Product code	Description
CAY640-VxxAAE	**CA70SI Reagent Set for silicate**

Components:

51508826	Reagent SI1 for silicate
51508827	Reagent SI2 for silicate
51509841	Reagent SI3 for silicate

1 Identification

Product identifier

Trade name: Reagent SI1
Synonym: *for silicate*

Article number: *51508826*

Application of the substance / the mixture *Laboratory chemicals*

Details of the supplier of the safety data sheet
Manufacturer/Supplier:
Endress+Hauser
Conducta GmbH+Co. KG
Dieselstraße 24
D-70839 Gerlingen

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

Emergency telephone number: *+1 604 682 5050*

2 Hazard identification

Classification of the substance or mixture

GHS08 Health hazard

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

GHS05 Corrosion

Serious Eye Damage - Category 1 — *H318 Causes serious eye damage.*

GHS07

Skin Irritation - Category 2 — *H315 Causes skin irritation.*

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

GHS05 GHS08

Signal word *Danger*

Hazard-determining components of labelling:
Sodium hydrogensulfate monohydrate
molybdic acid
sulphuric acid
Hazard statements
Causes skin irritation.
Causes serious eye damage.
May cause damage to organs through prolonged or repeated exposure.

(Contd. on page 2)

(Contd. of page 1)

Precautionary statements
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Immediately call a POISON CENTER/doctor.
Specific treatment (see on this label).
Take off contaminated clothing and wash it before reuse.
Dispose of contents/container in accordance with local/regional/national/international regulations.
Other hazards
The product does not contain any organic halogen compounds (AOX), nitrates, heavy metal compounds or formaldehydes.

3 Composition/Information on ingredients

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

Dangerous components:		
CAS: 10034-88-5	*Sodium hydrogensulfate monohydrate* *Serious Eye Damage - Category 1, H318*	*5-10% **
CAS: 7664-93-9	*sulphuric acid* *Skin Corrosion - Category 1A, H314*	*1-5% **
CAS: 7782-91-4	*molybdic acid* *Specific Target Organ Toxicity - Repeated Exposure - Category 2, H373;* *Specific Target Organ Toxicity - Single Exposure - Category 3, H335*	*1-5% **

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

4 First-aid measures

Description of first aid measures

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

After inhalation: *In case of unconsciousness place patient stably in side position for transportation.*

After skin contact:
Immediately wash with water and soap and rinse thoroughly.
Immediately rinse with water.

After eye contact: *Rinse opened eye for several minutes under running water. Then consult a doctor.*

After swallowing: *If symptoms persist consult doctor.*

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

Indication of any immediate medical attention and special treatment needed
No further relevant information available.

*
5 Fire-fighting measures

Extinguishing media
Suitable extinguishing agents:
CO2, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
For safety reasons unsuitable extinguishing agents: *no further information*
Special hazards arising from the substance or mixture
During heating or in case of fire poisonous gases are produced.
Advice for firefighters *No further relevant information available.*
Protective equipment: *Mount respiratory protective device.*

(Contd. on page 3)

(Contd. of page 2)

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

7 Handling and storage

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

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

8 Exposure controls/ Personal protection

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

Control parameters

Ingredients with limit values that require monitoring at the workplace:	
CAS: 7664-93-9 sulphuric acid	
EL	*TWA: 0.2 mg/m³* *thoracic, ACGIH A2; IARC 1*
EV	*TWA: 0.2 mg/m³*
CAS: 7782-91-4 molybdic acid	
EL	*TWA: 0.5 mg/m³* *as Mo; respirable*

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)*

(Contd. on page 4)

(Contd. of page 3)

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
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 skin.
Avoid contact with the eyes and skin.

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

Protection of hands:

Protective gloves

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

Material of gloves
Nitrile rubber, NBR
Natural rubber, NR
Chloroprene rubber, CR
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

Penetration time of glove material
The exact break trough 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*
Colour:	*Colourless*
Odour:	*Characteristic*
Odour threshold:	*Not determined.*
pH-value:	*Acidic*

(Contd. on page 5)

(Contd. of page 4)

Change in condition
Melting point/freezing point: *Undetermined.*
Initial boiling point and boiling range: *100 °C*

Flash point: *Not applicable.*

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

Decomposition temperature: *Not determined.*

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

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

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

Vapour pressure at 20 °C: *23 hPa*

Density: *Not determined.*
Relative density *Not determined.*
Vapour density *Not determined.*
Evaporation rate *Not determined.*

Solubility in / Miscibility with water: *Fully miscible.*

Partition coefficient: n-octanol/water: *Not determined.*

Viscosity:
Dynamic: *Not determined.*
Kinematic: *Not determined.*

Solvent content:
Water: *>80.0 %*

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

LD/LC50 values relevant for classification:		
CAS: 7782-91-4 molybdic acid		
Oral	*LD50*	*2,689 mg/kg (rat)*

Primary irritant effect:
Skin corrosion/irritation *Irritant to skin and mucous membranes.*
Serious eye damage/irritation *Strong irritant with the danger of severe eye injury.*
Respiratory or skin sensitisation *No sensitising effects known.*

(Contd. on page 6)

(Contd. of page 5)

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

12 Ecological information

Toxicity
Aquatic toxicity: *No further relevant information available.*
Persistence and degradability *No further relevant information available.*
Behaviour in environmental systems:
Bioaccumulative potential *No further relevant information available.*
Mobility in soil *No further relevant information available.*
Additional ecological information:
General notes:
Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
Must not reach sewage water or drainage ditch undiluted or unneutralised.
Results of PBT and vPvB assessment
PBT: *Not applicable.*
vPvB: *Not applicable.*
Other adverse effects *No further relevant information available.*

13 Disposal considerations

Waste treatment methods
Recommendation
Must not be disposed together with household garbage. Do not allow product to reach sewage system.

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

* 14 Transport information

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

ADR

Class *8 (C1) Corrosive substances.*
Label *8*

IMDG, IATA

Class *8 Corrosive substances.*

(Contd. on page 7)

(Contd. of page 6)

Label	*8*
Packing group	
ADR, IMDG, IATA	*II*
Environmental hazards:	*Not applicable.*
Special precautions for user	*Warning: Corrosive substances.*
Hazard identification number (Kemler code):	*80*
EMS Number:	*F-A,S-B*
Segregation groups	*Strong acids*
Stowage Category	*B*
Segregation Code	*SG36 Stow "separated from" SGG18-alkalis.* *SG49 Stow "separated from" SGG6-cyanides*
Transport in bulk according to Annex II of Marpol and the IBC Code	*Not applicable.*

Transport/Additional information:

ADR	
Limited quantities (LQ)	*1L*
Transport category	*2*
Tunnel restriction code	*E*
IMDG	
Limited quantities (LQ)	*1L*
Excepted quantities (EQ)	*Code: E2* *Maximum net quantity per inner packaging: 30 ml* *Maximum net quantity per outer packaging: 500 ml*
UN "Model Regulation":	*UN 2796 SULPHURIC ACID, 8, II*

15 Regulatory information

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

GHS05 GHS08

Signal word *Danger*

Hazard-determining components of labelling:
Sodium hydrogensulfate monohydrate
molybdic acid
sulphuric acid
Hazard statements
Causes skin irritation.
Causes serious eye damage.
May cause damage to organs through prolonged or repeated exposure.
Precautionary statements
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Immediately call a POISON CENTER/doctor.
Specific treatment (see on this label).
Take off contaminated clothing and wash it before reuse.
Dispose of contents/container in accordance with local/regional/national/international regulations.

National regulations:

Waterhazard class: *Water hazard class 1 (Self-assessment): slightly hazardous for water.*

(Contd. on page 8)

(Contd. of page 7)

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

16 Other information

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

Department issuing SDS: *PCC-TWR*
Contact: *MSDS.pcc@endress.com*
Date of the latest revision of the safety data sheet *03/19/2022 / 5*
Abbreviations and acronyms:
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
DNEL: Derived No-Effect Level (REACH)
PNEC: Predicted No-Effect Concentration (REACH)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
*** Data compared to the previous version altered.**

1 Identification

Product identifier

Trade name: Reagent SI2
Synonym: *for silicate*

Article number: *51508827*

Application of the substance / the mixture *Laboratory chemicals*

Details of the supplier of the safety data sheet
Manufacturer/Supplier:
Endress+Hauser
Conducta GmbH+Co. KG
Dieselstraße 24
D-70839 Gerlingen

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

Emergency telephone number: *+1 604 682 5050*

2 Hazard identification

Classification of the substance or mixture

GHS07

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

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

GHS07

Signal word *Warning*
Hazard statements
Causes serious eye irritation.
Precautionary statements
Wash thoroughly after handling.
Wear protective gloves/protective clothing/eye protection/face protection.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/attention.
Other hazards
The product does not contain any organic halogen compounds (AOX), nitrates, heavy metal compounds or formaldehydes.

3 Composition/Information on ingredients

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

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

(Contd. on page 2)

(Contd. of page 1)

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

4 First-aid measures

Description of first aid measures

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

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

After eye contact:
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

After swallowing: *If symptoms persist consult doctor.*

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

Indication of any immediate medical attention and special treatment needed
No further relevant information available.

* 5 Fire-fighting measures

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

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures *Wear protective clothing.*
Environmental precautions:
Dilute with plenty of water.
Do not allow to enter sewers/ surface or ground water.
Methods and material for containment and cleaning up:
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Reference to other sections
No dangerous substances are released.
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

Precautions for safe handling *No special precautions are necessary if used correctly.*
Information about fire - and explosion protection: *No special measures required.*

Storage:
Requirements to be met by storerooms and receptacles: *No special requirements.*
Information about storage in one common storage facility: *Not required.*
Further information about storage conditions: *Keep container tightly sealed.*
Storage class: *12*
Specific end use(s) *No further relevant information available.*

(Contd. on page 3)

(Contd. of page 2)

8 Exposure controls/ Personal protection

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

Control parameters
Ingredients with limit values that require monitoring at the workplace:
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
Additional information: *The lists valid during the making were used as basis.*

Exposure controls
Personal protective equipment:

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

Respiratory protection: *Not required.*

Protection of hands:

Protective gloves

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

Material of gloves
Nitrile rubber, NBR
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

Penetration time of glove material
The exact break trough 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*
Colour:	*Colourless*
Odour:	*Odourless*
Odour threshold:	*Not determined.*
pH-value:	*Slightly acidic*

(Contd. on page 4)

(Contd. of page 3)

Change in condition
Melting point/freezing point: *Undetermined.*
Initial boiling point and boiling range: *100 °C*

Flash point: *Not applicable.*

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

Ignition temperature: *1 °C*

Decomposition temperature: *Not determined.*

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

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

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

Vapour pressure at 20 °C: *23 hPa*

Density at 20 °C: *1.081 g/cm³*
Relative density *Not determined.*
Vapour density *Not determined.*
Evaporation rate *Not determined.*

Solubility in / Miscibility with water: *Fully miscible.*

Partition coefficient: n-octanol/water: *Not determined.*

Viscosity:
Dynamic: *Not determined.*
Kinematic: *Not determined.*

Solvent content:
Water: *>80.0 %*

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

LD/LC50 values relevant for classification:		
CAS: 77-92-9 citric acid		
Oral	*LD50*	*5,040 mg/kg (Mouse)*

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

(Contd. on page 5)

(Contd. of page 4)

Serious eye damage/irritation *Irritating effect.*
Respiratory or skin sensitisation *No sensitising effects known.*
Additional toxicological information:
The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:
Irritant

12 Ecological information

Toxicity
Aquatic toxicity: *No further relevant information available.*
Persistence and degradability *No further relevant information available.*
Behaviour in environmental systems:
Bioaccumulative potential *No further relevant information available.*
Mobility in soil *No further relevant information available.*
Additional ecological information:
General notes:
Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
Results of PBT and vPvB assessment
PBT: *Not applicable.*
vPvB: *Not applicable.*
Other adverse effects *No further relevant information available.*

13 Disposal considerations

Waste treatment methods
Recommendation
Must not be disposed together with household garbage. Do not allow product to reach sewage system.

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

* 14 Transport information

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

ADR, ADN, IMDG, IATA
Class *Void*
Packing group
ADR, IMDG, IATA *Void*
Environmental hazards: *Not applicable.*
Special precautions for user *Not applicable.*
Transport in bulk according to Annex II of Marpol and the IBC Code *Not applicable.*
UN "Model Regulation": *Void*

15 Regulatory information

Safety, health and environmental regulations/legislation specific for the substance or mixture
GHS label elements
The product is classified and labelled according to the Globally Harmonised System (GHS).

(Contd. on page 6)

(Contd. of page 5)

Hazard pictograms

GHS07

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

National regulations:

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

16 Other information

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

Department issuing SDS: *PCC-TWR*
Contact: *MSDS.pcc@endress.com*
Date of the latest revision of the safety data sheet *03/19/2022 / 5*
Abbreviations and acronyms:
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
*** Data compared to the previous version altered.**

1 Identification

Product identifier

Trade name: Reagent SI3
Synonym: *for silicate*

Article number: *51509841*

Application of the substance / the mixture *Laboratory chemicals*

Details of the supplier of the safety data sheet
Manufacturer/Supplier:
Endress+Hauser
Conducta GmbH+Co. KG
Dieselstraße 24
D-70839 Gerlingen

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

Emergency telephone number: *+1 604 682 5050*

2 Hazard identification

Classification of the substance or mixture

GHS05 Corrosion

Serious Eye Damage - Category 1 H318 Causes serious eye damage.

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

GHS05

Signal word *Danger*

Hazard-determining components of labelling:
disodium disulphite
Hazard statements
Causes serious eye damage.
Precautionary statements
Wear protective gloves/protective clothing/eye protection/face protection.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Immediately call a POISON CENTER/doctor.
Other hazards
The product does not contain any organic halogen compounds (AOX), nitrates, heavy metal compounds or formaldehydes.

3 Composition/Information on ingredients

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

(Contd. on page 2)

(Contd. of page 1)

Dangerous components:		
CAS: 124-68-5	*2-amino-2-methylpropanol* *Skin Irritation - Category 2, H315; Eye Irritation - Category 2A, H319*	*5-10% **
CAS: 7681-57-4	*disodium disulphite* *Serious Eye Damage - Category 1, H318; Acute Toxicity (Oral) - Category 4, H302*	*3-7% **

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, 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 neutralising agent.
Dispose contaminated material as waste according to item 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.

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)

Storage:
Requirements to be met by storerooms and receptacles: *No special requirements.*
Information about storage in one common storage facility: *Not required.*
Further information about storage conditions: *Keep container tightly sealed.*
Storage class: *12*
Specific end use(s) *No further relevant information available.*

8 Exposure controls/ Personal protection

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

Control parameters

Ingredients with limit values that require monitoring at the workplace:	
CAS: 7681-57-4 disodium disulphite	
EL	*TWA: 5 mg/m³*
EV	*TWA: 5 mg/m³*

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

Exposure controls
Personal protective equipment:

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

Respiratory protection: *Not required.*

Protection of hands:

Protective gloves

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

Material of gloves
Nitrile rubber, NBR
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

Penetration time of glove material
The exact break trough 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*

(Contd. on page 4)

(Contd. of page 3)

9 Physical and chemical properties

Information on basic physical and chemical properties

General Information
Appearance:
Form: *Fluid*
Colour: *Yellowish*
Odour: *Pungent*
Odour threshold: *Not determined.*

pH-value: *Slightly alkaline*

Change in condition
Melting point/freezing point: *Undetermined.*
Initial boiling point and boiling range: *Undetermined.*

Flash point: *Not applicable.*

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

Decomposition temperature: *Not determined.*

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

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

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

Vapour pressure at 20 °C: *23 hPa*

Density: *Not determined.*
Relative density *Not determined.*
Vapour density *Not determined.*
Evaporation rate *Not determined.*

Solubility in / Miscibility with water: *Fully miscible.*

Partition coefficient: n-octanol/water: *Not determined.*

Viscosity:
Dynamic: *Not determined.*
Kinematic: *Not determined.*

Solvent content:
Organic solvents: *7.5 %*
Water: *>80.0 %*

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.*

(Contd. on page 5)

(Contd. of page 4)

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

11 Toxicological information

Information on toxicological effects
Acute toxicity
Primary irritant effect:
Skin corrosion/irritation *No irritant effect.*
Serious eye damage/irritation *Strong irritant with the danger of severe eye injury.*
Respiratory or skin sensitisation *No sensitising effects known.*
Additional toxicological information:
The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:
Irritant

12 Ecological information

Toxicity
Aquatic toxicity: *No further relevant information available.*
Persistence and degradability *No further relevant information available.*
Behaviour in environmental systems:
Bioaccumulative potential *No further relevant information available.*
Mobility in soil *No further relevant information available.*
Additional ecological information:
General notes:
Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
Must not reach sewage water or drainage ditch undiluted or unneutralised.
Results of PBT and vPvB assessment
PBT: *Not applicable.*
vPvB: *Not applicable.*
Other adverse effects *No further relevant information available.*

13 Disposal considerations

Waste treatment methods
Recommendation
Must not be disposed together with household garbage. Do not allow product to reach sewage system.

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

* 14 Transport information

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

ADR, ADN, IMDG, IATA
Class *Void*
Packing group
ADR, IMDG, IATA *Void*
Environmental hazards: *Not applicable.*

(Contd. on page 6)

(Contd. of page 5)

Special precautions for user *Not applicable.*
Transport in bulk according to Annex II of Marpol and the IBC Code *Not applicable.*
UN "Model Regulation": *Void*

15 Regulatory information

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

GHS05

Signal word *Danger*

Hazard-determining components of labelling:
disodium disulphite
Hazard statements
Causes serious eye damage.
Precautionary statements
Wear protective gloves/protective clothing/eye protection/face protection.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Immediately call a POISON CENTER/doctor.

National regulations:

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

16 Other information

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

Department issuing SDS: *PCC-TWR*
Contact: *MSDS.pcc@endress.com*
Date of the latest revision of the safety data sheet *03/19/2022 / 4*
Abbreviations and acronyms:
IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)
ICAO: International Civil Aviation Organisation
ICAO-TI: Technical Instructions by the "International Civil Aviation Organisation" (ICAO)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
*** Data compared to the previous version altered.**