

19.03.2022

### Kit Components

Product code	Description
<b>CAY843-VxxAAE</b>	<b>CA7xMN Reagent Set for manganese</b>

Components:

51508295	Reagent MN1 for manganese
71259276	Reagent MN2 for manganese
51508298	Reagent MN3 for manganese

**SECTION 1: Identification of the substance or mixture and of the supplier****Product identifier****Trade name:** Reagent MN1**Synonym:** *for manganese***Article number:** 51508295**Recommended use of the chemical and restrictions on use** *No further relevant information available.***Application of the substance / the mixture** *Laboratory chemicals***Supplier's details****Manufacturer/Supplier:***Endress+Hauser**Conducta GmbH+Co. KG**Dieselstraße 24**D-70839 Gerlingen***Further information obtainable from:***Phone: +49 (0)7156 209-10117**E-Mail: MSDS.PCC@endress.com***Emergency phone number** +27 (0)861 555 777**SECTION 2: Hazard identification****Classification of the substance or mixture***corrosion**Skin Corr. 1B H314 Causes severe skin burns and eye damage.**Eye Dam. 1 H318 Causes serious eye damage.***GHS label elements****GHS label elements***The product is classified and labelled according to the Globally Harmonised System (GHS).***Hazard pictograms**

GHS05

**Signal word** *Danger***Hazard-determining components of labelling:***acetic acid***Hazard statements***Causes severe skin burns and eye damage.***Precautionary statements***IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].**IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.**Immediately call a POISON CENTER/doctor.**Specific treatment (see on this label).**Store locked up.**Dispose of contents/container in accordance with local/regional/national/international regulations.***Other hazards***The product does not contain any organic halogen compounds (AOX), nitrates, heavy metal compounds or formaldehydes.***Results of PBT and vPvB assessment****PBT:** *Not applicable.*

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Trade name: Reagent MN1

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vPvB: Not applicable.

**SECTION 3: Composition or information on ingredients****Mixtures****Description:** Mixture of substances listed below with nonhazardous additions.**Dangerous components:**

CAS: 64-19-7 EINECS: 200-580-7	acetic acid Flam. Liq. 3, H226; Skin Corr. 1A, H314; Acute Tox. 4, H312 Specific concentration limits: Skin Corr. 1A; H314: $C \geq 90\%$ Skin Corr. 1B; H314: $25\% \leq C < 90\%$ Skin Irrit. 2; H315: $10\% \leq C < 25\%$ Eye Irrit. 2; H319: $10\% \leq C < 25\%$	20-40%
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**Additional information:** For the wording of the listed hazard phrases refer to section 16.**SECTION 4: First-aid measures****Description of necessary first-aid measures****General information:** Immediately remove any clothing soiled by the product.**After inhalation:** In case of unconsciousness place patient stably in side position for transportation.**After skin contact:**

Immediately wash with water and soap and rinse thoroughly.

Immediately rinse with water.

**After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.**After swallowing:** Drink plenty of water and provide fresh air. Call for a doctor immediately.**Most important symptoms or effects, acute and delayed** No further relevant information available.**Indication of immediate medical attention and special treatment needed, if necessary**

No further relevant information available.

**SECTION 5: Fire-fighting measures****Suitable extinguishing media****Suitable extinguishing agents:**CO<sub>2</sub>, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.**For safety reasons unsuitable extinguishing agents:** no further information**Specific hazards arising from the chemical**

During heating or in case of fire poisonous gases are produced.

**Special protective actions for fire fighters** No further relevant information available.**Protective equipment:** Mount respiratory protective device.**SECTION 6: Accidental release measures****Personal precautions, protective equipment and emergency procedures**

Mount respiratory protective device.

Wear protective equipment. Keep unprotected persons away.

Wear protective clothing.

**Environmental precautions:**

Dilute with plenty of water.

Do not allow to enter sewers/ surface or ground water.

**Methods and material for containment and cleaning up:**

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Use neutralising agent.

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

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**Trade name: Reagent MN1**

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**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.

**SECTION 7: Handling and storage****Precautions for safe handling**

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of aerosols.

**Information about fire - and explosion protection:** Keep respiratory protective device available.**Conditions for safe storage, including any incompatibilities****Storage:****Requirements to be met by storerooms and receptacles:** No special requirements.**Information about storage in one common storage facility:** Not required.**Further information about storage conditions:** Keep container tightly sealed.**Storage class:** 8 B**Specific end use(s)** No further relevant information available.**\* SECTION 8: Exposure controls or personal protection****Control parameters****Ingredients with limit values that require monitoring at the workplace:****CAS: 64-19-7 acetic acid**

OEL Short-term value: 30 ppm

Long-term value: 20 ppm

**Additional information:** The lists valid during the making were used as basis.**Exposure controls****Appropriate engineering controls** No further data; see item 7.**Individual protection measures, such as personal protective equipment (PPE)****General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

Avoid contact with the eyes.

Avoid contact with the eyes and skin.

**Respiratory protection:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

**Hand protection**

Protective gloves

To avoid skin problems reduce the wearing of gloves to the required minimum.

Only use chemical-protective gloves with CE-labelling of category III.

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

**Material of gloves**

Nitrile rubber, NBR

Natural rubber, NR

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.

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## Trade name: Reagent MN1

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**Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

**Eye or face protection**

Tightly sealed goggles

**Body protection:** Protective work clothing

**SECTION 9: Physical and chemical properties****Information on basic physical and chemical properties****General Information**

Physical state	Fluid
Colour:	Colourless
Odour:	Acrid
Odour threshold:	Not determined.
Melting point/freezing point:	Undetermined.
نقطة الغليان أو نقطة الغليان الأولية ونطاق الغليان	100 °C
Flammability	Not applicable.
Upper or lower flammability or explosive limits	
Lower:	4 Vol %
Upper:	17 Vol %
Flash point:	Not applicable.
Ignition temperature:	485 °C
Decomposition temperature:	Not determined.
pH at 20 °C	2.5-4
Viscosity:	
Viscosity	Not determined.
Dynamic:	Not determined.
Solubility	
water:	Fully miscible.
Partition coefficient: n-octanol or water	Not determined.
Vapour pressure at 20 °C:	23 hPa
Vapour density + Relative density	
Density at 20 °C:	1.014 g/cm <sup>3</sup>
Relative density	Not determined.
Vapour density	Not determined.

**Other information****Appearance:**

**Form:** Fluid

**Important information on protection of health and environment, and on safety.****Auto-ignition temperature:**

Product is not selfigniting.

**Explosive properties:**

Product does not present an explosion hazard.  
Not determined.

**Solvent content:**

**Organic solvents:** 40.0 %

**Water:** 55.0 %

**Solids content:** 0.0 %

**Change in condition**

**Evaporation rate** Not determined.

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## Trade name: Reagent MN1

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## Information with regard to physical hazard

## classes

Explosives	Void
Flammable gases	Void
Aerosols	Void
Oxidising gases	Void
Gases under pressure	Void
Flammable liquids	Void
Flammable solids	Void
Self-reactive substances and mixtures	Void
Pyrophoric liquids	Void
Pyrophoric solids	Void
Self-heating substances and mixtures	Void
Substances and mixtures, which emit flammable gases in contact with water	Void
Oxidising liquids	Void
Oxidising solids	Void
Organic peroxides	Void
Corrosive to metals	Void
Desensitised explosives	Void

## SECTION 10: Stability and reactivity

**Reactivity** No further relevant information available.**Chemical stability****Thermal decomposition / conditions to be avoided:**

No decomposition if used according to specifications.

**Possibility of hazardous reactions** No dangerous reactions known.**Conditions to avoid** No further relevant information available.**Incompatible materials:** No further relevant information available.**Hazardous decomposition products:** No dangerous decomposition products known.

## SECTION 11: Toxicological information

Information on hazard classes as defined in Regulation (EC) No 1272/2008

**Acute toxicity****LD/LC50 values relevant for classification:****CAS: 64-19-7 acetic acid**

Oral LD50 3,310 mg/kg (rat)

Dermal LD50 1,060 mg/kg (rbt)

**Skin corrosion or irritation** Causes severe skin burns and eye damage.**Serious eye damage or irritation** Causes serious eye damage.**Information on other hazards****endocrine disrupting potential**

None of the ingredients is listed.

## SECTION 12: Ecological information

**Toxicity****Aquatic toxicity:****CAS: 64-19-7 acetic acid**

EC50[48h] 36.9 mg/l (Daphnia Magna)

EC50[72h] &gt;1,000 mg/l (Algae)

**Persistence and degradability** No further relevant information available.

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## Trade name: Reagent MN1

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**Bioaccumulative potential** No further relevant information available.**Mobility in soil** No further relevant information available.**Results of PBT and vPvB assessment****PBT:** Not applicable.**vPvB:** Not applicable.**Endocrine disrupting properties**

The product does not contain substances with endocrine disrupting properties.

**Other adverse effects****Additional ecological information:****General notes:**

Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

Must not reach sewage water or drainage ditch undiluted or unneutralised.

**SECTION 13: Disposal considerations****Waste treatment methods****Recommendation**

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

**Uncleaned packaging:****Recommendation:** Disposal must be made according to official regulations.**Recommended cleansing agents:** Water, if necessary together with cleansing agents.**\* SECTION 14: Transport information****UN number****IMDG, IATA**

UN2790

**UN proper shipping name****ADR**

UN2790 ACETIC ACID SOLUTION

**IMDG**

ACETIC ACID SOLUTION

**IATA**

Acetic acid solution

**Transport hazard class(es)****ADR****Class**

8 (C3) Corrosive substances.

**Label**

8

**IMDG, IATA****Class**

8 Corrosive substances.

**Label**

8

**Packing group****ADR, IMDG, IATA**

III

**Environmental hazards:**

Not applicable.

**Special precautions for user**

Warning: Corrosive substances.

**Hazard identification number (Kemler code):** 80**EMS Number:**

F-A, S-B

**Segregation groups**

Acids

**Stowage Category**

A

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## Trade name: Reagent MN1

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Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable.

## Transport/Additional information:

## ADR

Limited quantities (LQ)

5L

Transport category

3

Tunnel restriction code

E

## IMDG

Limited quantities (LQ)

5L

Excepted quantities (EQ)

Code: E1

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 1000 ml

UN "Model Regulation":

UN 2790 ACETIC ACID SOLUTION, 8, III

## SECTION 15: Regulatory information

Safety, health and environmental regulations specific for the product in question

## GHS label elements

The product is classified and labelled according to the Globally Harmonised System (GHS).

## Hazard pictograms



GHS05

Signal word *Danger*

## Hazard-determining components of labelling:

*acetic acid*

## Hazard statements

*Causes severe skin burns and eye damage.*

## Precautionary statements

*IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].**IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.**Immediately call a POISON CENTER/doctor.**Specific treatment (see on this label).**Store locked up.**Dispose of contents/container in accordance with local/regional/national/international regulations.*

## Directive 2012/18/EU

Named dangerous substances - ANNEX I *None of the ingredients is listed.*

## National regulations:

Waterhazard class: *Water hazard class 1 (Self-assessment): slightly hazardous for water.*Chemical safety assessment: *A Chemical Safety Assessment has not been carried out.*

## SECTION 16: Other information

*This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.*

Department issuing SDS: PCC-TWR

Contact: [MSDS.pcc@endress.com](mailto:MSDS.pcc@endress.com)

## Abbreviations and acronyms:

*RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)**ICAO: International Civil Aviation Organisation*

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**Trade name: Reagent MN1**

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*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**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)**LC50: Lethal concentration, 50 percent**LD50: Lethal dose, 50 percent**PBT: Persistent, Bioaccumulative and Toxic**vPvB: very Persistent and very Bioaccumulative**Flam. Liq. 3: Flammable liquids – Category 3**Acute Tox. 4: Acute toxicity – Category 4**Skin Corr. 1A: Skin corrosion/irritation – Category 1A**Skin Corr. 1B: Skin corrosion/irritation – Category 1B**Eye Dam. 1: Serious eye damage/eye irritation – Category 1***\* Data compared to the previous version altered.**

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**SECTION 1: Identification of the substance or mixture and of the supplier****Product identifier****Trade name:** Reagent MN2**Synonym:** *for manganese***Article number:** 71259276**Recommended use of the chemical and restrictions on use** *No further relevant information available.***Application of the substance / the mixture** *Laboratory chemicals***Supplier's details****Manufacturer/Supplier:***Endress+Hauser**Conducta GmbH+Co. KG**Dieselstraße 24**D-70839 Gerlingen***Further information obtainable from:***Phone: +49 (0)7156 209-10117**E-Mail: MSDS.PCC@endress.com***Emergency phone number** +27 (0)861 555 777**SECTION 2: Hazard identification****Classification of the substance or mixture***The product is not classified, according to the Globally Harmonised System (GHS).***GHS label elements****GHS label elements** *Void***Hazard pictograms** *Void***Signal word** *Void***Hazard statements** *Void***Other hazards***The product does not contain any organic halogen compounds (AOX), nitrates, heavy metal compounds or formaldehydes.***Results of PBT and vPvB assessment****PBT:** *Not applicable.***vPvB:** *Not applicable.***SECTION 3: Composition or information on ingredients****Mixtures****Description:** *aqueous solution***Dangerous components:** *Void***Additional information:** *For the wording of the listed hazard phrases refer to section 16.***SECTION 4: First-aid measures****Description of necessary first-aid measures****General information:** *No special measures required.***After inhalation:** *Supply fresh air; consult doctor in case of complaints.***After skin contact:** *Generally the product does not irritate the skin.***After eye contact:** *Rinse opened eye for several minutes under running water.***After swallowing:** *If symptoms persist consult doctor.***Most important symptoms or effects, acute and delayed** *No further relevant information available.*

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**Trade name: Reagent MN2**

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**Indication of immediate medical attention and special treatment needed, if necessary***No further relevant information available.***SECTION 5: Fire-fighting measures****Suitable extinguishing media****Suitable extinguishing agents:***CO<sub>2</sub>, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.***For safety reasons unsuitable extinguishing agents:** *no further information***Specific hazards arising from the chemical** *No further relevant information available.***Special protective actions for fire fighters** *No further relevant information available.***Protective equipment:** *No special measures required.***SECTION 6: Accidental release measures****Personal precautions, protective equipment and emergency procedures** *Wear protective clothing.***Environmental precautions:** *Dilute with plenty of water.***Methods and material for containment and cleaning up:***Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).***Reference to other sections***No dangerous substances are released.**See Section 7 for information on safe handling.**See Section 8 for information on personal protection equipment.**See Section 13 for disposal information.***SECTION 7: Handling and storage****Precautions for safe handling** *No special measures required.***Information about fire - and explosion protection:** *No special measures required.***Conditions for safe storage, including any incompatibilities****Storage:****Requirements to be met by storerooms and receptacles:** *No special requirements.***Information about storage in one common storage facility:** *Not required.***Further information about storage conditions:** *None.***Storage class:** 12**Specific end use(s)** *No further relevant information available.***SECTION 8: Exposure controls or personal protection****Control parameters****Ingredients with limit values that require monitoring at the workplace:***The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.***Additional information:** *The lists valid during the making were used as basis.***Exposure controls****Appropriate engineering controls** *No further data; see item 7.***Individual protection measures, such as personal protective equipment (PPE)****General protective and hygienic measures:***The usual precautionary measures are to be adhered to when handling chemicals.***Respiratory protection:** *Not required.***Hand protection** *No chemical-protective gloves required.***Material of gloves***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*

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**Trade name: Reagent MN2**

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*checked prior to the application.***Penetration time of glove material***The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.***Eye or face protection** *Not required.***Body protection:** *Protective work clothing***SECTION 9: Physical and chemical properties****Information on basic physical and chemical properties****General Information****Physical state***Fluid***Colour:***Colourless***Odour:***Odourless***Odour threshold:***Not determined.***Melting point/freezing point:***0 °C***نقطة الغليان أو نقطة الغليان الأولية ونطاق الغليان***100 °C***Flammability***Not applicable.***Upper or lower flammability or explosive limits****Lower:***Not determined.***Upper:***Not determined.***Flash point:***Not applicable.***Decomposition temperature:***Not determined.***pH at 20 °C***4-6***Viscosity:****Viscosity***Not determined.***Dynamic:***Not determined.***Solubility****water:***Fully miscible.***Partition coefficient: n-octanol or water***Not determined.***Vapour pressure at 20 °C:***23 hPa***Vapour density + Relative density****Density at 20 °C:***1.005 g/cm<sup>3</sup>***Relative density***Not determined.***Vapour density***Not determined.***Other information****Appearance:****Form:***Fluid***Important information on protection of health and environment, and on safety.****Auto-ignition temperature:***Product is not selfigniting.***Explosive properties:***Product does not present an explosion hazard.  
Not determined.***Solvent content:****Water:***99.8 %***Solids content:***0.0 %***Change in condition****Evaporation rate***Not determined.***Information with regard to physical hazard classes****Explosives***Void***Flammable gases***Void***Aerosols***Void***Oxidising gases***Void***Gases under pressure***Void***Flammable liquids***Void*

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## Trade name: Reagent MN2

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Flammable solids	Void
Self-reactive substances and mixtures	Void
Pyrophoric liquids	Void
Pyrophoric solids	Void
Self-heating substances and mixtures	Void
Substances and mixtures, which emit flammable gases in contact with water	Void
Oxidising liquids	Void
Oxidising solids	Void
Organic peroxides	Void
Corrosive to metals	Void
Desensitised explosives	Void

## SECTION 10: Stability and reactivity

**Reactivity** No further relevant information available.**Chemical stability****Thermal decomposition / conditions to be avoided:**

No decomposition if used according to specifications.

**Possibility of hazardous reactions** No dangerous reactions known.**Conditions to avoid** No further relevant information available.**Incompatible materials:** No further relevant information available.**Hazardous decomposition products:** No dangerous decomposition products known.

## SECTION 11: Toxicological information

Information on other hazards

**endocrine disrupting potential**

None of the ingredients is listed.

## SECTION 12: Ecological information

**Toxicity****Aquatic toxicity:** No further relevant information available.**Persistence and degradability** No further relevant information available.**Bioaccumulative potential** No further relevant information available.**Mobility in soil** No further relevant information available.**Results of PBT and vPvB assessment****PBT:** Not applicable.**vPvB:** Not applicable.**Endocrine disrupting properties**

The product does not contain substances with endocrine disrupting properties.

**Other adverse effects****Additional ecological information:****General notes:** Not hazardous for water.

## SECTION 13: Disposal considerations

**Waste treatment methods****Recommendation** Smaller quantities can be disposed of with household waste.**Uncleaned packaging:****Recommendation:** Disposal must be made according to official regulations.**Recommended cleansing agents:** Water, if necessary together with cleansing agents.

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Trade name: Reagent MN2

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**SECTION 14: Transport information**

UN number	
ADN, IMDG, IATA	Void
UN proper shipping name	
ADR, ADN, IMDG, IATA	Void
Transport hazard class(es)	
ADR, ADN, IMDG, IATA	
Class	Void
Packing group	
ADR, IMDG, IATA	Void
Environmental hazards:	
Marine pollutant:	No
Special precautions for user	Not applicable.
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not applicable.
Transport/Additional information:	Not dangerous according to the above specifications.
UN "Model Regulation":	Void

**SECTION 15: Regulatory information****Safety, health and environmental regulations specific for the product in question**

GHS label elements Void

Hazard pictograms Void

Signal word Void

Hazard statements Void

**Directive 2012/18/EU****Named dangerous substances - ANNEX I** None of the ingredients is listed.**Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.**SECTION 16: Other information**

*This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.*

**Department issuing SDS:** PCC-TWR**Contact:** MSDS.pcc@endress.com**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

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)

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

**\* Data compared to the previous version altered.**

## SECTION 1: Identification of the substance or mixture and of the supplier

### Product identifier

**Trade name:** Reagent MN3

**Synonym:** *for manganese*

**Article number:** 51508298

**Recommended use of the chemical and restrictions on use** *No further relevant information available.*

**Application of the substance / the mixture** *Laboratory chemicals*

### Supplier's details

#### Manufacturer/Supplier:

*Endress+Hauser*

*Conducta GmbH+Co. KG*

*Dieselstraße 24*

*D-70839 Gerlingen*

#### Further information obtainable from:

*Phone: +49 (0)7156 209-10117*

*E-Mail: MSDS.PCC@endress.com*

**Emergency phone number** +27 (0)861 555 777

## SECTION 2: Hazard identification

### Classification of the substance or mixture

*The product is not classified, according to the Globally Harmonised System (GHS).*

#### GHS label elements

**GHS label elements** *Void*

**Hazard pictograms** *Void*

**Signal word** *Void*

**Hazard statements** *Void*

#### Other hazards

*The product does not contain any organic halogen compounds (AOX), nitrates, heavy metal compounds or formaldehydes.*

#### Results of PBT and vPvB assessment

**PBT:** *Not applicable.*

**vPvB:** *Not applicable.*

## SECTION 3: Composition or information on ingredients

### Mixtures

**Description:** *aqueous solution*

**Dangerous components:** *Void*

**Additional information:** *For the wording of the listed hazard phrases refer to section 16.*

## SECTION 4: First-aid measures

### Description of necessary first-aid measures

**General information:** *No special measures required.*

**After inhalation:** *Supply fresh air; consult doctor in case of complaints.*

**After skin contact:** *Generally the product does not irritate the skin.*

**After eye contact:** *Rinse opened eye for several minutes under running water.*

**After swallowing:** *If symptoms persist consult doctor.*

**Most important symptoms or effects, acute and delayed** *No further relevant information available.*

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**Trade name: Reagent MN3**

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**Indication of immediate medical attention and special treatment needed, if necessary***No further relevant information available.***SECTION 5: Fire-fighting measures****Suitable extinguishing media****Suitable extinguishing agents:***CO<sub>2</sub>, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.***For safety reasons unsuitable extinguishing agents:** *no further information***Specific hazards arising from the chemical** *No further relevant information available.***Special protective actions for fire fighters** *No further relevant information available.***Protective equipment:** *No special measures required.***SECTION 6: Accidental release measures****Personal precautions, protective equipment and emergency procedures** *Wear protective clothing.***Environmental precautions:** *Dilute with plenty of water.***Methods and material for containment and cleaning up:***Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).***Reference to other sections***No dangerous substances are released.**See Section 7 for information on safe handling.**See Section 8 for information on personal protection equipment.**See Section 13 for disposal information.***SECTION 7: Handling and storage****Precautions for safe handling** *No special measures required.***Information about fire - and explosion protection:** *No special measures required.***Conditions for safe storage, including any incompatibilities****Storage:****Requirements to be met by storerooms and receptacles:** *No special requirements.***Information about storage in one common storage facility:** *Not required.***Further information about storage conditions:** *None.***Storage class:** 12**Specific end use(s)** *No further relevant information available.***SECTION 8: Exposure controls or personal protection****Control parameters****Ingredients with limit values that require monitoring at the workplace:***The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.***Additional information:** *The lists valid during the making were used as basis.***Exposure controls****Appropriate engineering controls** *No further data; see item 7.***Individual protection measures, such as personal protective equipment (PPE)****General protective and hygienic measures:***The usual precautionary measures are to be adhered to when handling chemicals.***Respiratory protection:** *Not required.***Hand protection** *No chemical-protective gloves required.***Material of gloves***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*

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**Trade name: Reagent MN3**

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*checked prior to the application.***Penetration time of glove material***The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.***Eye or face protection** *Not required.***Body protection:** *Protective work clothing***SECTION 9: Physical and chemical properties****Information on basic physical and chemical properties****General Information****Physical state***Fluid***Colour:***Colourless***Odour:***Odourless***Odour threshold:***Not determined.***Melting point/freezing point:***0 °C***نقطة الغليان أو نقطة الغليان الأولية ونطاق الغليان***100 °C***Flammability***Not applicable.***Upper or lower flammability or explosive limits****Lower:***Not determined.***Upper:***Not determined.***Flash point:***Not applicable.***Decomposition temperature:***Not determined.***pH at 20 °C***<2***Viscosity:****Viscosity***Not determined.***Dynamic:***Not determined.***Solubility****water:***Fully miscible.***Partition coefficient: n-octanol or water***Not determined.***Vapour pressure at 20 °C:***23 hPa***Vapour density + Relative density****Density at 20 °C:***1 g/cm<sup>3</sup>***Relative density***Not determined.***Vapour density***Not determined.***Other information****Appearance:****Form:***Fluid***Important information on protection of health and environment, and on safety.****Auto-ignition temperature:***Product is not selfigniting.***Explosive properties:***Product does not present an explosion hazard.  
Not determined.***Solvent content:****Water:***99.7 %***Solids content:***0.0 %***Change in condition****Evaporation rate***Not determined.***Information with regard to physical hazard classes****Explosives***Void***Flammable gases***Void***Aerosols***Void***Oxidising gases***Void***Gases under pressure***Void***Flammable liquids***Void*

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Flammable solids	Void
Self-reactive substances and mixtures	Void
Pyrophoric liquids	Void
Pyrophoric solids	Void
Self-heating substances and mixtures	Void
Substances and mixtures, which emit flammable gases in contact with water	Void
Oxidising liquids	Void
Oxidising solids	Void
Organic peroxides	Void
Corrosive to metals	Void
Desensitised explosives	Void

**SECTION 10: Stability and reactivity****Reactivity** No further relevant information available.**Chemical stability****Thermal decomposition / conditions to be avoided:**

No decomposition if used according to specifications.

**Possibility of hazardous reactions** No dangerous reactions known.**Conditions to avoid** No further relevant information available.**Incompatible materials:** No further relevant information available.**Hazardous decomposition products:** No dangerous decomposition products known.**SECTION 11: Toxicological information****Information on other hazards****endocrine disrupting potential**

None of the ingredients is listed.

**\* SECTION 12: Ecological information****Toxicity****Aquatic toxicity:** No further relevant information available.**Persistence and degradability** No further relevant information available.**Bioaccumulative potential** No further relevant information available.**Mobility in soil** No further relevant information available.**Results of PBT and vPvB assessment****PBT:** Not applicable.**vPvB:** Not applicable.**Endocrine disrupting properties**

The product does not contain substances with endocrine disrupting properties.

**Other adverse effects****Additional ecological information:****General notes:**

Not hazardous for water.

Rinse off of bigger amounts into drains or the aquatic environment may lead to decreased pH-values. A low pH-value harms aquatic organisms. In the dilution of the use-level the pH-value is considerably increased, so that after the use of the product the aqueous waste, emptied into drains, is only low water-dangerous.

**SECTION 13: Disposal considerations****Waste treatment methods****Recommendation** Smaller quantities can be disposed of with household waste.**Uncleaned packaging:****Recommendation:** Disposal must be made according to official regulations.

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Recommended cleansing agents: Water, if necessary together with cleansing agents.

**SECTION 14: Transport information**

UN number

ADN, IMDG, IATA

Void

UN proper shipping name

ADR, ADN, IMDG, IATA

Void

Transport hazard class(es)

ADR, ADN, IMDG, IATA

Class

Void

Packing group

ADR, IMDG, IATA

Void

Environmental hazards:

Marine pollutant:

No

Special precautions for user

Not applicable.

Transport in bulk according to Annex II of

MARPOL 73/78 and the IBC Code

Not applicable.

Transport/Additional information:

Not dangerous according to the above specifications.

UN "Model Regulation":

Void

**SECTION 15: Regulatory information**

Safety, health and environmental regulations specific for the product in question

GHS label elements Void

Hazard pictograms Void

Signal word Void

Hazard statements Void

Directive 2012/18/EU

Named dangerous substances - ANNEX I None of the ingredients is listed.

Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

**SECTION 16: Other information**

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Department issuing SDS: PCC-TWR

Contact: MSDS.pcc@endress.com

**Abbreviations and acronyms:**

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

ICAO: International Civil Aviation Organisation

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

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)

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

\* Data compared to the previous version altered.