Product code	Description
CAY643-VxxAAH	**CA71SI Reagent Set for silicate**

Components:

51513729	Reagent SI1 for silicate
51513730	Reagent SI2 for silicate
51513731	Reagent SI3, Component 1 for silicate
51513732	Reagent SI3, Component 2 for silicate
4.160	Standard solution SiO2 0 µg/L

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

Product identifier

Trade name: Reagent SI1
Synonym: *for silicate*

Article number: *51513729*

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

Application of the substance / the mixture *Laboratory chemicals*

Supplier's details
Manufacturer/Supplier:
Endress+Hauser
Conducta GmbH+Co. KG
Dieselstraße 24
D-70839 Gerlingen

Further information obtainable from:
Phone: +49 (0)7156 209-10117
E-Mail: MSDS.PCC@endress.com

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

SECTION 2: Hazard identification

Classification of the substance or mixture

corrosion

Skin Corr. 1A H314 Causes severe skin burns and eye damage.
Eye Dam. 1 H318 Causes serious eye damage.

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

GHS05

Signal word *Danger*

Hazard-determining components of labelling:
sulphuric acid
sodium hydrogensulphate
Hazard statements
Causes severe skin burns and eye damage.
Precautionary statements
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Immediately call a POISON CENTER/doctor.
Specific treatment (see on this label).
Store locked up.
Dispose of contents/container in accordance with local/regional/national/international regulations.
Additional information:
Product contains: Reportable explosives precursors. Making available, introduction, possession and use according to Regulation (EU) 2019/1148, Article 9.

(Contd. on page 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: 7664-93-9 *EINECS: 231-639-5*	*sulphuric acid* *Skin Corr. 1A, H314* *Specific concentration limits: Skin Corr. 1A; H314: C ≥ 15 %* *Skin Irrit. 2; H315: 5 % ≤ C < 15 %* *Eye Irrit. 2; H319: 5 % ≤ C < 15 %*	*5-10%*
CAS: 7681-38-1 *EINECS: 231-665-7*	*sodium hydrogensulphate* *Eye Dam. 1, H318*	*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: *Drink plenty of water and provide fresh air. Call for a doctor immediately.*
Most important symptoms or effects, acute and delayed *No further relevant information available.*

Indication of immediate medical attention and special treatment needed, if necessary
No further relevant information available.

SECTION 5: Fire-fighting measures

Suitable extinguishing media
Suitable extinguishing agents:
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
During heating or in case of fire poisonous gases are produced.
Special protective actions for fire fighters *No further relevant information available.*
Protective equipment: *Mount respiratory protective device.*

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures
Mount respiratory protective device.
Wear protective equipment. Keep unprotected persons away.
Wear protective clothing.

(Contd. on page 3)

(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 section 13.
Ensure adequate ventilation.
Reference to other sections
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

SECTION 7: Handling and storage

Precautions for safe handling
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
Information about fire - and explosion protection: *Keep respiratory protective device available.*

Conditions for safe storage, including any incompatibilities

Storage:
Requirements to be met by storerooms and receptacles: *No special requirements.*
Information about storage in one common storage facility: *Not required.*
Further information about storage conditions: *Keep container tightly sealed.*
Storage class: *8 B*
Specific end use(s) *No further relevant information available.*

SECTION 8: Exposure controls 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.*

(Contd. on page 4)

(Contd. of page 3)

Individual protection measures, such as personal protective equipment (PPE)

General protective and hygienic measures:
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing
Wash hands before breaks and at the end of work.
Avoid contact with the eyes.
Avoid contact with the eyes and skin.

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

Hand protection

Protective gloves

To avoid skin problems reduce the wearing of gloves to the required minimum.
Only use chemical-protective gloves with CE-labelling of category III.
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Material of gloves
Nitrile rubber, NBR
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 trough 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:	*Yellow tint*
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 at 20 °C	*<2*
Viscosity:	
Viscosity	*Not determined.*

(Contd. on page 5)

(Contd. of page 4)

Dynamic:	*Not determined.*
Solubility	
water:	*Fully miscible.*
Partition coefficient: n-octanol or water	*Not determined.*
Vapour pressure at 20 °C:	*23 hPa*
Vapour density + Relative density	
Density:	*Not determined.*
Relative density	*Not determined.*
Vapour density	*Not determined.*
Other information	
Appearance:	
Form:	*Liquid*
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:	*81.4 %*
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.*

(Contd. on page 6)

(Contd. of page 5)

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: 7681-38-1 sodium hydrogensulphate		
Oral	*LD50*	*2,490 mg/kg (rat)*
CAS: 7782-91-4 molybdic acid		
Oral	*LD50*	*2,689 mg/kg (rat)*

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

endocrine disrupting potential
None of the ingredients is listed.

SECTION 12: Ecological information

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

SECTION 13: Disposal considerations

Waste treatment methods
Recommendation
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.*

*
SECTION 14: Transport information

UN number
IMDG, IATA *UN2796*

(Contd. on page 7)

(Contd. of page 6)

UN proper shipping name
ADR *UN2796 SULPHURIC ACID*
IMDG *SULPHURIC ACID*
IATA *Sulphuric acid*
Transport hazard class(es)

ADR

Class *8 (C1) Corrosive substances.*
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

(Contd. on page 8)

(Contd. of page 7)

Signal word *Danger*

Hazard-determining components of labelling:
sulphuric acid
sodium hydrogensulphate
Hazard statements
Causes severe skin burns and eye damage.
Precautionary statements
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Immediately call a POISON CENTER/doctor.
Specific treatment (see on this label).
Store locked up.
Dispose of contents/container in accordance with local/regional/national/international regulations.

Directive 2012/18/EU
Named dangerous substances - ANNEX I *None of the ingredients is listed.*

National regulations:

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

SECTION 16: Other information

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

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

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

Product identifier

Trade name: Reagent SI2
Synonym: *for silicate*

Article number: *51513730*

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.*

(Contd. on page 2)

(Contd. of page 1)

Dangerous components:			
CAS: 77-92-9 *EINECS: 201-069-1*	*citric acid*	*Eye Irrit. 2, H319; STOT SE 3, H335*	*10-20%*

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)

(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 trough 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:	*Clear*
Odour:	*Odourless*
Odour threshold:	*Not determined.*
Melting point/freezing point:	*Undetermined.*
نقطة الغليان أو نقطة الغليان الأولية ونطاق الغليان	*>100 °C*
Flammability	*Not applicable.*

(Contd. on page 4)

(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 at 20 °C	*<2*
Viscosity:	
Viscosity	*Not determined.*
Dynamic:	*Not determined.*
Solubility	
water:	*Fully miscible.*
Partition coefficient: n-octanol or water	*Not determined.*
Vapour pressure at 20 °C:	*23 hPa*
Vapour density + Relative density	
Density at 20 °C:	*1.096 g/cm³*
Relative density	*Not determined.*
Vapour density	*Not determined.*
Other information	
Appearance:	
Form:	*Liquid*
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:	*84.3 %*
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.*

(Contd. on page 5)

(Contd. of page 4)

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

SECTION 13: Disposal considerations

Waste treatment methods
Recommendation
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*

(Contd. on page 6)

(Contd. of page 5)

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

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

(Contd. on page 7)

(Contd. of page 6)

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: *51513731*

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.

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:
disodium disulphite
Hazard statements
Causes serious eye damage.
Precautionary statements
If medical advice is needed, have product container or label at hand.
Keep out of reach of children.
Read carefully and follow all instructions.
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.
Additional information:
Contact with acids liberates toxic gas.
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.*

(Contd. on page 2)

Printing date 19.09.2024 *Version 5 (replaces version 4)* *Revision: 19.09.2024*

Trade name: Reagent SI3, Component 1

(Contd. of page 1)

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 *EINECS: 231-673-0*	*disodium disulphite* *Eye Dam. 1, H318; Acute Tox. 4, H302, EUH031*	*10-20%*

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. 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: *Mount respiratory protective device.*

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures
Mount respiratory protective device.
Wear protective equipment. Keep unprotected persons away.
Wear protective clothing.
Environmental precautions:
Dilute with plenty of water.
Do not allow to enter sewers/ surface or ground water.
Methods and material for containment and cleaning up:
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Use neutralising agent.
Dispose contaminated material as waste according to 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.*

(Contd. on page 3)

(Contd. of page 2)

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: *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:	
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 trough 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*

(Contd. on page 4)

(Contd. of page 3)

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

General Information	
Physical state	*Fluid*
Colour:	*Colourless*
Odour:	*Recognisable*
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 at 20 °C	*3-5*
Viscosity:	
Viscosity	*Not determined.*
Dynamic:	*Not determined.*
Solubility	
water:	*Fully miscible.*
Partition coefficient: n-octanol or water	*Not determined.*
Vapour pressure at 20 °C:	*23 hPa*
Vapour density + Relative density	
Density at 20 °C:	*1.035 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:	*84.4 %*
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*

(Contd. on page 5)

(Contd. of page 4)

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.*
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
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.*

(Contd. on page 6)

(Contd. of page 5)

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

Signal word *Danger*

Hazard-determining components of labelling:
disodium disulphite
Hazard statements
Causes serious eye damage.
Precautionary statements
If medical advice is needed, have product container or label at hand.
Keep out of reach of children.
Read carefully and follow all instructions.
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.

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*

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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
Acute Tox. 4: Acute toxicity – Category 4
Eye Dam. 1: Serious eye damage/eye irritation – Category 1
*** 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 2**
Synonym: *for silicate*

Article number: *51513732*

CAS Number:
55-55-0
EC number:
200-237-1

Index number:
650-031-00-4

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

health hazard

STOT RE 2 *H373 May cause damage to organs through prolonged or repeated exposure.*

environment

Aquatic Acute 1 *H400 Very toxic to aquatic life.*
Aquatic Chronic 1 *H410 Very toxic to aquatic life with long lasting effects.*

Acute Tox. 4 *H302 Harmful if swallowed.*
Skin Sens. 1 *H317 May cause an allergic skin reaction.*

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

GHS07 GHS08 GHS09

(Contd. on page 2)

(Contd. of page 1)

Signal word *Warning*

Hazard-determining components of labelling:
bis(4-hydroxy-N-methylanilinium) sulfate
Hazard statements
Harmful if swallowed.
May cause an allergic skin reaction.
May cause damage to organs through prolonged or repeated exposure.
Very toxic to aquatic life with long lasting effects.
Precautionary statements
Do not breathe dust/fume/gas/mist/vapours/spray.
Wear protective gloves.
IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
Rinse mouth.
Dispose of contents/container in accordance with local/regional/national/international regulations.
Other hazards
The product does not contain any organic halogen compounds (AOX), nitrates, heavy metal compounds or formaldehydes.
Results of PBT and vPvB assessment
PBT: *Not applicable.*
vPvB: *Not applicable.*

SECTION 3: Composition or information on ingredients

Substances
CAS No. Description
CAS: 55-55-0 bis(4-hydroxy-N-methylanilinium) sulfate
Identification number(s)
EC number: *200-237-1*
Index number: *650-031-00-4*

SECTION 4: First-aid measures

Description of necessary first-aid measures

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

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*

(Contd. on page 3)

(Contd. of page 2)

Specific hazards arising from the chemical
During heating or in case of fire poisonous gases are produced.
Special protective actions for fire fighters *No further relevant information available.*
Protective equipment: *Mount respiratory protective device.*

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures
Mount respiratory protective device.
Wear protective 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.
Do not allow to enter sewers/ surface or ground water.
Methods and material for containment and cleaning up:
Dispose contaminated material as waste according to section 13.
Ensure adequate ventilation.
Reference to other sections
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

SECTION 7: Handling and storage

Precautions for safe handling *Ensure good ventilation/exhaustion at the workplace.*
Information about fire - and explosion protection: *Keep respiratory protective device available.*

Conditions for safe storage, including any incompatibilities

Storage:
Requirements to be met by storerooms and receptacles: *No special requirements.*
Information about storage in one common storage facility: *Not required.*
Further information about storage conditions: *None.*
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: *Not required.*
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.
Store protective clothing separately.

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

Hand protection

Protective gloves

(Contd. on page 4)

(Contd. of page 3)

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.
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.
Nitrile rubber, NBR
Natural rubber, NR
Chloroprene rubber, CR

Penetration time of glove material
The exact break trough 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	*Solid*
Colour:	*Cream coloured*
Odour:	*Odourless*
Odour threshold:	*Not determined.*
Melting point/freezing point:	*260 °C (Decomposition)*
نقطة الغليان أو نقطة الغليان الأولية ونطاق الغليان	*Undetermined.*
Flammability	*Product is not flammable.*
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.*
Dynamic:	*Not applicable.*
Solubility	
water at 20 °C:	*50 g/l*
Partition coefficient: n-octanol or water	*Not determined.*
Vapour pressure:	*Not applicable.*
Vapour density + Relative density	
Density at 20 °C:	*0.7 g/cm³*
Relative density	*Not determined.*
Vapour density	*Not applicable.*
Other information	
Appearance:	
Form:	*Powder*
Important information on protection of health and environment, and on safety.	
Ignition temperature:	*Not determined.*

(Contd. on page 5)

(Contd. of page 4)

Explosive properties:	*Product does not present an explosion hazard.* *Not determined.*
Solids content:	*100.0 %*
Molecular weight	*344.39 g/mol*
Change in condition	
Evaporation rate	*Not applicable.*
Information with regard to physical hazard classes	
Explosives	*Void*
Flammable gases	*Void*
Aerosols	*Void*
Oxidising gases	*Void*
Gases under pressure	*Void*
Flammable liquids	*Void*
Flammable solids	*Void*
Self-reactive substances and mixtures	*Void*
Pyrophoric liquids	*Void*
Pyrophoric solids	*Void*
Self-heating substances and mixtures	*Void*
Substances and mixtures, which emit flammable gases in contact with water	*Void*
Oxidising liquids	*Void*
Oxidising solids	*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.*
Respiratory and skin sensitization *May cause an allergic skin reaction.*
Specific target organ toxicity – repeated exposure
May cause damage to organs through prolonged or repeated exposure.
Information on other hazards

endocrine disrupting potential
Substance is not listed.

*

SECTION 12: Ecological information

Toxicity
Aquatic toxicity: *No further relevant information available.*
Persistence and degradability *No further relevant information available.*
Bioaccumulative potential *No further relevant information available.*
Mobility in soil *No further relevant information available.*

(Contd. on page 6)

(Contd. of page 5)

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
Remark: *Very toxic for fish*
Additional ecological information:
General notes:
Water hazard class 3 (German Regulation) (Assessment by list): extremely hazardous for water
Do not allow product to reach ground water, water course or sewage system, even in small quantities.
Danger to drinking water if even extremely small quantities leak into the ground.
Also poisonous for fish and plankton in water bodies.
Very toxic for aquatic organisms

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 *UN3077*
UN proper shipping name
ADR *UN3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (bis(4-hydroxy-N-methylanilinium) sulfate)*
IMDG *ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (bis(4-hydroxy-N-methylanilinium) sulfate)*
IATA *Environmentally hazardous substance, solid, n.o.s. (containing bis(4-hydroxy-N-methylanilinium) sulfate)*

Transport hazard class(es)

ADR

Class *9 (M7) Miscellaneous dangerous substances and articles.*
Label *9*

IMDG, IATA

Class *9 Miscellaneous dangerous substances and articles.*
Label *9*
Packing group
ADR, IMDG, IATA *III*
Environmental hazards:
Marine pollutant: *Yes*
Symbol (fish and tree)

(Contd. on page 7)

(Contd. of page 6)

Special marking (ADR): *Symbol (fish and tree)*
Special marking (IATA): *Symbol (fish and tree)*
Special precautions for user *Warning: Miscellaneous dangerous substances and articles.*
Hazard identification number (Kemler code): *90*
EMS Number: *F-A,S-F*
Stowage Category *A*
Stowage Code *SW23 When transported in BK3 bulk container, see 7.6.2.12 and 7.7.3.9.*
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code *Not applicable.*

Transport/Additional information:

ADR
Limited quantities (LQ) *5 kg*
Transport category *3*
Tunnel restriction code *E*
Remarks: *VkBl. Nr.191 (A44/27.10.71-50-04)*

IMDG
Limited quantities (LQ) *5 kg*
Excepted quantities (EQ) *Code: E1*
Maximum net quantity per inner packaging: 30 g
Maximum net quantity per outer packaging: 1000 g
UN "Model Regulation": *UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (BIS(4-HYDROXY-N-METHYLANILINIUM) SULFATE), 9, III*

* SECTION 15: Regulatory information

Safety, health and environmental regulations specific for the product in question
GHS label elements
The substance is classified and labelled according to the Globally Harmonised System (GHS).
Hazard pictograms

GHS07 GHS08 GHS09

Signal word *Warning*

Hazard-determining components of labelling:
bis(4-hydroxy-N-methylanilinium) sulfate
Hazard statements
Harmful if swallowed.
May cause an allergic skin reaction.
May cause damage to organs through prolonged or repeated exposure.
Very toxic to aquatic life with long lasting effects.
Precautionary statements
Do not breathe dust/fume/gas/mist/vapours/spray.
Wear protective gloves.
IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
Rinse mouth.
Dispose of contents/container in accordance with local/regional/national/international regulations.

Directive 2012/18/EU
Named dangerous substances - ANNEX I *Substance is not listed.*
Seveso category *E1 Hazardous to the Aquatic Environment*
Qualifying quantity (tonnes) for the application of lower-tier requirements *100 t*

(Contd. on page 8)

(Contd. of page 7)

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

National regulations:

Waterhazard class: *Water hazard class 3 (Assessment by list): extremely 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
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
Skin Sens. 1: Skin sensitisation – Category 1
STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2
Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1
Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1
*** Data compared to the previous version altered.**

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

Product identifier

Trade name:
Standard solution SiO2
0 µg/l
Synonym: *0 µg/L*

CAS Number:
7732-18-5
EC number:
231-791-2

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

GHS label elements
GHS label elements *Void*
Hazard pictograms *Void*
Signal word *Void*
Hazard statements *Void*
Other hazards
Results of PBT and vPvB assessment
PBT: *Not applicable.*
vPvB: *Not applicable.*

SECTION 3: Composition or information on ingredients

Substances
CAS No. Description
CAS: 7732-18-5 water
Identification number(s)
EC number: *231-791-2*

SECTION 4: First-aid measures

Description of necessary first-aid measures

General information: *No special measures required.*

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

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

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

After swallowing: *If symptoms persist consult doctor.*

(Contd. on page 2)

(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: *Use fire extinguishing methods suitable to surrounding conditions.*
For safety reasons unsuitable extinguishing agents: *no further information*
Specific hazards arising from the chemical *No further relevant information available.*
Special protective actions for fire fighters *No further relevant information available.*
Protective equipment: *No special measures required.*

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures *Wear protective clothing.*
Environmental precautions: *Dilute with plenty of water.*
Methods and material for containment and cleaning up:
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Reference to other sections
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

SECTION 7: Handling and storage

Precautions for safe handling *No special measures required.*
Information about fire - and explosion protection: *No special measures required.*

Conditions for safe storage, including any incompatibilities

Storage:
Requirements to be met by storerooms and receptacles: *No special requirements.*
Information about storage in one common storage facility: *Not required.*
Further information about storage conditions: *None.*
Storage class: *12*
Specific end use(s) *No further relevant information available.*

SECTION 8: Exposure controls or personal protection

Control parameters
Ingredients with limit values that require monitoring at the workplace: *Not required.*
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:
The usual precautionary measures are to be adhered to when handling chemicals.

Respiratory protection: *Not required.*

Hand protection *No chemical-protective gloves required.*

Material of gloves
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

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Penetration time of glove material
The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.

Eye or face protection *Not required.*

Body protection: *Protective work clothing*

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SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

General Information	
Physical state	*Fluid*
Colour:	*Colourless*
Odour:	*Odourless*
Odour threshold:	*Not determined.*
Melting point/freezing point:	*0 °C*
نقطة الغليان أو نقطة الغليان الأولية ونطاق الغليان	*100 °C*
Flammability	*Not applicable.*
Upper or lower flammability or explosive limits	
Lower:	*Not determined.*
Upper:	*Not determined.*
Flash point:	*Not applicable.*
pH	*Not determined.*
Viscosity:	
Viscosity	*Not determined.*
Dynamic at 20 °C:	*0.952 mPas*
Solubility	
water:	*Fully miscible.*
Partition coefficient: n-octanol or water	*Not determined.*
Vapour pressure at 20 °C:	*23 hPa*
Vapour density + Relative density	
Density at 20 °C:	*1 g/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:	*Not determined.*
Explosive properties:	*Product does not present an explosion hazard.*
	Not determined.
Water:	*100.0 %*
Solids content:	*0.0 %*
Molecular weight	*18.02 g/mol*
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*

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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.*
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
Substance is not listed.

SECTION 12: Ecological information

Toxicity
Aquatic toxicity: *No further relevant information available.*
Persistence and degradability *No further relevant information available.*
Bioaccumulative potential *No further relevant information available.*
Mobility in soil *No further relevant information available.*
Results of PBT and vPvB assessment
PBT: *Not applicable.*
vPvB: *Not applicable.*
Endocrine disrupting properties
The product does not contain substances with endocrine disrupting properties.

(Contd. on page 5)

(Contd. of page 4)

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

SECTION 13: Disposal considerations

Waste treatment methods
Recommendation
Small amounts may be diluted with plenty of water and washed away. Dispose of bigger amounts in accordance with Local Authority requirements.
Smaller quantities can be disposed of with household waste.

Uncleaned packaging:
Recommendation: *Disposal must be made according to official regulations.*
Recommended cleansing agents: *Water, if necessary together with cleansing agents.*

SECTION 14: Transport information

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

SECTION 15: Regulatory information

Safety, health and environmental regulations specific for the product in question
GHS label elements *Void*
Hazard pictograms *Void*
Signal word *Void*
Hazard statements *Void*

Directive 2012/18/EU
Named dangerous substances - ANNEX I *Substance is not listed.*
Chemical safety assessment: *A Chemical Safety Assessment has not been carried out.*

SECTION 16: Other information

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

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

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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.**