

18.03.2022

Kit Components

Product code	Description
CAY843-VxxAAH	CA7xMN Reagent Set for manganese

Components:

51508295	Reagent MN1 for manganese
71256695	Reagent MN2, Component 1 for manganese
51509509	Reagent MN2, Component 2 for manganese
51508298	Reagent MN3 for manganese

SECTION 1: Identification

Product identifier

Trade name: Reagent MN1

Synonym: *for manganese*

Article number: 51508295

Relevant identified uses of the substance or mixture and uses advised against

No further relevant information available.

Application of the substance / the mixture *Laboratory chemicals*

Details of the supplier of the safety data sheet

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*

*Regional representation:
Endress+Hauser Australia Pty Ltd
16 Giffnock Avenue
Macquarie Park, NSW 2113
Australia*

*Phone: 1300 363 707
Phone: +61 2 8877 7000*

Emergency telephone number: *Poison Hotline: 13 11 26*

SECTION 2: Hazard(s) 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.

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.*

(Contd. on page 2)

Trade name: Reagent MN1

(Contd. of page 1)

*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.***vPvB:** *Not applicable.***SECTION 3: Composition and Information on Ingredients****Mixtures****Description:** *Mixture of substances listed below with nonhazardous additions.***Dangerous components:**

CAS: 64-19-7	acetic acid	20-40%
EINECS: 200-580-7	 Flam. Liq. 3, H226;  Skin Corr. 1A, H314;  Acute Tox. 4, H312	

Additional information: *For the wording of the listed hazard phrases refer to section 16.***SECTION 4: First Aid Measures****Description of 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 and effects, both acute and delayed***No further relevant information available.***Indication of any immediate medical attention and special treatment needed***No further relevant information available.***SECTION 5: Fire Fighting Measures****Extinguishing media****Suitable extinguishing agents:***CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.***For safety reasons unsuitable extinguishing agents:** *no further information***Special hazards arising from the substance or mixture***During heating or in case of fire poisonous gases are produced.***Advice for firefighters** *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.*

(Contd. on page 3)

Trade name: Reagent MN1

(Contd. of page 2)

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.

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 and personal protection

Control parameters

Ingredients with limit values that require monitoring at the workplace:

CAS: 64-19-7 acetic acid

WES (Australia) Short-term value: 37 mg/m³, 15 ppm

Long-term value: 25 mg/m³, 10 ppm

IOELV (EU) Short-term value: 50 mg/m³, 20 ppm

Long-term value: 25 mg/m³, 10 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

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.

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Trade name: Reagent MN1

(Contd. of page 3)

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.

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.

Eyeface 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.

Boiling point or initial boiling point and boiling range

100 °C

Flammability

Not applicable.

Lower and upper explosion limit

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:

Kinematic viscosity

Not determined.

Dynamic:

Not determined.

Solubility

water:

Fully miscible.

Partition coefficient n-octanol/water (log value) *Not determined.*

Vapour pressure at 20 °C:

23 hPa

Density and/or relative density

Density at 20 °C:

1.014 g/cm³

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.

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Trade name: Reagent MN1

(Contd. of page 4)

Explosive properties:	<i>Product does not present an explosion hazard. Not determined.</i>
Solvent content:	
Organic solvents:	40.0 %
Water:	55.0 %
Solids content:	0.0 %
Change in condition	
Evaporation rate	<i>Not determined.</i>

Information with regard to physical hazard classes

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

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/irritation *Causes severe skin burns and eye damage.***Serious eye damage/irritation** *Causes serious eye damage.***Information on other hazards****Endocrine disrupting properties***None of the ingredients is listed.*

(Contd. on page 6)

Trade name: Reagent MN1

(Contd. of page 5)

SECTION 12: Ecological Information**Toxicity****Aquatic toxicity:****CAS: 64-19-7 acetic acid**EC50[48h] 36.9 mg/l (*Daphnia Magna*)EC50[72h] >1,000 mg/l (*Algae*)**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:**

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 or ID number****IMDG, IATA**

UN2790

UN proper shipping name**ADG**

UN2790 ACETIC ACID SOLUTION

IMDG

ACETIC ACID SOLUTION

IATA

Acetic acid solution

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

8 (C3) Corrosive substances.

Label

8

IMDG, IATA**Class**

8 Corrosive substances.

(Contd. on page 7)

Trade name: Reagent MN1

(Contd. of page 6)

Label	8
Packing group	
ADG, 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
Maritime transport in bulk according to IMO instruments	Not applicable.

Transport/Additional information:

ADG	
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/legislation specific for the substance or mixture

Australian Inventory of Industrial Chemicals

All ingredients are listed.

Standard for the Uniform Scheduling of Medicines and Poisons

CAS: 64-19-7 | acetic acid

S2, S5, S6

Australia: Priority Existing Chemicals

None of the ingredients is listed.

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.

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Trade name: Reagent MN1

(Contd. of page 7)

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*

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)

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.**

SECTION 1: Identification

Product identifier

Trade name: Reagent MN2, Component 1

Synonym: *for manganese*

Article number: 71256695

CAS Number:

7732-18-5

EC number:

231-791-2

Relevant identified uses of the substance or mixture and uses advised against

No further relevant information available.

Application of the substance / the mixture *Laboratory chemicals*

Details of the supplier of the safety data sheet

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

Regional representation:

Endress+Hauser Australia Pty Ltd

16 Giffnock Avenue

Macquarie Park, NSW 2113

Australia

Phone: 1300 363 707

Phone: +61 2 8877 7000

Emergency telephone number: *Poison Hotline: 13 11 26*

SECTION 2: Hazard(s) Identification

Classification of the substance or mixture

The substance is not classified, according to the Globally Harmonised System (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 and Information on Ingredients

Substances

CAS No. Description

CAS: 7732-18-5 water

(Contd. on page 2)

AUS

Trade name: Reagent MN2, Component 1

(Contd. of page 1)

Identification number(s)**EC number:** 231-791-2

SECTION 4: First Aid Measures

Description of 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 and effects, both acute and delayed***No further relevant information available.***Indication of any immediate medical attention and special treatment needed***No further relevant information available.*

SECTION 5: Fire Fighting Measures

Extinguishing media**Suitable extinguishing agents:***CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.***For safety reasons unsuitable extinguishing agents:** *no further information***Special hazards arising from the substance or mixture** *No further relevant information available.***Advice for firefighters** *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.*

(Contd. on page 3)

Trade name: Reagent MN2, Component 1

(Contd. of page 2)

SECTION 8: Exposure controls and personal protection**Control parameters****Ingredients with limit values that require monitoring at the workplace:** *Not required.***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****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.***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.***Eyeface 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***Boiling point or initial boiling point and boiling range***100 °C***Flammability***Not applicable.***Lower and upper explosion limit****Lower:***Not determined.***Upper:***Not determined.***Flash point:***Not applicable.***Decomposition temperature:***Not determined.***pH***Neutral***Viscosity:****Kinematic viscosity***Not determined.***Dynamic at 20 °C:***0.952 mPas***Solubility****water:***Fully miscible.***Partition coefficient n-octanol/water (log value)***Not determined.***Vapour pressure at 20 °C:***23 hPa***Density and/or relative density****Density at 20 °C:***1 g/cm³***Relative density***Not determined.***Vapour density***Not determined.*

(Contd. on page 4)

Trade name: Reagent MN2, Component 1

(Contd. of page 3)

Other information**Appearance:****Form:** Fluid**Important information on protection of health and environment, and on safety.****Auto-ignition temperature:** Not determined.**Explosive properties:** Product does not present an explosion hazard.

Not determined.

Water: 100.0 %**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**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 properties**

Substance is not 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.

(Contd. on page 5)

Trade name: Reagent MN2, Component 1

(Contd. of page 4)

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***Small amounts may be diluted with plenty of water and washed away. Dispose of bigger amounts in accordance with Local Authority requirements.**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.***SECTION 14: Transport information****UN number or ID number****ADN, IMDG, IATA***Void***UN proper shipping name****ADG, ADN, IMDG, IATA***Void***Transport hazard class(es)****ADG, ADN, IMDG, IATA****Class***Void***Packing group****ADG, IMDG, IATA***Void***Environmental hazards:****Marine pollutant:***No***Special precautions for user***Not applicable.***Maritime transport in bulk according to IMO instruments***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/legislation specific for the substance or mixture****Australian Inventory of Industrial Chemicals***Substance is listed.***Standard for the Uniform Scheduling of Medicines and Poisons***Substance is not listed.***Australia: Priority Existing Chemicals***Substance is not listed.***GHS label elements** *Void***Hazard pictograms** *Void***Signal word** *Void***Hazard statements** *Void*

(Contd. on page 6)

Trade name: Reagent MN2, Component 1

(Contd. of page 5)

Directive 2012/18/EU**Named dangerous substances - ANNEX I** *Substance is not 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)

IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)

ICAO: International Civil Aviation Organisation

ICAO-TI: Technical Instructions by the "International Civil Aviation Organisation" (ICAO)

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

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

Product identifier

Trade name: Reagent MN2, Component 2

Synonym: *for manganese*

Article number: 51509509

CAS Number:

7790-21-8

EC number:

232-196-0

Relevant identified uses of the substance or mixture and uses advised against

No further relevant information available.

Application of the substance / the mixture *Laboratory chemicals*

Details of the supplier of the safety data sheet

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

Regional representation:

Endress+Hauser Australia Pty Ltd

16 Giffnock Avenue

Macquarie Park, NSW 2113

Australia

Phone: 1300 363 707

Phone: +61 2 8877 7000

Emergency telephone number: *Poison Hotline: 13 11 26*

* SECTION 2: Hazard(s) Identification

Classification of the substance or mixture



flame over circle

Ox. Sol. 2

H272 May intensify fire; oxidizer.



Skin Irrit. 2 H315 Causes skin irritation.

Eye Irritation 2A H319 Causes serious eye irritation.

STOT SE 3 H335 May cause respiratory irritation.

Label elements

GHS label elements

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

(Contd. on page 2)

Trade name: Reagent MN2, Component 2

(Contd. of page 1)

Hazard pictograms

GHS03 GHS07

Signal word *Danger***Hazard statements***May intensify fire; oxidizer.**Causes skin irritation.**Causes serious eye irritation.**May cause respiratory irritation.***Precautionary statements***Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.**Keep away from clothing and other combustible materials.**IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.**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.***vPvB:** *Not applicable.***SECTION 3: Composition and Information on Ingredients****Substances****CAS No. Description***CAS: 7790-21-8 Potassium periodate***Identification number(s)***EC number: 232-196-0***SECTION 4: First Aid Measures****Description of 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. If symptoms persist, consult a doctor.***After swallowing:** *If symptoms persist consult doctor.***Most important symptoms and effects, both acute and delayed***No further relevant information available.***Indication of any immediate medical attention and special treatment needed***No further relevant information available.*

(Contd. on page 3)

— AUS —

Trade name: Reagent MN2, Component 2

(Contd. of page 2)

SECTION 5: Fire Fighting Measures

Extinguishing media**Suitable extinguishing agents:***CO2, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.***For safety reasons unsuitable extinguishing agents:** *no further information***Special hazards arising from the substance or mixture** *No further relevant information available.***Advice for firefighters** *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:** *Do not allow to enter sewers/ surface or ground water.***Methods and material for containment and cleaning up:***Dispose contaminated material as waste according to item 13.**Ensure adequate ventilation.***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*Keep away from heat and direct sunlight.**Ensure good ventilation/exhaustion at the workplace.***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:** *Keep container tightly sealed.***Storage class:** *5.1 B***Specific end use(s)** *No further relevant information available.*

SECTION 8: Exposure controls and personal protection

Control parameters**Ingredients with limit values that require monitoring at the workplace:** *Not required.***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****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 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.*

(Contd. on page 4)

Trade name: Reagent MN2, Component 2

(Contd. of page 3)

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

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.

Nitrile rubber, NBR

Natural rubber, NR

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.

Eyeface 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

Solid

Colour:

White

Odour:

Characteristic

Odour threshold:

Not determined.

Melting point/freezing point:

582 °C

Boiling point or initial boiling point and boiling range

Undetermined.

Flammability

Product is not flammable.

Lower and upper explosion limit

Lower:

Not determined.

Upper:

Not determined.

Flash point:

Not applicable.

Decomposition temperature:

Not determined.

pH

4.5-5.5

Viscosity:

Kinematic viscosity

Not applicable.

Dynamic:

Not applicable.

Solubility

water at 25 °C:

5.1 g/l

Partition coefficient n-octanol/water (log value) *Not determined.*

Vapour pressure:

Not applicable.

Density and/or relative density

Density at 20 °C:

3.618 g/cm³

Relative density

Not determined.

Bulk density:

1,650 kg/m³

Vapour density

Not applicable.

(Contd. on page 5)

Trade name: Reagent MN2, Component 2

(Contd. of page 4)

Other information**Appearance:****Form:***Crystalline powder***Important information on protection of health and environment, and on safety.****Auto-ignition temperature:***Not determined.***Explosive properties:***Product does not present an explosion hazard.**Not determined.***Solids content:***100.0 %***Change in condition****Evaporation rate***Not applicable.***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***May intensify fire; oxidizer.***Organic peroxides***Void***Corrosive to metals***Void***Desensitised explosives***Void***SECTION 10: Stability and Reactivity****Reactivity** *No further relevant information available.***Chemical stability***The material is under normal environmental conditions and under conditions of storage and handling stable at expected temperature and pressure conditions.***Thermal decomposition / conditions to be avoided:***No decomposition if used according to specifications.***Possibility of hazardous reactions***Reacts with powdered metals.**Reacts with organic substances.**Reacts with reducing agents.***Conditions to avoid** *avoid extreme temperatures***Incompatible materials:***reducing agent**Organic Substances***Hazardous decomposition products:** *No dangerous decomposition products known.***SECTION 11: Toxicological Information****Information on hazard classes as defined in Regulation (EC) No 1272/2008****Skin corrosion/irritation** *Causes skin irritation.***Serious eye damage/irritation** *Causes serious eye irritation.***STOT-single exposure** *May cause respiratory irritation.*

(Contd. on page 6)

Trade name: Reagent MN2, Component 2

(Contd. of page 5)

Information on other hazards

Endocrine disrupting properties

Substance is not 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:

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.

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 or ID number

IMDG, IATA

UN1479

UN proper shipping name

ADG

UN1479 OXIDIZING SOLID, N.O.S. (Potassium periodate)

IMDG

OXIDIZING SOLID, N.O.S. (Potassium periodate)

IATA

Oxidizing solid, n.o.s. (containing Potassium periodate)

Transport hazard class(es)

ADG



Class

5.1 (O2) Oxidising substances.

Label

5.1

IMDG, IATA



Class

5.1 Oxidising substances.

Label

5.1

(Contd. on page 7)

Trade name: Reagent MN2, Component 2

(Contd. of page 6)

Packing group	II
ADG, IMDG, IATA	II
Environmental hazards:	Not applicable.
Special precautions for user	Warning: Oxidising substances.
Hazard identification number (Kemler code):	50
EMS Number:	F-A,S-Q
Stowage Category	B
Segregation Code	SG38 Stow "separated from" SGG2-ammonium compounds. SG49 Stow "separated from" SGG6-cyanides SG60 Stow "separated from" SGG16-peroxides SG61 Stow "separated from" SGG15-powdered metals
Maritime transport in bulk according to IMO instruments	Not applicable.
Transport/Additional information:	

ADG	
Limited quantities (LQ)	1 kg
Transport category	2
Tunnel restriction code	E

IMDG	
Limited quantities (LQ)	1 kg
Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 g Maximum net quantity per outer packaging: 500 g
UN "Model Regulation":	UN 1479 OXIDIZING SOLID, N.O.S. (POTASSIUM PERIODATE), 5.1, II

* SECTION 15: Regulatory information

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

Australian Inventory of Industrial Chemicals

Substance is listed.

Standard for the Uniform Scheduling of Medicines and Poisons

Substance is not listed.

Australia: Priority Existing Chemicals

Substance is not listed.

GHS label elements

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

Hazard pictograms



GHS03 GHS07

Signal word *Danger*

Hazard statements

May intensify fire; oxidizer.

Causes skin irritation.

Causes serious eye irritation.

May cause respiratory irritation.

Precautionary statements

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Keep away from clothing and other combustible materials.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

(Contd. on page 8)

Trade name: Reagent MN2, Component 2

(Contd. of page 7)

Store locked up.

Dispose of contents/container in accordance with local/regional/national/international regulations.

Directive 2012/18/EU

Named dangerous substances - ANNEX I *Substance is not listed.*

Seveso category P8 *OXIDISING LIQUIDS AND SOLIDS*

Qualifying quantity (tonnes) for the application of lower-tier requirements *50 t*

Qualifying quantity (tonnes) for the application of upper-tier requirements *200 t*

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*

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

CAS: Chemical Abstracts Service (division of the American Chemical Society)

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Ox. Sol. 2: Oxidizing solids – Category 2

Skin Irrit. 2: Skin corrosion/irritation – Category 2

Eye Irritation 2A: Serious eye damage/eye irritation – Category 2A

STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

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

SECTION 1: Identification

Product identifier

Trade name: Reagent MN3

Synonym: *for manganese*

Article number: 51508298

Relevant identified uses of the substance or mixture and uses advised against

No further relevant information available.

Application of the substance / the mixture *Laboratory chemicals*

Details of the supplier of the safety data sheet

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*

*Regional representation:
Endress+Hauser Australia Pty Ltd
16 Giffnock Avenue
Macquarie Park, NSW 2113
Australia*

*Phone: 1300 363 707
Phone: +61 2 8877 7000*

Emergency telephone number: *Poison Hotline: 13 11 26*

SECTION 2: Hazard(s) Identification

Classification of the substance or mixture

The product is not classified, according to the Globally Harmonised System (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 and Information on Ingredients

Mixtures

Description: *aqueous solution*

Dangerous components: *Void*

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

(Contd. on page 2)

AUS

Trade name: Reagent MN3

(Contd. of page 1)

SECTION 4: First Aid Measures**Description of 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 and effects, both acute and delayed***No further relevant information available.***Indication of any immediate medical attention and special treatment needed***No further relevant information available.**** SECTION 5: Fire Fighting Measures****Extinguishing media****Suitable extinguishing agents:***CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.***For safety reasons unsuitable extinguishing agents:** *no further information***Special hazards arising from the substance or mixture** *No further relevant information available.***Advice for firefighters** *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 and 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.*

(Contd. on page 3)

Trade name: Reagent MN3

(Contd. of page 2)

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****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 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/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***Boiling point or initial boiling point and boiling range***100 °C***Flammability***Not applicable.***Lower and upper explosion limit****Lower:***Not determined.***Upper:***Not determined.***Flash point:***Not applicable.***Decomposition temperature:***Not determined.***pH at 20 °C***<2***Viscosity:****Kinematic viscosity***Not determined.***Dynamic:***Not determined.***Solubility****water:***Fully miscible.***Partition coefficient n-octanol/water (log value)** *Not determined.***Vapour pressure at 20 °C:***23 hPa***Density and/or relative density****Density at 20 °C:***1 g/cm³***Relative density***Not determined.***Vapour density***Not determined.***Other information****Appearance:****Form:***Fluid*

(Contd. on page 4)

Trade name: Reagent MN3

(Contd. of page 3)

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***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 properties***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.*

(Contd. on page 5)

Trade name: Reagent MN3

(Contd. of page 4)

Results of PBT and vPvB assessmentPBT: *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.***Recommended cleansing agents:** *Water, if necessary together with cleansing agents.**** SECTION 14: Transport information****UN number or ID number**

ADN, IMDG, IATA

Void

UN proper shipping name

ADG, ADN, IMDG, IATA

Void

Transport hazard class(es)

ADG, ADN, IMDG, IATA

Class

Void

Packing group

ADG, IMDG, IATA

Void

Environmental hazards:**Marine pollutant:**

No

Special precautions for user*Not applicable.***Maritime transport in bulk according to IMO instruments***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/legislation specific for the substance or mixture****Australian Inventory of Industrial Chemicals***All ingredients are listed.***Standard for the Uniform Scheduling of Medicines and Poisons**CAS: 7647-01-0 | *hydrochloric acid*

S5, S6

Australia: Priority Existing Chemicals*None of the ingredients is listed.***GHS label elements** *Void***Hazard pictograms** *Void***Signal word** *Void***Hazard statements** *Void*

(Contd. on page 6)

Trade name: Reagent MN3

(Contd. of page 5)

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:**

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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.**

— AUS —