

Trade name: Natrii hypochlorosi 14% solut

Substance number: 213700 Version: 14 / CH Date revised: 05.06.2023

Replaces Version: 13 / CH Print date: 05.06.23

# SECTION 1: Identification of the substance/mixture and of the company/undertaking

## 1.1. Product identifier

Natrii hypochlorosi 14% solut

Item No. 21370000

Registration no.

EC No.: 231-668-3

Registration no. 01-2119488154-34-XXXX

CAS No. 7681-52-9

## 1.3. Details of the supplier of the safety data sheet

### Address/Manufacturer

Hänseler AG

Industriestrasse 35 9100 Herisau

Telephone no. 0041 (0)71 353 58 58 E-mail address of sdb@haenseler.ch

person responsible

for this SDS

## 1.4. Emergency telephone number

Switzerland: 145 / Abroad +41 (0)44 251 51 51

## **SECTION 2: Hazards identification \*\*\***

## 2.1. Classification of the substance or mixture

## Classification (Regulation (EC) No. 1272/2008)

Classification (Regulation (EC) No. 1272/2008)

Met. Corr. 1 H290 Skin Corr. 1B H314 Eye Dam. 1 H318 Aquatic Acute 1 H400 Aquatic Chronic 2 H411

The product is classified and labelled in accordance with Regulation (EC) No 1272/2008 For explanation of abbreviations see section 16.

#### 2.2. Label elements

## Labelling according to regulation (EC) No 1272/2008

## Hazard pictograms





## Signal word

Danger

#### **Hazard statements**

H290 May be corrosive to metals.

H314 Causes severe skin burns and eye damage.

H400 Very toxic to aquatic life.

H411 Toxic to aquatic life with long lasting effects.



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EUH031 Contact with acids liberates toxic gas.

## Precautionary statements \*\*\*

P234 Keep only in original packaging.
P273 Avoid release to the environment.

P280 Wear protective gloves/protective clothing/eye protection/face protection.
P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position

comfortable for breathing.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact

lenses, if present and easy to do. Continue rinsing.

P310 Immediately call a POISON CENTER or doctor.

#### Hazardous component(s) to be indicated on label (Regulation (EC) No. 1272/2008)

contains sodium hypochlorite, solution... % Cl active; sodium hydroxide

#### 2.3. Other hazards

The product contains no PBT substances. The product contains no vPvB substances. This product does not contain a substance that has endocrine disrupting properties with respect to human. The product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms.

## **SECTION 3: Composition/information on ingredients**

## **Hazardous ingredients**

## sodium hypochlorite, solution... % Cl active

CAS No. 7681-52-9 EINECS no. 231-668-3

Registration no. 01-2119488154-34-XXXX

Concentration >= 10 < 25 %

Classification (Regulation (EC) No. 1272/2008)

Skin Corr. 1B H314
Eye Dam. 1 H318
Aquatic Acute 1 H400
Aquatic Chronic 1 H410

Concentration limits (Regulation (EC) No. 1272/2008)

EUH03 >= 5 %

Aquatic Acute 1 M = 10Aquatic Chronic M = 1

1

ATE oral 5 mg/kg

Additional remarks:

CLP Regulation (EC) No 1272/2008, Annex VI, Note B

sodium hydroxide

CAS No. 1310-73-2 EINECS no. 215-185-5

Registration no. 01-2119457892-27-XXXX

Concentration >= 1 < 2 %

Classification (Regulation (EC) No. 1272/2008)

Met. Corr. 1 H290 Skin Corr. 1A H314

Concentration limits (Regulation (EC) No. 1272/2008)

Eye Irrit. 2 H319 >= 0.5 < 2 %Skin Corr. 1A H314 >= 5 %Skin Corr. 1B H314 >= 2 < 5 %



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Skin Irrit. 2 H315 >= 0.5 < 2 %

 ATE
 oral
 325
 mg/kg

 ATE
 dermal
 1'350
 mg/kg

## **SECTION 4: First aid measures**

## 4.1. Description of first aid measures

## **General information**

Remove affected person from danger area, lay him down. Adhere to personal protective measures when giving first aid. Keep under medical supervision for at least 48 hours. Remove contaminated, soaked clothing immediately and dispose of safely.

#### After inhalation

If the patient is likely to become unconscious, place and transport in stable sideways position.

#### After skin contact

Summon a doctor immediately. Wash off immediately with soap and water and rinse well. Wash skin thoroughly with water (15 min.).

## After eye contact

Shield unaffected eye. Separate eyelids, wash the eyes thoroughly with water (15 min.). Summon a doctor immediately.

## After ingestion

If swallowed, rinse mouth with water (only if the person is conscious). Do not induce vomiting. If individual is drowsy or unconscious place in recovery position (on left side, with head down). Summon a doctor immediately.

## 4.2. Most important symptoms and effects, both acute and delayed

Irritating to respiratory system. Irritation of mucosa, Gastrointestinal complaints, Chemical burn

# 4.3. Indication of any immediate medical attention and special treatment needed Hints for the physician / hazards

Frequent and persistent contact with the skin can cause dermatitis. Risk of pulmonary oedema

## **SECTION 5: Firefighting measures**

## 5.1. Extinguishing media

## Suitable extinguishing media

Product itself is non-combustible; adapt fire extinguishing measures to surrounding areas.

## 5.2. Special hazards arising from the substance or mixture

In the event of fire the following can be released: Hydrogen chloride (HCI); Chlorine (CI2)

### 5.3. Advice for firefighters

### Special protective equipment for fire-fighting

Wear full protective suit. Use self-contained breathing apparatus.

## Other information

Cool endangered containers with water spray jet.

## **SECTION 6: Accidental release measures**

## 6.1. Personal precautions, protective equipment and emergency procedures

Respiratory protection. Wear protective equipment. Keep away unprotected persons.

### 6.2. Environmental precautions

Suppress gases/vapours/mists with water spray jet. Dilute with lot of water. Do not discharge into the



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drains/surface waters/groundwater.

## 6.3. Methods and material for containment and cleaning up

Neutralize. When picked up, treat material as prescribed under Section 13 "Disposal". Ensure adequate ventilation.

## **SECTION 7: Handling and storage**

## 7.1. Precautions for safe handling

## Advice on safe handling

Provide good ventilation of working area (local exhaust ventilation if necessary). Handle and open container with care. Avoid formation of aerosols.

## Advice on protection against fire and explosion

The product is not combustible. Oxidizing

## 7.2. Conditions for safe storage, including any incompatibilities

## Recommended storage temperature

Value 15 25 °C

## Requirements for storage rooms and vessels

Only use containers that are approved specifically for the substance/product. Do not use metal containers and metal pinings.

## Hints on storage assembly

Do not store with combustible materials. Do not store with acids.

### Storage classes

Storage class according to TRGS 510 8B Non-combustible corrosive hazardous

substances

Storage category (Switzerland) 8 Caustic and corrosive substances

## Further information on storage conditions

Protect from frost. Protect from light. Keep container tightly closed.

# **SECTION 8: Exposure controls/personal protection**

### 8.1. Control parameters

## **Exposure limit values**

### sodium hydroxide

List SUVA Type MAK

Value 2 mg/m³
Short term exposure limit 2 mg/m³

Pregnancy group: S; Remarks: SSc; Haut, OAWKT & AugeKT; NIOSH, OSHA

## **Derived No/Minimal Effect Levels (DNEL/DMEL)**

## sodium hypochlorite, solution... % Cl active

Type of value Derived No Effect Level (DNEL)

Reference group Worker
Duration of exposure Short term
Route of exposure inhalative
Mode of action Systemic effects

Concentration 3.1 mg/m³

Type of value Derived No Effect Level (DNEL)

Reference group Worker
Duration of exposure Long term



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Route of exposure inhalative
Mode of action Systemic effects

Concentration 1.55 mg/m<sup>3</sup>

Type of value Derived No Effect Level (DNEL)

Reference group

Duration of exposure

Route of exposure

Mode of action

Concentration

Worker

Long term

dermal

Local effects

0.5

0.5

Type of value Derived No Effect Level (DNEL)

Reference group

Duration of exposure

Route of exposure

Mode of action

Consumer

Long term

inhalative

Systemic effects

Concentration 1.55 mg/m<sup>3</sup>

Type of value Derived No Effect Level (DNEL)

Reference group Consumer
Duration of exposure Short term
Route of exposure inhalative
Concentration 3.1

Concentration 3.1 mg/m<sup>3</sup>

Type of value Derived No Effect Level (DNEL)

Reference group Consumer
Duration of exposure Long term
Route of exposure oral

Mode of action Systemic effects

Concentration 0.26 mg/kg/d

sodium hydroxide

Type of value Derived No Effect Level (DNEL)

Reference group

Duration of exposure

Route of exposure

Mode of action

Consentation

Worker

Long term

inhalative

Local effects

Concentration 1 mg/m³

Type of value Derived No Effect Level (DNEL)

Reference group

Duration of exposure

Route of exposure

Mode of action

Consumer

Long term

inhalative

Local effects

Concentration 1 mg/m³

**Predicted No Effect Concentration (PNEC)** 

sodium hypochlorite, solution... % Cl active

Type of value PNEC
Type Freshwater

Concentration 0.21 µg/l

Type of value PNEC
Type Saltwater

Concentration 0.042 µg/l



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Type of value PNEC

Type Sewage treatment plant (STP)

Concentration 0.03 mg/l

Type of value PNEC
Conditions Intermittend

Concentration 0.26 µg/l

## 8.2. Exposure controls

## **Exposure controls**

See Section 7. No measures exeeding the ones mentioned necessary.

## General protective and hygiene measures

Hold eye wash fountain available. Keep away from food-stuffs, beverages and feed-stocks. Remove contaminated, soaked clothing immediately and dispose of safely. Wash hands before breaks and after work. Avoid contact with skin and eyes.

## Respiratory protection

Breathing apparatus in the event of aerosol or mist formation. Short term: filter apparatus, combination filter B-P2; At intensive and longer exposition use self-contained breathing apparatus. EN 141

## **Hand protection**

Gloves (alkali-resistant)

Appropriate Material Polychloroprene

Material thickness 0.5 mm Breakthrough time >= 8 h

Hand protection must comply with EN 374.

Gloves (alkali-resistant)

Appropriate Material Fluoro carbon rubber - FKM Material thickness 0.4 mm

Breakthrough time >= 8 h

Gloves (alkali-resistant)

Appropriate Material PVC

Material thickness 0.5 mm
Breakthrough time >= 8 h

Protective gloves

Not suitable: gloves made of thick material

Not suitable: leather gloves

### Eye protection

Tightly fitting safety glasses

## **Body protection**

Alkali-resistant protective clothing

## SECTION 9: Physical and chemical properties

## 9.1. Information on basic physical and chemical properties

Physical state liquid yellow-green Odour Chlorine.

**Melting point** 

Value -30 to -20 °C

Flash point

Value °C Remarks Not applicable



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**Decomposition temperature** 

Value > 111 °C

pH value

Value 12 to 13

Viscosity

dynamic

Value 3 to 4 mPa.s

Partition coefficient n-octanol/water (log value)

log Pow -3.42 Temperature 20 °C

remperature 20

Vapour pressure

Value appr. 20 hPa

Density and/or relative density

Value 1.21 to 1.23 g/cm<sup>3</sup>

Temperature 20 °C

## 9.2. Other information

Solubility in water

Remarks Completely miscible

**Explosive properties** 

evaluation no

**Oxidising properties** 

evaluation oxidizing

Other information

The product is not dangerous for explosions. The product is not combustible.

# SECTION 10: Stability and reactivity

### 10.1. Reactivity

Contact with acids liberates toxic gases. Corrosive to metals.

## 10.2. Chemical stability

Protect from light. Heat

### 10.3. Possibility of hazardous reactions

Protect from light and atmospheric moisture. Keep away from sources of heat and ignition. Possible incompatibility with materials lister under section 10.5.

### 10.4. Conditions to avoid

To avoid thermal decomposition, do not overheat.

## 10.5. Incompatible materials

Reactions with strong acids. Do not store with combustible materials. Evolution of chlorine under influence of acids. Reactions with reducing agents. Corrosive to metals. Violent reaction with organic compounds like wood, paper, grease. hydrogen peroxide (H2O2). Salts of metals (iron), copper (Cu)

## 10.6. Hazardous decomposition products

Chlorine, Hydrogen chloride (HCI), Chlorine compounds

## SECTION 11: Toxicological information

## 11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008



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Acute oral toxicity

ATE 33.2992 mg/kg Method calculated value (Regulation (EC) No. 1272/2008)

**Acute oral toxicity (Components)** 

sodium hypochlorite, solution... % Cl active

Species mouse

LD50 5800 mg/kg

sodium hypochlorite, solution... % Cl active

Species rat

LD50 > 1100 mg/kg

Method OECD 401 Source Test substance: Cl

sodium hypochlorite, solution... % Cl active
Species rat

NOAEL 5 mg/kg

sodium hydroxide

Species rat

LD50 2000 mg/kg

Source NLM HSDB

sodium hydroxide

Species rat

LD50 325 mg/kg

Source OECD SIDS

Acute dermal toxicity

ATE > 10'000 mg/kg
Method calculated value (Regulation (EC) No. 1272/2008)

**Acute dermal toxicity (Components)** 

sodium hypochlorite, solution... % Cl active

Species rabbit

LD50 > 20000 mg/kg

Method OECD 402 Source Test substance: CI

sodium hydroxide

Remarks Strong corrosive action on the skin and mucous membrane.

sodium hydroxide

Species rabbit

LD50 1350 mg/kg

Source NLM HSDB

**Acute inhalative toxicity (Components)** 

sodium hypochlorite, solution... % Cl active

Species rat

LC50 > 10.5 mg/l

Duration of exposure 1 h

Method OECD 403 Source Chlor

sodium hydroxide

Remarks Strong corrosive action on the skin and mucous membrane.

Skin corrosion/irritation

Remarks Corrosive action on the skin and mucous membrane.

Skin corrosion/irritation (Components)



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sodium hypochlorite, solution... % Cl active

Species Human evaluation corrosive

sodium hypochlorite, solution... % Cl active

Species rabbit

evaluation strongly irritant Method OECD 404

sodium hydroxide

Species rabbit

Duration of exposure 24 h

Remarks Corrosive

Serious eye damage/irritation

evaluation strongly corrosive

Serious eye damage/irritation (Components)

sodium hypochlorite, solution... % Cl active

Species rabbit

evaluation irritant - risk of serious damage to eyes

Method OECD 405

sodium hydroxide

Species rabbit

Duration of exposure 24 h evaluation strongly corrosive Method Draize method

Remarks Influence of the product with the eyes can lead to blindness.

Sensitization

Remarks No sensitation effect known.

**Sensitization (Components)** 

sodium hypochlorite, solution... % Cl active

Species guinea pig evaluation non-sensitizing Method OECD 406

sodium hydroxide

Remarks No sensitation effect known.

Subacute, subchronic, chronic toxicity (Components)

sodium hydroxide

Remarks No data available

**Mutagenicity (Components)** 

sodium hypochlorite, solution... % Cl active

evaluation No experimental information on genotoxicity in vitro available.

sodium hypochlorite, solution... % Cl active

evaluation No experimental indications on genotoxicity in vivo found.

sodium hypochlorite, solution... % Cl active

Species Salmonella typhimurium

evaluation No mutagenicity in the Ames-test.

Method OECD 471

sodium hypochlorite, solution... % Cl active

Species hamster

evaluation Information on genotoxicity in vitro available.

Method OECD 473 sodium hypochlorite, solution... % Cl active



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Species mouse

evaluation No experimental indications on genotoxicity in vivo found.

Method OECD 474

sodium hypochlorite, solution... % Cl active

Species mouse

evaluation Information on genotoxicity in vivo available.

sodium hydroxide

Species Escherichia coli

evaluation No mutagenicity in the Ames-test.

**Reproduction toxicity (Components)** 

sodium hypochlorite, solution... % Cl active evaluation No negative effects

sodium hydroxide

Remarks No data available

**Carcinogenicity (Components)** 

sodium hypochlorite, solution... % Cl active evaluation No negative effects

sodium hydroxide

evaluation No negative effects

**Specific Target Organ Toxicity (STOT) (Components)** 

sodium hypochlorite, solution... % Cl active

Single exposure

evaluation May cause respiratory irritation.

Route of exposure inhalative Organs: Respiratory tract

Species Human

sodium hydroxide

Remarks No data available

11.2 Information on other hazards

**Endocrine disrupting properties with respect to humans** 

The product does not contain a substance that has endocrine disrupting properties with respect to humans.

Experience in practice

After Swallowing: burns in mouth, throat, oesophagus and gastrointetinal tract. Risk of perforation in the oesophagus and stomach.

## **SECTION 12: Ecological information**

### 12.1. Toxicity

Fish toxicity

Species Fathead minnow (Pimephales promelas) LC50 5.9 mg/l

Duration of exposure 96 h

Fish toxicity (Components)

sodium hypochlorite, solution... % Cl active
Species Salmo gairdneri

LC50 0.06 mg/l

Duration of exposure 96 h

sodium hypochlorite, solution... % Cl active



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Species Menidia peninsulae

NOEC 0.04 mg/l

Duration of exposure 96 h

sodium hypochlorite, solution... % Cl active

NOEC 0.04 mg/l

Menidia peninsulae

Duration of exposure 28 d

sodium hydroxide

**Species** 

Species Gambusia affinis

LC50 125 mg/l

Duration of exposure 96 h

sodium hydroxide

Species rainbow trout (Oncorhynchus mykiss)

LC50 45.4 mg/l

Duration of exposure 96 h

**Daphnia toxicity** 

Species Daphnia magna

LC50 < 10 mg/l

Duration of exposure 24 h

**Daphnia toxicity (Components)** 

sodium hypochlorite, solution... % Cl active

Species Daphnia magna

EC50 0.141 mg/l

Duration of exposure 48 h

sodium hydroxide

Species Daphnia

EC50 40.38 mg/l

Duration of exposure 48 h

Remarks Immobilization

sodium hydroxide

Species Daphnia magna

EC50 76 mg/l

Duration of exposure 24 h

Algae toxicity (Components)

sodium hypochlorite, solution... % Cl active

NOEC 0.0021 Duration of exposure 7 d

sodium hydroxide

Remarks No data available.

**Bacteria toxicity (Components)** 

sodium hypochlorite, solution... % Cl active

Species activated sludge

EC50 > 3 mg/l

Duration of exposure 3 h

sodium hydroxide

Species Photobacterium phosphoreum

EC50 22 mg/l

Duration of exposure 15 min

12.2. Persistence and degradability

Physico-chemical eliminability (Components)



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sodium hydroxide

Remarks No data available.

**Biodegradability** 

evaluation not degradable

**Biodegradability (Components)** 

sodium hypochlorite, solution... % Cl active

Remarks Inorganic product, cannot be eliminated from the water by biological

purification processes.

sodium hydroxide

evaluation not degradable

Ready degradability (Components)

sodium hydroxide

Remarks Inorganic product, cannot be eliminated from the water by biological

purification processes.

12.3. Bioaccumulative potential

**General information** 

Not applicable

Partition coefficient n-octanol/water (log value)

log Pow -3.42

Temperature 20 °C

Octanol/water partition coefficient (log Pow) (Components)

sodium hypochlorite, solution... % Cl active

log Pow -3.42

Temperature 20 °C

12.4. Mobility in soil

Mobility in soil

Highly mobile in soils

Mobility in soil (Components)

sodium hypochlorite, solution... % Cl active

Highly mobile in soils

sodium hydroxide

Slightly mobile in soils

12.5. Results of PBT and vPvB assessment

**General information** 

No data available

Results of PBT and vPvB assessment

The product contains no PBT substances

The product contains no vPvB substances.

12.6 Endocrine disrupting properties

Endocrine disrupting properties with respect to the envrionment

The product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms.

12.7. Other adverse effects

General information / ecology

Toxic for aquatic organismes. Do not allow it to reach ground water, water bodies or sewage system.



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Hazard for drinking water supplies.

## **SECTION 13: Disposal considerations**

#### 13.1. Waste treatment methods

## Disposal recommendations for the product

Disposal in compliance with local and national regulations.

## Disposal recommendations for packaging

Dispose of as unused product.

**SECTION 14: Transport information** 

	Land transport ADR/RID	Marine transport	Air transport
		IMDG/GGVSee	ICAO/IATA
Tunnel restriction code	Е		
14.1. UN number	1791	1791	1791
14.2. UN proper shipping name	HYPOCHLORITE SOLUTION (sodium hypochlorite, solution % CI active)	HYPOCHLORITE SOLUTION (sodium hypochlorite, solution % CI active)	HYPOCHLORITE SOLUTION (sodium hypochlorite, solution % Cl active)
14.3. Transport hazard class(es)	8	8	8
Label	8	8	8
14.4. Packing group	II	II	II
Limited Quantity	1		
Transport category	2		

# **SECTION 15: Regulatory information**

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

### Water Hazard Class (Germany)

Water Hazard Class WGK 2

(Germany)

Remarks Derivation of WGK according to Annex 1 No. 5.2 AwSV

## **SECTION 16: Other information**

## Hazard statements listed in Chapter 3

H290 May be corrosive to metals.

H314 Causes severe skin burns and eye damage.

H318 Causes serious eye damage. H400 Very toxic to aquatic life.



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H410 Very toxic to aquatic life with long lasting effects.H411 Toxic to aquatic life with long lasting effects.

## **CLP categories listed in Chapter 3**

Aquatic Acute 1 Hazardous to the aquatic environment, acute, Category 1
Aquatic Chronic 1 Hazardous to the aquatic environment, chronic, Category 1
Aquatic Chronic 2 Hazardous to the aquatic environment, chronic, Category 2

Eye Dam. 1 Serious eye damage, Category 1

Met. Corr. 1 Substance or mixture corrosive to metals, Category 1

Skin Corr. 1A Skin corrosion, Category 1A Skin Corr. 1B Skin corrosion, Category 1B

### **Supplemental information**

Relevant changes compared with the previous version of the safety data sheet are marked with: \*\*\* This information is based on our present state of knowledge. However, it should not constitute a guarantee for any specific product properties and shall not establish a legally valid relationship.