Bioaccumulative potential** No further relevant information available.
· **12.4 Mobility in soil** No further relevant information available.
· **Additional ecological information:**
· **General notes:**
Do not allow product to reach ground water, water course or sewage system.
Water hazard class 1: weakly water-endangering
· **12.5 Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.
· **12.6 Other adverse effects** No further relevant information available.

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SECTION 13: Disposal considerations

· **13.1 Waste treatment methods**
· **Recommendation**
Eliminate the pure, unchanged substance in accordance with local regulations.
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
· **Waste disposal key:**
For this product no waste key number can be specified, because only the intended purpose permits an allocation. The waste key number is to be specified in arrangement with the regional waste disposal.
The indications for Waste key reflect the pure unmodified product and are only a recommendation.
· **Uncleaned packaging:**
· **Recommendation:** Disposal must be made according to official regulations.

SECTION 14: Transport information

· **14.1 UN-Number**	
· **ADR, ADN, IMDG, IATA**	Void
· **14.2 UN proper shipping name**	
· **ADR, ADN, IMDG, IATA**	Void
· **14.3 Transport hazard class(es)**	
· **ADR, ADN, IMDG, IATA**	
· **Class**	Void
· **14.4 Packing group**	
· **ADR, IMDG, IATA**	Void
· **14.5 Environmental hazards:**	
· **Marine pollutant:**	No
· **14.6 Special precautions for user**	Not applicable.
· **14.7 Transport in bulk according to Annex II of Marpol and the IBC Code**	Not applicable.

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· **UN "Model Regulation":** Void

SECTION 15: Regulatory information

· **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

· **National regulations:**

· **Waterhazard class:** Water hazard class 1: slightly hazardous for water.
· **VOC (EU)** 926.0 g/l
· **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

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SECTION 16: Other information

· **Relevant phrases**
The wording of the listed risk phrases are those of the individual raw materials.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
· **Recommended restriction of use**
Existing national and local laws concerning chemicals are to be considered.

· **Department issuing SDS:**
MR Chemie GmbH, Dep. safety data sheets, Tel.: +49/(0)2303/95151-38
· **Contact:**
MR Chemie GmbH, Dep. safety data sheets, Tel.: +49/(0)2303/95151-38, QS@mr-chemie.de
· **Abbreviations and acronyms:**
ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
VOC: Volatile Organic Compounds (USA, EU)
DNEL: Derived No-Effect Level (UK REACH)
PNEC: Predicted No-Effect Concentration (UK REACH)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
· *** Data compared to the previous version altered.**