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

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 Inc.
4123 E. La Palma Ave., Suite 200
Anaheim
CA 92807-1813
USA

Information department:
Phone: +49 (0)7156 209-10117
E-Mail: MSDS.PCC@endress.com

Emergency telephone number: *001 18000 222 1222*

2 Hazard(s) identification

Classification of the substance or mixture

GHS08 Health hazard

Specific Target Organ Toxicity - Repeated Exposure 2 H373 May cause damage to organs through prolonged or repeated exposure.

GHS05 Corrosion

Skin Corrosion 1A	*H314 Causes severe skin burns and eye damage.*
Eye Damage 1	*H318 Causes serious eye damage.*

Label elements
GHS label elements
The product is classified and labeled according to the Globally Harmonized System (GHS).
Hazard pictograms

GHS05 GHS08

Signal word *Danger*

Hazard-determining components of labeling:
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/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.

(Contd. on page 2)

(Contd. of page 1)

Specific treatment (see on this label).
Store locked up.
Dispose of contents/container in accordance with local/regional/national/international regulations.
Classification system:
NFPA ratings (scale 0 - 4)

Health = 3
Fire = 0
Reactivity = 0

HMIS-ratings (scale 0 - 4)

*Health = *3*
Fire = 0
Reactivity = 0

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.*

3 Composition/information on ingredients

Chemical characterization: Mixtures
Description: *Mixture of the substances listed below with nonhazardous additions.*

Dangerous components:		
CAS: 7664-93-9	*sulphuric acid* *Skin Corrosion 1A, H314*	*5-10%*
CAS: 7681-38-1	*sodium hydrogensulphate* *Eye Damage 1, H318*	*2-6%*
CAS: 7782-91-4	*molybdic acid* *Specific Target Organ Toxicity - Repeated Exposure 2, H373; Specific Target Organ Toxicity - Single Exposure 3, H335*	*2-6%*

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 copious amounts of water and provide fresh air. Immediately call a 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.

(Contd. on page 3)

(Contd. of page 2)

5 Fire-fighting measures

Extinguishing media
Suitable extinguishing agents:
CO2, extinguishing 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.
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 neutralizing 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.
Protective Action Criteria for Chemicals

PAC-1:		
CAS: 7664-93-9	*sulphuric acid*	*0.20 mg/m³*
CAS: 7681-38-1	*sodium hydrogensulphate*	*0.82 mg/m³*
CAS: 7782-91-4	*molybdic acid*	*2.5 mg/m³*

PAC-2:		
CAS: 7664-93-9	*sulphuric acid*	*8.7 mg/m³*
CAS: 7681-38-1	*sodium hydrogensulphate*	*9 mg/m³*
CAS: 7782-91-4	*molybdic acid*	*28 mg/m³*

PAC-3:		
CAS: 7664-93-9	*sulphuric acid*	*160 mg/m³*
CAS: 7681-38-1	*sodium hydrogensulphate*	*54 mg/m³*
CAS: 7782-91-4	*molybdic acid*	*170 mg/m³*

7 Handling and storage

Precautions for safe handling
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
Information about protection against explosions and fires:
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 receptacle tightly sealed.*

(Contd. on page 4)

(Contd. of page 3)

Storage class: *8 B*
Specific end use(s) *No further relevant information available.*

8 Exposure controls/personal protection

Additional information about design of technical systems: *No further data; see section 7.*

Control parameters
Components with limit values that require monitoring at the workplace:
The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit.
At this time, the remaining constituent has no known exposure limits.

CAS: 7664-93-9 sulphuric acid	
PEL	*Long-term value: 1 mg/m³*
REL	*Long-term value: 1 mg/m³*
TLV	*Long-term value: 0.2* mg/m³* *as thoracic fraction, A2*
CAS: 7782-91-4 molybdic acid	
PEL	*Long-term value: 5 mg/m³* *as Mo*
TLV	*Long-term value: 0.5 mg/m³* *as Mo; A3; respirable fraction*

Additional information: *The lists that were valid during the creation 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.

Breathing equipment:
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

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-labeling 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.

(Contd. on page 5)

(Contd. of page 4)

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*
Color: *Yellow tint*
Odor: *Characteristic*
Odor threshold: *Not determined.*

pH-value at 20 °C (68 °F): *<2*

Change in condition
Melting point/Melting range: *Undetermined.*
Boiling point/Boiling range: *>100 °C (>212 °F)*

Flash point: *Not applicable.*

Flammability: *Not applicable.*

Decomposition temperature: *Not determined.*

Ignition temperature: *Product is not selfigniting.*

Danger of explosion: *Product does not present an explosion hazard.*
Not determined.

Explosion limits:
Lower: *Not determined.*
Upper: *Not determined.*

Vapor pressure at 20 °C (68 °F): *23 hPa (17.3 mm Hg)*

Density: *Not determined.*
Relative density *Not determined.*
Vapor 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: *81.4 %*

Solids content: *0.0 %*

Other information *No further relevant information available.*

10 Stability and reactivity

Reactivity *No further relevant information available.*

(Contd. on page 6)

(Contd. of page 5)

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 that are 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)*

Primary irritant effect:
on the skin: *Strong caustic effect on skin and mucous membranes.*
on the eye:
Strong caustic effect.
Strong irritant with the danger of severe eye injury.
Sensitization: *No sensitizing effects known.*
Additional toxicological information:
The product shows the following dangers according to internally approved calculation methods for preparations:
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.*
Behavior 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 (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 bodies of water or drainage ditch undiluted or unneutralized.
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.*

(Contd. on page 7)

(Contd. of page 6)

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 of together with household garbage. Do not allow product to reach sewage system.

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

* 14 Transport information

UN-Number
DOT, IMDG, IATA *UN2796*
UN proper shipping name
DOT, IMDG *SULPHURIC ACID*
IATA *Sulphuric acid*
Transport hazard class(es)

DOT

Class *8 Corrosive substances*
Label *8*

IMDG, IATA

Class *8 Corrosive substances*
Label *8*
Packing group
DOT, 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 MARPOL73/78 and the IBC Code *Not applicable.*
Transport/Additional information:

DOT
Quantity limitations *On passenger aircraft/rail: 1 L*
On cargo aircraft only: 30 L

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

(Contd. on page 8)

(Contd. of page 7)

UN "Model Regulation": *UN 2796 SULPHURIC ACID, 8, II*

15 Regulatory information

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

Section 355 (extremely hazardous substances):	
CAS: 7664-93-9	*sulphuric acid*

Section 313 (Specific toxic chemical listings):	
CAS: 7664-93-9	*sulphuric acid*

TSCA (Toxic Substances Control Act):		
CAS: 7732-18-5	*water*	*ACTIVE*
CAS: 7664-93-9	*sulphuric acid*	*ACTIVE*
CAS: 7681-38-1	*sodium hydrogensulphate*	*ACTIVE*
CAS: 7782-91-4	*molybdic acid*	*ACTIVE*

Hazardous Air Pollutants
None of the ingredients is listed.

Proposition 65

Chemicals known to cause cancer:
None of the ingredients is listed.

Chemicals known to cause reproductive toxicity for females:
None of the ingredients is listed.

Chemicals known to cause reproductive toxicity for males:
None of the ingredients is listed.

Chemicals known to cause developmental toxicity:
None of the ingredients is listed.

Cancerogenity categories

EPA (Environmental Protection Agency)
None of the ingredients is listed.

TLV (Threshold Limit Value)		
CAS: 7664-93-9	*sulphuric acid*	*A2*
CAS: 7782-91-4	*molybdic acid*	*A3*

MAK (German Maximum Workplace Concentration)		
CAS: 7664-93-9	*sulphuric acid*	*4*

NIOSH-Ca (National Institute for Occupational Safety and Health)
None of the ingredients is listed.

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

GHS05 GHS08

Signal word *Danger*

Hazard-determining components of labeling:
sulphuric acid
molybdic acid
sodium hydrogensulphate

(Contd. on page 9)

(Contd. of page 8)

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/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.

National regulations:

Water hazard 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 preparation / last revision *09/19/2024 / 6*
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
DOT: US Department of Transportation
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)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
NIOSH: National Institute for Occupational Safety
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
Skin Corrosion 1A: Skin corrosion/irritation – Category 1A
Eye Damage 1: Serious eye damage/eye irritation – Category 1
Specific Target Organ Toxicity - Single Exposure 3: Specific target organ toxicity (single exposure) – Category 3
Specific Target Organ Toxicity - Repeated Exposure 2: Specific target organ toxicity (repeated exposure) – Category 2
*** 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 Inc.
4123 E. La Palma Ave., Suite 200
Anaheim
CA 92807-1813
USA

Information department:
Phone: +49 (0)7156 209-10117
E-Mail: MSDS.PCC@endress.com

Emergency telephone number: *001 18000 222 1222*

2 Hazard(s) identification

Classification of the substance or mixture

GHS07

Eye Irritation 2A H319 Causes serious eye irritation.

Label elements
GHS label elements
The product is classified and labeled according to the Globally Harmonized 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.
Classification system:
NFPA ratings (scale 0 - 4)

Health = 2
Fire = 0
Reactivity = 0

HMIS-ratings (scale 0 - 4)

Health = 2
Fire = 0
Reactivity = 0

(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.*

3 Composition/information on ingredients

Chemical characterization: Mixtures
Description: *Mixture of the substances listed below with nonhazardous additions.*

Dangerous components:		
CAS: 77-92-9	*citric acid* *Eye Irritation 2A, H319; Specific Target Organ Toxicity - Single Exposure 3, H335*	*10-20%*

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, extinguishing 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.

(Contd. on page 3)

(Contd. of page 2)

Protective Action Criteria for Chemicals

PAC-1:
None of the ingredients is listed.
PAC-2:
None of the ingredients is listed.
PAC-3:
None of the ingredients is listed.

7 Handling and storage

Precautions for safe handling *No special precautions are necessary if used correctly.*
Information about protection against explosions and fires: *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 receptacle 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 systems: *No further data; see section 7.*

Control parameters
Components 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 that were valid during the creation 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.

Breathing equipment: *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-labeling 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.

(Contd. on page 4)

(Contd. of page 3)

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*
Color: *Clear*
Odor: *Odorless*
Odor threshold: *Not determined.*

pH-value at 20 °C (68 °F): *<2*

Change in condition
Melting point/Melting range: *Undetermined.*
Boiling point/Boiling range: *>100 °C (>212 °F)*

Flash point: *Not applicable.*

Flammability: *Not applicable.*

Auto igniting: *1 °C (33.8 °F)*

Decomposition temperature: *Not determined.*

Ignition temperature: *Product is not selfigniting.*

Danger of explosion: *Product does not present an explosion hazard.*
Not determined.

Explosion limits:
Lower: *Not determined.*
Upper: *Not determined.*

Vapor pressure at 20 °C (68 °F): *23 hPa (17.3 mm Hg)*

Density at 20 °C (68 °F): *1.096 g/cm³ (9.146 lbs/gal)*
Relative density *Not determined.*
Vapor 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 %*

(Contd. on page 5)

(Contd. of page 4)

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 that are relevant for classification:		
CAS: 77-92-9 citric acid		
Oral	*LD50*	*5,040 mg/kg (mouse)*

Primary irritant effect:
on the skin: *No irritant effect.*
on the eye: *Irritating effect.*
Sensitization: *No sensitizing effects known.*
Additional toxicological information:
The product shows the following dangers according to internally approved calculation methods for preparations:
Irritant

* 12 Ecological information

Toxicity
Aquatic toxicity: *No further relevant information available.*
Persistence and degradability *No further relevant information available.*
Behavior 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 (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 of together with household garbage. Do not allow product to reach sewage system.

(Contd. on page 6)

(Contd. of page 5)

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

* 14 Transport information

UN-Number
DOT, ADN, IMDG, IATA *Void*
UN proper shipping name
DOT, ADN, IMDG, IATA *Void*
Transport hazard class(es)

DOT, ADN, IMDG, IATA
Class *Void*
Packing group
DOT, IMDG, IATA *Void*
Environmental hazards: *Not applicable.*
Special precautions for user *Not applicable.*
Transport in bulk according to Annex II of MARPOL73/78 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
Sara

Section 355 (extremely hazardous substances):
None of the ingredient is listed.

Section 313 (Specific toxic chemical listings):
None of the ingredients is listed.

TSCA (Toxic Substances Control Act):
All components have the value ACTIVE.

Hazardous Air Pollutants
None of the ingredients is listed.

Proposition 65

Chemicals known to cause cancer:
None of the ingredients is listed.

Chemicals known to cause reproductive toxicity for females:
None of the ingredients is listed.

Chemicals known to cause reproductive toxicity for males:
None of the ingredients is listed.

Chemicals known to cause developmental toxicity:
None of the ingredients is listed.

Cancerogenity categories

EPA (Environmental Protection Agency)
None of the ingredients is listed.

TLV (Threshold Limit Value)
None of the ingredients is listed.

MAK (German Maximum Workplace Concentration)
None of the ingredients is listed.

(Contd. on page 7)

(Contd. of page 6)

NIOSH-Ca (National Institute for Occupational Safety and Health)
None of the ingredients is listed.

GHS label elements
The product is classified and labeled according to the Globally Harmonized 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.

National regulations:

Water hazard 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 preparation / last revision *09/19/2024 / 4*
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
DOT: US Department of Transportation
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)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
NIOSH: National Institute for Occupational Safety
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
Eye Irritation 2A: Serious eye damage/eye irritation – Category 2A
Specific Target Organ Toxicity - Single Exposure 3: Specific target organ toxicity (single exposure) – Category 3
*** Data compared to the previous version altered.**

1 Identification

Product identifier

Trade name: Reagent SI3, Component 1
Synonym: *for silicate*

Article number: *51513731*

Application of the substance / the mixture *Laboratory chemicals*

Details of the supplier of the safety data sheet
Manufacturer/Supplier:
Endress+Hauser Conducta Inc.
4123 E. La Palma Ave., Suite 200
Anaheim
CA 92807-1813
USA

Information department:
Phone: +49 (0)7156 209-10117
E-Mail: MSDS.PCC@endress.com

Emergency telephone number: *001 18000 222 1222*

2 Hazard(s) identification

Classification of the substance or mixture

GHS05 Corrosion

Eye Damage 1 H318 Causes serious eye damage.

Label elements
GHS label elements
The product is classified and labeled according to the Globally Harmonized System (GHS).
Hazard pictograms

GHS05

Signal word *Danger*

Hazard-determining components of labeling:
disodium disulphite
Hazard statements
Causes serious eye damage.
Precautionary statements
Wear eye protection / face protection.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Immediately call a poison center/doctor.
Classification system:
NFPA ratings (scale 0 - 4)

Health = 3
Fire = 0
Reactivity = 0

HMIS-ratings (scale 0 - 4)

*Health = *3*
Fire = 0
Reactivity = 0

(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.*

3 Composition/information on ingredients

Chemical characterization: Mixtures
Description: *Mixture of the substances listed below with nonhazardous additions.*

Dangerous components:		
CAS: 7681-57-4	*disodium disulphite* *Eye Damage 1, H318; Acute Toxicity - Oral 4, H302*	*10-20%*

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. 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, extinguishing 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 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 neutralizing agent.
Dispose contaminated material as waste according to section 13.
Reference to other sections
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.

(Contd. on page 3)

(Contd. of page 2)

See Section 13 for disposal information.
Protective Action Criteria for Chemicals

PAC-1:		
CAS: 7681-57-4	*disodium disulphite*	*15 mg/m³*
PAC-2:		
CAS: 7681-57-4	*disodium disulphite*	*64 mg/m³*
PAC-3:		
CAS: 7681-57-4	*disodium disulphite*	*390 mg/m³*

7 Handling and storage

Precautions for safe handling *No special precautions are necessary if used correctly.*
Information about protection against explosions and fires: *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 receptacle 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 systems: *No further data; see section 7.*

Control parameters

Components with limit values that require monitoring at the workplace:	
CAS: 7681-57-4 disodium disulphite	
REL	*Long-term value: 5 mg/m³*
TLV	*Long-term value: 5 mg/m³* *A4*

Additional information: *The lists that were valid during the creation 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.

Breathing equipment: *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-labeling 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.

(Contd. on page 4)

(Contd. of page 3)

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:	*Fluid*
Color:	*Colorless*
Odor:	*Recognizable*
Odor threshold:	*Not determined.*
pH-value at 20 °C (68 °F):	*3-5*
Change in condition	
Melting point/Melting range:	*Undetermined.*
Boiling point/Boiling range:	*>100 °C (>212 °F)*
Flash point:	*Not applicable.*
Flammability:	*Not applicable.*
Decomposition temperature:	*Not determined.*
Ignition temperature:	*Product is not selfigniting.*
Danger of explosion:	*Product does not present an explosion hazard.* *Not determined.*
Explosion limits:	
Lower:	*Not determined.*
Upper:	*Not determined.*
Vapor pressure at 20 °C (68 °F):	*23 hPa (17.3 mm Hg)*
Density at 20 °C (68 °F):	*1.035 g/cm³ (8.637 lbs/gal)*
Relative density	*Not determined.*
Vapor 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:	*84.4 %*
Solids content:	*0.0 %*

(Contd. on page 5)

(Contd. of page 4)

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:
Primary irritant effect:
on the skin: *No irritant effect.*
on the eye: *Strong irritant with the danger of severe eye injury.*
Sensitization: *No sensitizing effects known.*
Additional toxicological information:
The product shows the following dangers according to internally approved calculation methods for preparations:
Irritant

12 Ecological information

Toxicity
Aquatic toxicity: *No further relevant information available.*
Persistence and degradability *No further relevant information available.*
Behavior 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 (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 bodies of water or drainage ditch undiluted or unneutralized.
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 of together with household garbage. Do not allow product to reach sewage system.

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

(Contd. on page 6)

(Contd. of page 5)

14 Transport information

UN-Number
DOT, ADN, IMDG, IATA *Void*
UN proper shipping name
DOT, ADN, IMDG, IATA *Void*
Transport hazard class(es)

DOT, ADN, IMDG, IATA
Class *Void*
Packing group
DOT, IMDG, IATA *Void*
Environmental hazards: *Not applicable.*
Special precautions for user *Not applicable.*
Transport in bulk according to Annex II of MARPOL73/78 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
Sara

Section 355 (extremely hazardous substances):
None of the ingredient is listed.

Section 313 (Specific toxic chemical listings):
None of the ingredients is listed.

TSCA (Toxic Substances Control Act):
All components have the value ACTIVE.

Hazardous Air Pollutants
None of the ingredients is listed.

Proposition 65

Chemicals known to cause cancer:
None of the ingredients is listed.

Chemicals known to cause reproductive toxicity for females:
None of the ingredients is listed.

Chemicals known to cause reproductive toxicity for males:
None of the ingredients is listed.

Chemicals known to cause developmental toxicity:
None of the ingredients is listed.

Cancerogenity categories

EPA (Environmental Protection Agency)
None of the ingredients is listed.

TLV (Threshold Limit Value)

CAS: 7681-57-4	*disodium disulphite*	*A4*

MAK (German Maximum Workplace Concentration)
None of the ingredients is listed.

NIOSH-Ca (National Institute for Occupational Safety and Health)
None of the ingredients is listed.

GHS label elements
The product is classified and labeled according to the Globally Harmonized System (GHS).

(Contd. on page 7)

(Contd. of page 6)

Hazard pictograms

GHS05

Signal word *Danger*

Hazard-determining components of labeling:
disodium disulphite
Hazard statements
Causes serious eye damage.
Precautionary statements
Wear eye protection / face protection.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Immediately call a poison center/doctor.

National regulations:

Water hazard 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*
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IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
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)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
NIOSH: National Institute for Occupational Safety
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
Acute Toxicity - Oral 4: Acute toxicity – Category 4
Eye Damage 1: Serious eye damage/eye irritation – Category 1
*** Data compared to the previous version altered.**

1 Identification

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

Application of the substance / the mixture *Laboratory chemicals*

Details of the supplier of the safety data sheet
Manufacturer/Supplier:
Endress+Hauser Conducta Inc.
4123 E. La Palma Ave., Suite 200
Anaheim
CA 92807-1813
USA

Information department:
Phone: +49 (0)7156 209-10117
E-Mail: MSDS.PCC@endress.com

Emergency telephone number: *001 18000 222 1222*

2 Hazard(s) identification

Classification of the substance or mixture

GHS08 Health hazard

Specific Target Organ Toxicity - Repeated Exposure 2 *H373 May cause damage to organs through prolonged or repeated exposure.*

GHS07

Acute Toxicity - Oral 4	*H302 Harmful if swallowed.*
Sensitization - Skin 1	*H317 May cause an allergic skin reaction.*

Label elements
GHS label elements
The substance is classified and labeled according to the Globally Harmonized System (GHS).
Hazard pictograms

GHS07 GHS08

Signal word *Warning*

Hazard-determining components of labeling:
bis(4-hydroxy-N-methylanilinium) sulfate
Hazard statements
Harmful if swallowed.
May cause an allergic skin reaction.

(Contd. on page 2)

(Contd. of page 1)

May cause damage to organs through prolonged or repeated exposure.
Precautionary statements
Do not breathe dust/fume/gas/mist/vapors/spray.
Wear protective gloves.
If swallowed: Call a poison center/doctor if you feel unwell.
Wash contaminated clothing before reuse.
Dispose of contents/container in accordance with local/regional/national/international regulations.
Classification system:
NFPA ratings (scale 0 - 4)

Health = 2
Fire = 0
Reactivity = 0

HMIS-ratings (scale 0 - 4)

Health = 2
Fire = 0
Reactivity = 0

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.*

3 Composition/information on ingredients

Chemical characterization: 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*

4 First-aid measures

Description of first aid measures

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

After inhalation:
Supply fresh air 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: *Immediately call a doctor.*

Information for doctor:
Most important symptoms and effects, both acute and delayed
No further relevant information available.

(Contd. on page 3)

(Contd. of page 2)

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, extinguishing 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 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.
Protective Action Criteria for Chemicals

PAC-1:
Substance is not listed.

PAC-2:
Substance is not listed.

PAC-3:
Substance is not listed.

7 Handling and storage

Precautions for safe handling *Ensure good ventilation/exhaustion at the workplace.*
Information about protection against explosions and fires:
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: *None.*
Storage class: *11*
Specific end use(s) *No further relevant information available.*

8 Exposure controls/personal protection

Additional information about design of technical systems: *No further data; see section 7.*

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

(Contd. on page 4)

(Contd. of page 3)

Additional information: *The lists that were valid during the creation 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.

Breathing equipment:
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

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-labeling 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 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:	*Powder*
Color:	*Cream colored*
Odor:	*Odorless*
Odor threshold:	*Not determined.*
pH-value:	*Not applicable.*
Change in condition	
Melting point/Melting range:	*260 °C (500 °F) (Decomposition)*
Boiling point/Boiling range:	*Undetermined.*
Flash point:	*Not applicable.*
Flammability:	*Product is not flammable.*

(Contd. on page 5)

(Contd. of page 4)

Decomposition temperature:	*Not determined.*
Ignition temperature:	*Not determined.*
Danger of explosion:	*Product does not present an explosion hazard.* *Not determined.*
Explosion limits:	
Lower:	*Not determined.*
Upper:	*Not determined.*
Vapor pressure:	*Not applicable.*
Density at 20 °C (68 °F):	*0.7 g/cm³ (5.842 lbs/gal)*
Relative density	*Not determined.*
Vapor density	*Not applicable.*
Evaporation rate	*Not applicable.*
Solubility in / Miscibility with	
Water at 20 °C (68 °F):	*50 g/l*
Partition coefficient (n-octanol/water):	*Not determined.*
Viscosity:	
Dynamic:	*Not applicable.*
Kinematic:	*Not applicable.*
Solids content:	*100.0 %*
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:
Primary irritant effect:
on the skin: *No irritant effect.*
on the eye: *No irritating effect.*
Sensitization: *Sensitization possible through skin contact.*

* 12 Ecological information

Toxicity
Aquatic toxicity: *No further relevant information available.*
Persistence and degradability *No further relevant information available.*
Behavior 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 3 (Assessment by list): extremely hazardous for water

(Contd. on page 6)

(Contd. of page 5)

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.
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 of together with household garbage. Do not allow product to reach sewage system.

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

* 14 Transport information

UN-Number
DOT, IMDG, IATA *UN3077*
UN proper shipping name
DOT *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)

DOT

Class *9 Miscellaneous dangerous substances and articles*
Label *9*

IMDG, IATA

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

(Contd. on page 7)

(Contd. of page 6)

Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code *Not applicable.*

Transport/Additional information:

DOT
Quantity limitations *On passenger aircraft/rail: No limit*
On cargo aircraft only: No limit
Hazardous substance: *32 lbs, 14,53 kg*

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*

* 15 Regulatory information

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

Section 355 (extremely hazardous substances):
Substance is not listed.

Section 313 (Specific toxic chemical listings):
Substance is not listed.

TSCA (Toxic Substances Control Act):
ACTIVE

Hazardous Air Pollutants
Substance is not listed.

Proposition 65

Chemicals known to cause cancer:
Substance is not listed.

Chemicals known to cause reproductive toxicity for females:
Substance is not listed.

Chemicals known to cause reproductive toxicity for males:
Substance is not listed.

Chemicals known to cause developmental toxicity:
Substance is not listed.

Cancerogenity categories

EPA (Environmental Protection Agency)
Substance is not listed.

TLV (Threshold Limit Value)
Substance is not listed.

MAK (German Maximum Workplace Concentration)
Substance is not listed.

NIOSH-Ca (National Institute for Occupational Safety and Health)
Substance is not listed.

GHS label elements
The substance is classified and labeled according to the Globally Harmonized System (GHS).

(Contd. on page 8)

(Contd. of page 7)

Hazard pictograms

GHS07 GHS08

Signal word *Warning*

Hazard-determining components of labeling:
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.
Precautionary statements
Do not breathe dust/fume/gas/mist/vapors/spray.
Wear protective gloves.
If swallowed: Call a poison center/doctor if you feel unwell.
Wash contaminated clothing before reuse.
Dispose of contents/container in accordance with local/regional/national/international regulations.

National regulations:

Water hazard class: *Water hazard class 3 (Assessment by list): extremely 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 preparation / last revision *09/19/2024 / 7*
Abbreviations and acronyms:
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IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
EINECS: European Inventory of Existing Commercial Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
NIOSH: National Institute for Occupational Safety
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
Acute Toxicity - Oral 4: Acute toxicity – Category 4
Sensitization - Skin 1: Skin sensitisation – Category 1
Specific Target Organ Toxicity - Repeated Exposure 2: Specific target organ toxicity (repeated exposure) – Category 2
*** 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 Inc.
4123 E. La Palma Ave., Suite 200
Anaheim
CA 92807-1813
USA

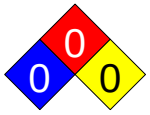
Information department:
Phone: +49 (0)7156 209-10117
E-Mail: MSDS.PCC@endress.com

Emergency telephone number: *001 18000 222 1222*

2 Hazard(s) identification

Classification of the substance or mixture
The substance is not classified, according to the Globally Harmonized System (GHS).

Label elements
GHS label elements *Void*
Hazard pictograms *Void*
Signal word *Void*
Hazard statements *Void*
Classification system:
NFPA ratings (scale 0 - 4)



Health = 0
Fire = 0
Reactivity = 0

HMIS-ratings (scale 0 - 4)

Health = 0
Fire = 0
Reactivity = 0

Other hazards
Results of PBT and vPvB assessment
PBT: *Not applicable.*
vPvB: *Not applicable.*

* 3 Composition/information on ingredients

Chemical characterization: Substances
CAS No. Description
CAS: 7732-18-5 water

(Contd. on page 2)

(Contd. of page 1)

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.

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 fighting measures that suit the environment.*
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.
Protective Action Criteria for Chemicals

PAC-1:
Substance is not listed.

PAC-2:
Substance is not listed.

PAC-3:
Substance is not listed.

7 Handling and storage

Precautions for safe handling *No special measures required.*
Information about protection against explosions and fires: *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.*

(Contd. on page 3)

(Contd. of page 2)

Storage class: *12*
Specific end use(s) *No further relevant information available.*

8 Exposure controls/personal protection

Additional information about design of technical systems: *No further data; see section 7.*

Control parameters
Components with limit values that require monitoring at the workplace: *Not required.*
Additional information: *The lists that were valid during the creation were used as basis.*

Exposure controls
Personal protective equipment:

General protective and hygienic measures:
The usual precautionary measures for handling chemicals should be followed.

Breathing equipment: *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.

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:	*Fluid*
Color:	*Colorless*
Odor:	*Odorless*
Odor threshold:	*Not determined.*
pH-value:	*Not determined.*
Change in condition	
Melting point/Melting range:	*0 °C (32 °F)*
Boiling point/Boiling range:	*100 °C (212 °F)*
Flash point:	*Not applicable.*
Flammability:	*Not applicable.*
Ignition temperature:	*Not determined.*
Danger of explosion:	*Product does not present an explosion hazard.* *Not determined.*
Explosion limits:	
Lower:	*Not determined.*
Upper:	*Not determined.*
Vapor pressure at 20 °C (68 °F):	*23 hPa (17.3 mm Hg)*
Density at 20 °C (68 °F):	*1 g/cm³ (8.345 lbs/gal)*
Relative density	*Not determined.*
Vapor density	*Not determined.*

(Contd. on page 4)

(Contd. of page 3)

Evaporation rate	*Not determined.*
Solubility in / Miscibility with	
Water:	*Fully miscible.*
Partition coefficient (n-octanol/water):	*Not determined.*
Viscosity:	
Dynamic at 20 °C (68 °F):	*0.952 mPas*
Kinematic:	*Not determined.*
Water:	*100.0 %*
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:
Primary irritant effect:
on the skin: *No irritant effect.*
on the eye: *No irritating effect.*
Sensitization: *No sensitizing effects known.*
Additional toxicological information:
When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.
The substance is not subject to classification.

12 Ecological information

Toxicity
Aquatic toxicity: *No further relevant information available.*
Persistence and degradability *No further relevant information available.*
Behavior 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.*

(Contd. on page 5)

(Contd. of page 4)

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

14 Transport information

UN-Number
DOT, ADN, IMDG, IATA *Void*
UN proper shipping name
DOT, ADN, IMDG, IATA *Void*
Transport hazard class(es)

DOT, ADN, IMDG, IATA
Class *Void*
Packing group
DOT, IMDG, IATA *Void*
Environmental hazards:
Marine pollutant: *No*
Special precautions for user *Not applicable.*
Transport in bulk according to Annex II of MARPOL73/78 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.
Sara

Section 355 (extremely hazardous substances):
Substance is not listed.

Section 313 (Specific toxic chemical listings):
Substance is not listed.

TSCA (Toxic Substances Control Act):
ACTIVE

Hazardous Air Pollutants
Substance is not listed.

Proposition 65

Chemicals known to cause cancer:
Substance is not listed.

Chemicals known to cause reproductive toxicity for females:
Substance is not listed.

Chemicals known to cause reproductive toxicity for males:
Substance is not listed.

(Contd. on page 6)

(Contd. of page 5)

Chemicals known to cause developmental toxicity:
Substance is not listed.

Cancerogenity categories

EPA (Environmental Protection Agency)
Substance is not listed.

TLV (Threshold Limit Value)
Substance is not listed.

MAK (German Maximum Workplace Concentration)
Substance is not listed.

NIOSH-Ca (National Institute for Occupational Safety and Health)
Substance is not listed.

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 preparation / last revision *09/19/2024 / 8*
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
DOT: US Department of Transportation
IATA: International Air Transport Association
EINECS: European Inventory of Existing Commercial Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
NIOSH: National Institute for Occupational Safety
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
*** Data compared to the previous version altered.**