

17.07.2023

Kit Components

Product code	Description
CAY640-VxxAAH	CA70SI Reagent Set for silicate

Components:

51508826	Reagent SI1 for silicate
51508827	Reagent SI2 for silicate
51509864_1	Reagent SI3, Component 1 for silicate
51509864_2	Reagent SI3, Component 2 for silicate

SECTION 1: Identification of the substance or mixture and of the supplier**Product identifier****Trade name:** Reagent SI1**Synonym:** *for silicate***Article number:** 51508826**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**Eye Dam. 1 H318 Causes serious eye damage.**Skin Irrit. 2 H315 Causes skin irritation.***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:***Sodium hydrogensulfate monohydrate**sulphuric acid***Hazard statements***Causes skin irritation.**Causes serious eye damage.***Precautionary statements***Wear eye protection / face protection.**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).**Take off contaminated clothing and wash it before reuse.*

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— ZA —

Trade name: Reagent SI1

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Additional information:

Product contains: Reportable explosives precursors. Making available, introduction, possession and use according to Regulation (EU) 2019/1148, Article 9.

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: Mixture of substances listed below with nonhazardous additions.

Dangerous components:		
CAS: 10034-88-5 EINECS: 231-665-7	Sodium hydrogensulfate monohydrate Eye Dam. 1, H318	5-10%
CAS: 7664-93-9 EINECS: 231-639-5	sulphuric acid Skin Corr. 1A, H314 Specific concentration limits: Skin Corr. 1A; H314: $C \geq 15\%$ Skin Irrit. 2; H315: $5\% \leq C < 15\%$ Eye Irrit. 2; H319: $5\% \leq C < 15\%$	2-6%
CAS: 7782-91-4 EINECS: 231-970-5	molybdic acid STOT RE 2, H373; Eye Irrit. 2, H319; STOT SE 3, H335	2-6%

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: If symptoms persist consult doctor.

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:**

CO₂, 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 equipment. Keep unprotected persons away.

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Trade name: Reagent SI1

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*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 section 13.***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** *No special precautions are necessary if used correctly.***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:** 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: 7664-93-9 sulphuric acid**OEL Long-term value: 0.4* mg/m³
*T, CARC**CAS: 7782-91-4 molybdic acid**OEL Long-term value: 1 mg/m³
as Mo; respirable fraction**DNELs****CAS: 7664-93-9 sulphuric acid**Inhalative DNEL short-term 0.1 mg/m³ (worker) (local effects)DNEL long-term 0.05 mg/m³ (worker) (local effects)**PNECs****CAS: 7664-93-9 sulphuric acid**

PNEC 8.8 mg/L (Wastewater treatment plant)

0.25 mg/L (sea water)

PNEC 2.5 µg/L (fresh water)

PNEC 2 µg/kg (marine sediment)

2 µg/kg (freshwater sediment)

Additional information: *The lists valid during the making were used as basis.***Exposure controls****Appropriate engineering controls** *No further data; see section 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*

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Trade name: Reagent SI1

(Contd. of page 3)

*Wash hands before breaks and at the end of work.**Avoid contact with the skin.**Avoid contact with the eyes and skin.***Respiratory protection:** *Not required.***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.***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:***Characteristic***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:***Not determined.***Upper:***Not determined.***Flash point:***Not applicable.***Decomposition temperature:***Not determined.***pH***Acidic***Viscosity:****Viscosity***Not determined.***Viscosity****Dynamic:***Not determined.***Solubility****water:***Fully miscible.***Partition coefficient: n-octanol or water***Not determined.***Vapour pressure at 20 °C:***23 hPa*

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Trade name: Reagent SI1

(Contd. of page 4)

Vapour pressure:**Vapour density + Relative density****Density:***Not determined.***Relative density***Not determined.***Vapour density***Not determined.***Other information****Appearance:****Form:***Fluid***Important information on protection of health and environment, and on safety.****Ignition temperature:***Product is not selfigniting.***Explosive properties:***Product does not present an explosion hazard.**Not determined.***Solvent content:****Water:***>80.0 %***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 hazard classes as defined in Regulation (EC) No 1272/2008****Acute toxicity** *Based on available data, the classification criteria are not met.*

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Trade name: Reagent SI1

(Contd. of page 5)

LD/LC50 values relevant for classification:

CAS: 7782-91-4 molybdic acid

Oral LD50 2,689 mg/kg (rat)

Skin corrosion or irritation Causes skin irritation.

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: 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.

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

UN2796

UN proper shipping name

ADR

UN2796 SULPHURIC ACID

IMDG

SULPHURIC ACID

IATA

Sulphuric acid

Transport hazard class(es)

ADR



Class

8 (C1) Corrosive substances.

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Trade name: Reagent SI1

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Label

8

IMDG, IATA



Class

8 Corrosive substances.

Label

8

Packing group

ADR, IMDG, IATA

II

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

(SGG1a) Strong acids

Stowage Category

B

Segregation Code

SG36 Stow "separated from" SGG18-alkalis.
SG49 Stow "separated from" SGG6-cyanides

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

Not applicable.

Transport/Additional information:

ADR

Limited quantities (LQ)

1L

Transport category

2

Tunnel restriction code

E

IMDG

Limited quantities (LQ)

1L

Excepted quantities (EQ)

Code: E2

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 500 ml

UN "Model Regulation":

UN 2796 SULPHURIC ACID, 8, II

* 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:

Sodium hydrogensulfate monohydrate
sulphuric acid

Hazard statements

Causes skin irritation.

Causes serious eye damage.

Precautionary statements

Wear eye protection / face protection.

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.

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Trade name: Reagent SI1

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*Specific treatment (see on this label).**Take off contaminated clothing and wash it before reuse.***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:***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)**DNEL: Derived No-Effect Level (REACH)**PNEC: Predicted No-Effect Concentration (REACH)**LC50: Lethal concentration, 50 percent**LD50: Lethal dose, 50 percent**PBT: Persistent, Bioaccumulative and Toxic**vPvB: very Persistent and very Bioaccumulative**Skin Corr. 1A: Skin corrosion/irritation – Category 1A**Skin Irrit. 2: Skin corrosion/irritation – Category 2**Eye Dam. 1: Serious eye damage/eye irritation – Category 1**Eye Irrit. 2: Serious eye damage/eye irritation – Category 2**STOT SE 3: Specific target organ toxicity (single exposure) – Category 3**STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2**** Data compared to the previous version altered.**

— ZA —

SECTION 1: Identification of the substance or mixture and of the supplier**Product identifier****Trade name:** Reagent SI2**Synonym:** *for silicate***Article number:** 51508827**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***Eye Irrit. 2 H319 Causes serious eye irritation.***GHS label elements****GHS label elements***The product is classified and labelled according to the Globally Harmonised System (GHS).***Hazard pictograms**

GHS07

Signal word *Warning***Hazard statements***Causes serious eye irritation.***Precautionary statements***Wash thoroughly after handling.**Wear eye protection / face protection.**IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.**If eye irritation persists: Get medical advice/attention.***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:** *Mixture of substances listed below with nonhazardous additions.*

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Trade name: Reagent SI2

(Contd. of page 1)

Dangerous components:

CAS: 77-92-9

citric acid

 Eye Irrit. 2, H319; STOT SE 3, H335

10-20%

EINECS: 201-069-1

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****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. If symptoms persist, consult a doctor.

After swallowing: If symptoms persist consult doctor.**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:**CO₂, 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.

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).

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 precautions are necessary if used correctly.**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:** 12**Specific end use(s)** No further relevant information available.

(Contd. on page 3)

— ZA —

Trade name: Reagent SI2

(Contd. of page 2)

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 section 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: *Not required.*

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

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 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:

Odourless

Odour threshold:

Not determined.

Melting point/freezing point:

Undetermined.

نقطة الغليان أو نقطة الغليان الأولية ونطاق الغليان

100 °C

Flammability

Not applicable.

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Trade name: Reagent SI2

(Contd. of page 3)

Upper or lower flammability or explosive limits

Lower: *Not determined.*Upper: *Not determined.*Flash point: *Not applicable.*Auto-ignition temperature: *1 °C*Decomposition temperature: *Not determined.*pH: *Slightly acidic*

Viscosity:

Viscosity: *Not determined.*

Viscosity

Dynamic: *Not determined.*

Solubility

water: *Fully miscible.*Partition coefficient: n-octanol or water *Not determined.*Vapour pressure at 20 °C: *23 hPa*

Vapour pressure:

Vapour density + Relative density

Density at 20 °C: *1.081 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.

Ignition temperature: *Product is not selfigniting.*Explosive properties: *Product does not present an explosion hazard.
Not determined.*

Solvent content:

Water: *>80.0 %*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.*

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Trade name: Reagent SI2

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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** *Based on available data, the classification criteria are not met.***LD/LC50 values relevant for classification:****CAS: 77-92-9 citric acid**

Oral | LD50 | 5,040 mg/kg (Mouse)

Serious eye damage or irritation *Causes serious eye irritation.***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:***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****ADN, IMDG, IATA**

Void

UN proper shipping name**ADR, ADN, IMDG, IATA**

Void

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— ZA —

Trade name: Reagent SI2

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Transport hazard class(es)

ADR, ADN, IMDG, IATA

Class

Void

Packing group

ADR, IMDG, IATA

Void

Environmental hazards:

Not applicable.

Special precautions for user

Not applicable.

Transport in bulk according to Annex II of

MARPOL 73/78 and the IBC Code

Not applicable.

UN "Model Regulation":

Void

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



GHS07

Signal word *Warning*

Hazard statements

Causes serious eye irritation.

Precautionary statements

*Wash thoroughly after handling.**Wear eye protection / face protection.**IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.**If eye irritation persists: Get medical advice/attention.*

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:

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*Eye Irrit. 2: *Serious eye damage/eye irritation – Category 2*STOT SE 3: *Specific target organ toxicity (single exposure) – Category 3** **Data compared to the previous version altered.**

SECTION 1: Identification of the substance or mixture and of the supplier**Product identifier****Trade name:** Reagent SI3, Component 1**Synonym:** *for silicate***Article number:** 51509864_1**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***Additional information:***Safety data sheet available on request.***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:** *Mixture of substances listed below with nonhazardous additions.***Dangerous components:**

CAS: 124-68-5	2-amino-2-methylpropanol	5-10%
EINECS: 204-709-8	 Skin Irrit. 2, H315; Eye Irrit. 2, H319; Aquatic Chronic 3, H412	

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****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.*

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Trade name: Reagent SI3, Component 1

(Contd. of page 1)

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:***CO₂, 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.**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).***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 precautions are necessary if used correctly.***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 section 7.***Individual protection measures, such as personal protective equipment (PPE)****General protective and hygienic measures:** *Wash hands before breaks and at the end of work.***Respiratory protection:** *Not required.***Hand protection***To avoid skin problems reduce the wearing of gloves to the required minimum.*

(Contd. on page 3)

Trade name: Reagent SI3, Component 1

(Contd. of page 2)

*The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
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 or face protection *Goggles recommended during refilling*

Body protection: *Protective work clothing*

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

Physical state	<i>Fluid</i>
Colour:	<i>Colourless</i>
Odour:	<i>Characteristic</i>
Odour threshold:	<i>Not determined.</i>
Melting point/freezing point:	<i>Undetermined.</i>
نقطة الغليان أو نقطة الغليان الأولية ونطاق الغليان	<i>100 °C</i>
Flammability	<i>Not applicable.</i>
Upper or lower flammability or explosive limits	
Lower:	<i>Not determined.</i>
Upper:	<i>Not determined.</i>
Flash point:	<i>Not applicable.</i>
Decomposition temperature:	<i>Not determined.</i>
pH	<i>Alkaline</i>
Viscosity:	
Viscosity	<i>Not determined.</i>
Viscosity	
Dynamic:	<i>Not determined.</i>
Solubility	
water:	<i>Fully miscible.</i>
Partition coefficient: n-octanol or water	<i>Not determined.</i>
Vapour pressure at 20 °C:	<i>23 hPa</i>
Vapour pressure:	
Vapour density + Relative density	
Density at 20 °C:	<i>0.996 g/cm³</i>
Relative density	<i>Not determined.</i>
Vapour density	<i>Not determined.</i>

Other information**Appearance:**

Form: *Fluid*

Important information on protection of health and environment, and on safety.

Ignition temperature: *Product is not selfigniting.*

Explosive properties: *Product does not present an explosion hazard.
Not determined.*

Solvent content:

Organic solvents: *7.5 %*

Water: *92.5 %*

Solids content: *0.0 %*

(Contd. on page 4)

Trade name: Reagent SI3, Component 1

(Contd. of page 3)

Change in condition**Evaporation rate***Not determined.***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** *Based on available data, the classification criteria are not met.***Skin corrosion or irritation** *Based on available data, the classification criteria are not met.***Serious eye damage or irritation** *Based on available data, the classification criteria are not met.***Respiratory and skin sensitization** *Based on available data, the classification criteria are not met.***Germ cell mutagenicity** *Based on available data, the classification criteria are not met.***Carcinogenicity** *Based on available data, the classification criteria are not met.***Reproductive toxicity** *Based on available data, the classification criteria are not met.***Specific target organ toxicity – single exposure***Based on available data, the classification criteria are not met.***Specific target organ toxicity – repeated exposure***Based on available data, the classification criteria are not met.***Aspiration hazards** *Based on available data, the classification criteria are not met.***Information on other hazards****endocrine disrupting potential***None of the ingredients is listed.*

(Contd. on page 5)

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Trade name: Reagent SI3, Component 1

(Contd. of page 4)

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**

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:

Not applicable.

Special precautions for user

Not applicable.

Transport in bulk according to Annex II of

MARPOL 73/78 and the IBC Code

Not applicable.

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.

(Contd. on page 6)

— ZA —

Trade name: Reagent SI3, Component 1

(Contd. of page 5)

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:**

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

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

Eye Irrit. 2: Serious eye damage/eye irritation – Category 2

Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3

*** 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 SI3, Component 2**Synonym:** *for silicate***Article number:** 51509864_2**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**Eye Dam. 1 H318 Causes serious eye damage.**Acute Tox. 4 H302 Harmful if swallowed.***GHS label elements****GHS label elements***The product is classified and labelled according to the Globally Harmonised System (GHS).***Hazard pictograms**

GHS05 GHS07

Signal word *Danger***Hazard-determining components of labelling:***disodium disulphite***Hazard statements***Harmful if swallowed.**Causes serious eye damage.***Precautionary statements***Wear eye protection / face protection.**IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.**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.**Dispose of contents/container in accordance with local/regional/national/international regulations.***Additional information:***Contact with acids liberates toxic gas.*

Trade name: Reagent SI3, Component 2

(Contd. of page 1)

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: Mixture of substances listed below with nonhazardous additions.

Dangerous components:

CAS: 7681-57-4	disodium disulphite	80-100%
EINECS: 231-673-0	Eye Dam. 1, H318; Acute Tox. 4, H302, EUH031	

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:**

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

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. Then consult a doctor.

After swallowing: 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:**

CO₂, 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: 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: Do not allow to enter sewers/ surface or ground water.

Methods and material for containment and cleaning up:

Use neutralising agent.

Dispose contaminated material as waste according to section 13.

Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

(Contd. on page 3)

Trade name: Reagent SI3, Component 2

(Contd. of page 2)

See Section 13 for disposal information.

SECTION 7: Handling and storage

Precautions for safe handling *Thorough dedusting.*

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: *Do not store together with acids.*

Further information about storage conditions: *Keep container tightly sealed.*

Storage class: 11

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: 7681-57-4 disodium disulphite

OEL | Long-term value: 10 mg/m³

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

Exposure controls

Appropriate engineering controls *No further data; see section 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: *Not required.*

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

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.

(Contd. on page 4)

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Trade name: Reagent SI3, Component 2

(Contd. of page 3)

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	Solid
Colour:	White
Odour:	Characteristic
Odour threshold:	Not determined.
Melting point/freezing point:	Undetermined.
نقطة الغليان أو نقطة الغليان الأولية ونطاق الغليان	Undetermined.
Flammability	Not determined.
Upper or lower flammability or explosive limits	
Lower:	Not determined.
Upper:	Not determined.
Flash point:	Not applicable.
Decomposition temperature:	Not determined.
pH	Not applicable.
Viscosity:	
Viscosity	Not applicable.
Viscosity	
Dynamic:	Not applicable.
Solubility	
water:	Soluble.
Partition coefficient: n-octanol or water	Not determined.
Vapour pressure:	Not applicable.
Vapour pressure:	
Vapour density + Relative density	
Density:	Not determined.
Relative density	Not determined.
Vapour density	Not applicable.

Other information

Appearance:

Form:

Crystalline powder

Important information on protection of health and environment, and on safety.

Ignition temperature:

Product is not selfigniting.

Explosive properties:

Product does not present an explosion hazard.
Not determined.

Solvent content:

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

(Contd. on page 5)

Trade name: Reagent SI3, Component 2

(Contd. of page 4)

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** Harmful if swallowed.**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:** 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.

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

(Contd. on page 6)

— ZA —

Trade name: Reagent SI3, Component 2

(Contd. of page 5)

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**

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:

Not applicable.

Special precautions for user

Not applicable.

Transport in bulk according to Annex II of

MARPOL 73/78 and the IBC Code

Not applicable.

UN "Model Regulation":

Void

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 GHS07

Signal word *Danger***Hazard-determining components of labelling:***disodium disulphite***Hazard statements***Harmful if swallowed.**Causes serious eye damage.***Precautionary statements***Wear eye protection / face protection.**IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.**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.**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.*

(Contd. on page 7)

— ZA —

Trade name: Reagent SI3, Component 2

(Contd. of page 6)

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

ElNECS: 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

Acute Tox. 4: Acute toxicity – Category 4

Eye Dam. 1: Serious eye damage/eye irritation – Category 1

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

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