

Kit Components

Product code	Description
CAY643-VxxAAE	CA71SI Reagent Set for silicate

Components:

51513729	Reagent SI1 for silicate
51513730	Reagent SI2 for silicate
71256073	Reagent SI3 for silicate
4.160	Standard solution SiO ₂ 0 µg/l

1 Identification

Product identifier

Trade name: Reagent SI1

Synonym: *for silicate*

Article number: 51513729

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*

Emergency telephone number: +1 604 682 5050

2 Hazard identification

Classification of the substance or mixture



GHS08 Health hazard

Specific Target Organ Toxicity - Repeated Exposure - H373 May cause damage to organs through prolonged or repeated exposure.



GHS05 Corrosion

*Skin Corrosion - Category 1A
Serious Eye Damage - Category 1*

*H314 Causes severe skin burns and eye damage.
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 GHS08

Signal word *Danger*

Hazard-determining components of labelling:

*sulphuric acid
molybdic acid
sodium hydrogensulphate*

Hazard statements

*Causes severe skin burns and eye damage.
May cause damage to organs through prolonged or repeated exposure.*





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).*

Trade name: Reagent S11

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*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.***3 Composition/Information on ingredients****Chemical characterisation: Mixtures****Description:** *Mixture of substances listed below with nonhazardous additions.***Dangerous components:**

CAS: 7664-93-9	sulphuric acid  Skin Corrosion - Category 1A, H314	5-10% *
CAS: 7681-38-1	sodium hydrogensulphate  Serious Eye Damage - Category 1, H318	3-7% *
CAS: 7782-91-4	molybdic acid  Specific Target Organ Toxicity - Repeated Exposure - Category 2, H373;  Specific Target Organ Toxicity - Single Exposure - Category 3, H335	1-5% *

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

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Trade name: Reagent S11

(Contd. of page 2)

Environmental precautions:*Dilute with plenty of water.**Do not allow to enter sewers/ surface or ground water.***Methods and material for containment and cleaning up:***Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).**Use neutralising agent.**Dispose contaminated material as waste according to item 13.**Ensure adequate ventilation.***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.***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.***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.***8 Exposure controls/ Personal protection****Additional information about design of technical facilities:** *No further data; see item 7.***Control parameters****Ingredients with limit values that require monitoring at the workplace:****CAS: 7664-93-9 sulphuric acid**

EL	TWA: 0.2 mg/m ³ thoracic, ACGIH A2; IARC 1
EV	TWA: 0.2 mg/m ³

CAS: 7782-91-4 molybdic acid

EL	TWA: 0.5 mg/m ³ as Mo; respirable
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DNELs**CAS: 7664-93-9 sulphuric acid**

Inhalative	DNEL short-term	0.1 mg/m ³ (worker) (local effects)
	DNEL long-term	0.05 mg/m ³ (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.*

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Trade name: Reagent S11

(Contd. of page 3)

Exposure controls**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.
 Store protective clothing separately.
 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.

Protection of hands:

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

Chloroprene rubber, CR

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 protection:

Tightly sealed goggles

Body protection: Protective work clothing

9 Physical and chemical properties

Information on basic physical and chemical properties**General Information****Appearance:**

Form: Liquid
Colour: Yellow tint
Odour: Characteristic
Odour threshold: Not determined.
pH-value at 20 °C: <2

Change in condition

Melting point/freezing point: Undetermined.
Initial boiling point and boiling range: >100 °C

Flash point: Not applicable.

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Trade name: Reagent S11

(Contd. of page 4)

Flammability (solid, gas):	<i>Not applicable.</i>
Decomposition temperature:	<i>Not determined.</i>
Auto-ignition temperature:	<i>Product is not selfigniting.</i>
Explosive properties:	<i>Product does not present an explosion hazard. Not determined.</i>
Explosion limits:	
Lower:	<i>Not determined.</i>
Upper:	<i>Not determined.</i>
Vapour pressure at 20 °C:	<i>23 hPa</i>
Density:	<i>Not determined.</i>
Relative density	<i>Not determined.</i>
Vapour density	<i>Not determined.</i>
Evaporation rate	<i>Not determined.</i>
Solubility in / Miscibility with water:	<i>Fully miscible.</i>
Partition coefficient: n-octanol/water:	<i>Not determined.</i>
Viscosity:	
Dynamic:	<i>Not determined.</i>
Kinematic:	<i>Not determined.</i>
Solvent content:	
Water:	<i>81.4 %</i>
Solids content:	<i>0.0 %</i>
Other information	<i>No further relevant information available.</i>

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.*

11 Toxicological information

Information on toxicological effects

Acute toxicity

LD/LC50 values relevant for classification:

CAS: 7681-38-1 sodium hydrogensulphate

Oral	LD50	2,490 mg/kg (rat)
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CAS: 7782-91-4 molybdic acid

Oral	LD50	2,689 mg/kg (rat)
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Primary irritant effect:

Skin corrosion/irritation *Strong caustic effect on skin and mucous membranes.*

Serious eye damage/irritation

Strong caustic effect.

Strong irritant with the danger of severe eye injury.

Respiratory or skin sensitisation *No sensitising effects known.*

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Trade name: Reagent S11

(Contd. of page 5)

Additional toxicological information:

The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:

Corrosive

Irritant

Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

12 Ecological information**Toxicity**

Aquatic toxicity: No further relevant information available.

Persistence and degradability No further relevant information available.

Behaviour in environmental systems:

Bioaccumulative potential No further relevant information available.

Mobility in soil No further relevant information available.

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.

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.

Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

Other adverse effects No further relevant information available.

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.

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.

***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 S11

(Contd. of page 6)

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 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 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

15 Regulatory information

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

GHS label elements

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

Hazard pictograms



GHS05 GHS08

Signal word *Danger*

Hazard-determining components of labelling:

sulphuric acid
molybdic acid
sodium hydrogensulphate

Hazard statements

Causes severe skin burns and eye damage.
May cause damage to organs through prolonged or repeated exposure.

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.

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Trade name: Reagent S11

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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.

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.*

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*

Date of the latest revision of the safety data sheet *03/19/2022 / 5*

Abbreviations and acronyms:

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

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

1 Identification

Product identifier

Trade name: **Reagent SI2**

Synonym: *for silicate*

Article number: 51513730

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

Emergency telephone number: +1 604 682 5050

2 Hazard identification

Classification of the substance or mixture



GHS07

Eye Irritation - Category 2A H319 Causes serious eye irritation.

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 protective gloves/protective clothing/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.

3 Composition/Information on ingredients

Chemical characterisation: Mixtures

Description: *Mixture of substances listed below with nonhazardous additions.*

Dangerous components:

CAS: 77-92-9	citric acid	10-30% *
	 Eye Irritation - Category 2A, H319; Specific Target Organ Toxicity - Single Exposure - Category 3, H335	

(Contd. on page 2)

Trade name: Reagent SI2

(Contd. of page 1)

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

4 First-aid measures

Description of 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.***Information for 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.*

* 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.*

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.*

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.***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)

Trade name: Reagent SI2

(Contd. of page 2)

8 Exposure controls/ Personal protection

Additional information about design of technical facilities: *No further data; see item 7.*

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

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: *Not required.*

Protection of hands:



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 protection:



Tightly sealed goggles

Body protection: *Protective work clothing*

* 9 Physical and chemical properties

Information on basic physical and chemical properties

General Information

Appearance:

Form:

Liquid

Colour:

Clear

Odour:

Odourless

Odour threshold:

Not determined.

pH-value at 20 °C:

<2

(Contd. on page 4)

—CDN—

Trade name: Reagent SI2

(Contd. of page 3)

Change in condition**Melting point/freezing point:** *Undetermined.***Initial boiling point and boiling range:** *>100 °C***Flash point:** *Not applicable.***Flammability (solid, gas):** *Not applicable.***Ignition temperature:** *1 °C***Decomposition temperature:** *Not determined.***Auto-ignition temperature:** *Product is not selfigniting.***Explosive properties:** *Product does not present an explosion hazard.
Not determined.***Explosion limits:****Lower:** *Not determined.***Upper:** *Not determined.***Vapour pressure at 20 °C:** *23 hPa***Density at 20 °C:** *1.096 g/cm³***Relative density** *Not determined.***Vapour density** *Not determined.***Evaporation rate** *Not determined.***Solubility in / Miscibility with water:***Fully miscible.***Partition coefficient: n-octanol/water:** *Not determined.***Viscosity:****Dynamic:** *Not determined.***Kinematic:** *Not determined.***Solvent content:****Water:** *84.3 %***Solids content:** *0.0 %***Other information** *No further relevant information available.***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.***11 Toxicological information****Information on toxicological effects****Acute toxicity****LD/LC50 values relevant for classification:****CAS: 77-92-9 citric acid**

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

Primary irritant effect:**Skin corrosion/irritation** *No irritant effect.*

(Contd. on page 5)

Trade name: Reagent SI2

(Contd. of page 4)

Serious eye damage/irritation *Irritating effect.***Respiratory or skin sensitisation** *No sensitising effects known.***Additional toxicological information:***The product shows the following dangers according to the calculation method of the General EU**Classification Guidelines for Preparations as issued in the latest version:**Irritant****12 Ecological information****Toxicity****Aquatic toxicity:** *No further relevant information available.***Persistence and degradability** *No further relevant information available.***Behaviour in environmental systems:****Bioaccumulative potential** *No further relevant information available.***Mobility in soil** *No further relevant information available.***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.**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.***Results of PBT and vPvB assessment****PBT:** *Not applicable.***vPvB:** *Not applicable.***Other adverse effects** *No further relevant information available.***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.****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 and the IBC Code** *Not applicable.***UN "Model Regulation":** *Void*

(Contd. on page 6)

Trade name: Reagent SI2

(Contd. of page 5)

15 Regulatory information

Safety, health and environmental regulations/legislation specific for the substance or mixture**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 protective gloves/protective clothing/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.***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.*

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***Date of the latest revision of the safety data sheet** *03/19/2022 / 4***Abbreviations and acronyms:***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**** Data compared to the previous version altered.**

1 Identification

Product identifier

Trade name: **Reagent SI3**

Synonym: *for silicate*

Article number: 71256073

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

Emergency telephone number: +1 604 682 5050

2 Hazard identification

Classification of the substance or mixture



GHS08 Health hazard

Specific Target Organ Toxicity - Repeated Exposure - H373 May cause damage to organs through prolonged or repeated exposure.



GHS05 Corrosion

Serious Eye Damage - Category 1

H318 Causes serious eye damage.



GHS07

Skin Sensitizer - Category 1

H317 May cause an allergic skin reaction.

Label elements

GHS label elements

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

Hazard pictograms



GHS05



GHS07



GHS08

Signal word *Danger*

Hazard-determining components of labelling:

*disodium disulphite
bis(4-hydroxy-N-methylanilinium) sulfate*

Hazard statements

*Causes serious eye damage.
May cause an allergic skin reaction.
May cause damage to organs through prolonged or repeated exposure.*

(Contd. on page 2)

—CDN—

Trade name: Reagent SI3

(Contd. of page 1)

Precautionary statements

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.

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.

3 Composition/Information on ingredients**Chemical characterisation: Mixtures**

Description: *Mixture of substances listed below with nonhazardous additions.*

Dangerous components:		
CAS: 7681-57-4	disodium disulphite ⚠️ Serious Eye Damage - Category 1, H318; ⚠️ Acute Toxicity (Oral) - Category 4, H302	10-30% *
CAS: 55-55-0	bis(4-hydroxy-N-methylanilinium) sulfate ⚠️ Specific Target Organ Toxicity - Repeated Exposure - Category 2, H373; ⚠️ Acute Toxicity (Oral) - Category 4, H302; Skin Sensitizer - Category 1, H317	1-5% *

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

4 First-aid measures**Description of first aid measures**

General information: *Immediately remove any clothing soiled by the product.*

After inhalation:

Supply fresh air and to be sure call for a doctor.

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.*

Information for 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.

*** 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.*

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Trade name: Reagent SI3

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Protective equipment: *Mount respiratory protective device.*

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 product to reach sewage system or any water course.**Inform respective authorities in case of seepage into water course or sewage system.**Dilute with plenty of water.**Do not allow to enter sewers/ surface or ground water.***Methods and material for containment and cleaning up:***Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).**Use neutralising agent.**Dispose contaminated material as waste according to item 13.**Ensure adequate ventilation.***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.*

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.***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.*

8 Exposure controls/ Personal protection

Additional information about design of technical facilities: *No further data; see item 7.***Control parameters****Ingredients with limit values that require monitoring at the workplace:****CAS: 7681-57-4 disodium disulphite**EL | TWA: 5 mg/m³EV | TWA: 5 mg/m³**Additional information:** *The lists valid during the making were used as basis.***Exposure controls****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.**Store protective clothing separately.**Avoid contact with the eyes.**Avoid contact with the eyes and skin.*

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Trade name: Reagent SI3

(Contd. of page 3)

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.

Protection of hands:

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

Chloroprene rubber, CR

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 protection:

Tightly sealed goggles

Body protection: *Protective work clothing*

* 9 Physical and chemical properties

Information on basic physical and chemical properties**General Information****Appearance:**

Form:	<i>Fluid</i>
Colour:	<i>Colourless</i>
Odour:	<i>Characteristic</i>
Odour threshold:	<i>Not determined.</i>
pH-value:	<i>Slightly acidic</i>

Change in condition

Melting point/freezing point:	<i>Undetermined.</i>
Initial boiling point and boiling range:	<i>100 °C</i>

Flash point: *Not applicable.*

Flammability (solid, gas): *Not applicable.*

Decomposition temperature: *Not determined.*

Auto-ignition temperature: *Product is not selfigniting.*

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

Explosion limits:

Lower: *Not determined.*

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Trade name: Reagent SI3

(Contd. of page 4)

Upper:	<i>Not determined.</i>
Vapour pressure at 20 °C:	<i>23 hPa</i>
Density at 20 °C:	<i>1.029 g/cm³</i>
Relative density	<i>Not determined.</i>
Vapour density	<i>Not determined.</i>
Evaporation rate	<i>Not determined.</i>
Solubility in / Miscibility with water:	<i>Fully miscible.</i>
Partition coefficient: n-octanol/water:	<i>Not determined.</i>
Viscosity:	
Dynamic:	<i>Not determined.</i>
Kinematic:	<i>Not determined.</i>
Solvent content:	
Water:	<i>82.8 %</i>
Solids content:	<i>0.0 %</i>
Other information	<i>No further relevant information available.</i>

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.***11 Toxicological information****Information on toxicological effects****Acute toxicity****Primary irritant effect:****Skin corrosion/irritation** *No irritant effect.***Serious eye damage/irritation** *Strong irritant with the danger of severe eye injury.***Respiratory or skin sensitisation** *Sensitisation possible through skin contact.***Additional toxicological information:***The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:**Irritant***12 Ecological information****Toxicity****Aquatic toxicity:** *No further relevant information available.***Persistence and degradability** *No further relevant information available.***Behaviour in environmental systems:****Bioaccumulative potential** *No further relevant information available.***Mobility in soil** *No further relevant information available.***Additional ecological information:****General notes:***Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water**Do not allow product to reach ground water, water course or sewage system.**Must not reach sewage water or drainage ditch undiluted or unneutralised.*

(Contd. on page 6)

Trade name: Reagent SI3

(Contd. of page 5)

*Danger to drinking water if even small quantities leak into the ground.***Results of PBT and vPvB assessment****PBT:** *Not applicable.***vPvB:** *Not applicable.***Other adverse effects** *No further relevant information available.***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.****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 and the IBC Code** *Not applicable.***UN "Model Regulation":** *Void***15 Regulatory information****Safety, health and environmental regulations/legislation specific for the substance or mixture****GHS label elements***The product is classified and labelled according to the Globally Harmonised System (GHS).***Hazard pictograms**

GHS05 GHS07 GHS08

Signal word *Danger***Hazard-determining components of labelling:***disodium disulphite**bis(4-hydroxy-N-methylanilinium) sulfate***Hazard statements***Causes serious eye damage.**May cause an allergic skin reaction.**May cause damage to organs through prolonged or repeated exposure.***Precautionary statements***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).*

(Contd. on page 7)

Trade name: Reagent SI3

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Take off contaminated clothing and wash it before reuse.

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

National regulations:

Waterhazard class: *Water hazard class 2 (Self-assessment): hazardous for water.*

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

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*

Date of the latest revision of the safety data sheet 03/19/2022 / 5

Abbreviations and acronyms:

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.**

1 Identification

Product identifier

Trade name:

Standard solution SiO₂

0 µg/l

Synonym: 0 µg/l

CAS Number:

7732-18-5

EC number:

231-791-2

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

Emergency telephone number: +1 604 682 5050

2 Hazard 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*

* 3 Composition/Information on ingredients

Chemical characterisation: Substances

CAS No. Description

CAS: 7732-18-5 water

Identification number(s)

EC number: 231-791-2

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.*

Information for doctor:

Most important symptoms and effects, both acute and delayed

No further relevant information available.

(Contd. on page 2)

Trade name: Standard solution SiO₂

(Contd. of page 1)

Indication of any immediate medical attention and special treatment needed*No further relevant information available.***5 Fire-fighting measures****Extinguishing media****Suitable extinguishing agents:** *Use fire extinguishing methods suitable to surrounding conditions.***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.***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***See Section 7 for information on safe handling.**See Section 8 for information on personal protection equipment.**See Section 13 for disposal information.***7 Handling and storage****Precautions for safe handling** *No special measures required.***Information about fire - and explosion protection:** *No special measures required.***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.***8 Exposure controls/ Personal protection****Additional information about design of technical facilities:** *No further data; see item 7.***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****Personal protective equipment:****General protective and hygienic measures:***The usual precautionary measures are to be adhered to when handling chemicals.***Respiratory protection:** *Not required.***Protection of hands:** *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.*

(Contd. on page 3)

Trade name: Standard solution SiO2

(Contd. of page 2)

Eye protection: *Not required.***Body protection:** *Protective work clothing*

9 Physical and chemical properties

Information on basic physical and chemical properties

General Information

Appearance:

Form:	<i>Fluid</i>
Colour:	<i>Colourless</i>
Odour:	<i>Odourless</i>
Odour threshold:	<i>Not determined.</i>
pH-value:	<i>Not determined.</i>

Change in condition

Melting point/freezing point:	<i>0 °C</i>
Initial boiling point and boiling range:	<i>100 °C</i>

Flash point: *Not applicable.***Flammability (solid, gas):** *Not applicable.***Auto-ignition temperature:** *Not determined.***Explosive properties:** *Product does not present an explosion hazard.
Not determined.***Explosion limits:**

Lower:	<i>Not determined.</i>
Upper:	<i>Not determined.</i>

Vapour pressure at 20 °C: *23 hPa*

Density at 20 °C:	<i>1 g/cm³</i>
Relative density	<i>Not determined.</i>
Vapour density	<i>Not determined.</i>
Evaporation rate	<i>Not determined.</i>

Solubility in / Miscibility with water:*Fully miscible.***Partition coefficient: n-octanol/water:** *Not determined.***Viscosity:**

Dynamic at 20 °C:	<i>0.952 mPas</i>
Kinematic:	<i>Not determined.</i>
Water:	<i>100.0 %</i>
Solids content:	<i>0.0 %</i>

Other information *No further relevant information available.*

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.*

(Contd. on page 4)

Trade name: Standard solution SiO2

(Contd. of page 3)

Hazardous decomposition products: *No dangerous decomposition products known.*

11 Toxicological information

Information on toxicological effects

Acute toxicity**Primary irritant effect:****Skin corrosion/irritation** *No irritant effect.***Serious eye damage/irritation** *No irritating effect.***Respiratory or skin sensitisation** *No sensitising effects known.***Additional toxicological information:***When used and handled according to specifications, the product does not have any harmful effects to our experience and the information provided to us.**The substance is not subject to classification according to the latest version of the EU lists.*

12 Ecological information

Toxicity**Aquatic toxicity:** *No further relevant information available.***Persistence and degradability** *No further relevant information available.***Behaviour in environmental systems:****Bioaccumulative potential** *No further relevant information available.***Mobility in soil** *No further relevant information available.***Additional ecological information:****General notes:** *Not hazardous for water.***Results of PBT and vPvB assessment****PBT:** *Not applicable.***vPvB:** *Not applicable.***Other adverse effects** *No further relevant information available.*

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.*

14 Transport information

UN-Number**ADN, IMDG, IATA***Void***UN proper shipping name****ADR, ADN, IMDG, IATA***Void***Transport hazard class(es)****ADR, ADN, IMDG, IATA****Class***Void***Packing group****ADR, IMDG, IATA***Void***Environmental hazards:****Marine pollutant:***No***Special precautions for user***Not applicable.*

(Contd. on page 5)

Trade name: Standard solution SiO2

(Contd. of page 4)

Transport in bulk according to Annex II of Marpol and the IBC Code*Not applicable.***Transport/Additional information:***Not dangerous according to the above specifications.***UN "Model Regulation":***Void***15 Regulatory information****Safety, health and environmental regulations/legislation specific for the substance or mixture***No further relevant information available.***GHS label elements** *Void***Hazard pictograms** *Void***Signal word** *Void***Hazard statements** *Void***Chemical safety assessment:** *A Chemical Safety Assessment has not been carried out.***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***Date of the latest revision of the safety data sheet** *03/19/2022 / 7***Abbreviations and acronyms:***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.**