

# SAFETY DATA SHEET

Version 6.3  
Revision Date 26.03.2021  
Print Date 16.06.2021

## SECTION 1: Identification of the hazardous chemical and of the supplier

### 1.1 Product identifiers

Product name : Sodium hypochlorite solution

Product Number : 425044

Brand : SIGALD

### 1.2 Other means of identification

No data available

### 1.3 Relevant identified uses of the substance or mixture and uses advised against

Identified uses : For R&D use only. Not for pharmaceutical, household or other uses.

### 1.4 Details of the supplier of the safety data sheet

Company : SIGMA-ALDRICH (M) SDN BHD  
Level 3, Menara Sunway Annexe,  
Jalan Lagoon Timur, Bandar Sunway,  
46150 PETALING JAYA, SELANGOR  
MALAYSIA

Telephone : +60 (603)03-563-53321

Fax : +60 (603)03-563-54116

### 1.5 Emergency telephone

Emergency Phone # : 1-800-815-308 (CHEMTREC) \* + 62 0800  
140 1253 (Customer Call Centre)

## Section 2: Hazard identification

### 2.1 GHS Classification

Classification according to CLASS regulations 2013

Skin corrosion/irritation (Category 1B), H314

Serious eye damage/eye irritation (Category 1), H318

Hazardous to the aquatic environment - acute hazard (Category 1), H400

Hazardous to the aquatic environment - chronic hazard (Category 1), H410

For the full text of the H-Statements mentioned in this Section, see Section 16.

### 2.2 GHS Label elements, including precautionary statements

Labelling according to CLASS regulations 2013

Pictogram



Signal word : Danger

Hazard statement(s)  
H314 : Causes severe skin burns and eye damage.

H410	Very toxic to aquatic life with long lasting effects.
Precautionary statement(s)	
Prevention	
P264	Wash skin thoroughly after handling.
P273	Avoid release to the environment.
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection.
Response	
P303 + P361 + P353	IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.
P304 + P340 + P310	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/ physician.
P305 + P351 + P338 + P310	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 or doctor/ physician.
P391	Collect spillage.

### Reduced Labeling (<= 125 ml)

Pictogram



Signal word	Danger
Hazard statement(s)	none
Precautionary statement(s)	none
Refer to the Safety Data Sheet before use.	

### 2.3 Other hazards

Contact with acids liberates toxic gas.

## SECTION 3: Composition and information of the ingredients of the hazardous chemical

Substance / Mixture : Mixture

### 3.2 Mixtures

Formula : ClNaO  
Molecular weight : 74.44 g/mol

#### Hazardous ingredients

Component	Classification	Concentration
<b>sodium hypochlorite solution</b>		
CAS-No. 7681-52-9	1B; 1; Aquatic Acute 1; Aquatic Chronic 1; H314, H318, H400, H410 M-Factor - Aquatic Acute: 10 M-Factor - Aquatic Chronic: 10	>= 10 - < 25 %
EC-No. 231-668-3		
Index-No. 017-011-00-1		

For the full text of the H-Statements mentioned in this Section, see Section 16.

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## SECTION 4: First aid measures

### 4.1 Description of first-aid measures

#### General advice

First aiders need to protect themselves. Show this material safety data sheet to the doctor in attendance.

#### If inhaled

After inhalation: fresh air. Call in physician.

#### In case of skin contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Call a physician immediately.

#### In case of eye contact

After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist. Remove contact lenses.

#### If swallowed

After swallowing: make victim drink water (two glasses at most), avoid vomiting (risk of perforation). Call a physician immediately. Do not attempt to neutralise.

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

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

### 4.3 Indication of any immediate medical attention and special treatment needed

No data available

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## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

#### Suitable extinguishing media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

#### Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

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

Nature of decomposition products not known.

Not combustible.

Ambient fire may liberate hazardous vapours.

### 5.3 Advice for firefighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

### 5.4 Further information

Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

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

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

Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

For personal protection see section 8.

### **6.2 Environmental precautions**

Do not let product enter drains.

### **6.3 Methods and materials for containment and cleaning up**

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up with liquid-absorbent material (e.g. Chemizorb® ). Dispose of properly. Clean up affected area.

### **6.4 Reference to other sections**

For disposal see section 13.

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

### **7.1 Precautions for safe handling**

For precautions see section 2.2.

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

#### **Storage conditions**

Tightly closed.

Do not store near acids.

#### **Storage stability**

Recommended storage temperature

2 - 8 °C

### **7.3 Specific end use(s)**

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

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

### **8.1 Control parameters**

#### **Ingredients with workplace control parameters**

Contains no substances with occupational exposure limit values.

### **8.2 Exposure controls**

#### **Appropriate engineering controls**

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

#### **Personal protective equipment**

##### **Eye/face protection**

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Tightly fitting safety goggles

##### **Skin protection**

Full contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm  
Break through time: 480 min  
Material tested: Dermatril® (KCL 740 / Aldrich Z677272, Size M)

Splash contact  
Material: Nitrile rubber  
Minimum layer thickness: 0.11 mm  
Break through time: 480 min  
Material tested: Dermatril® (KCL 740 / Aldrich Z677272, Size M)

### **Body Protection**

protective clothing

### **Respiratory protection**

required when vapours/aerosols are generated.

Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.

### **Control of environmental exposure**

Do not let product enter drains.

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## **SECTION 9: Physical and chemical properties**

### **9.1 Information on basic physical and chemical properties**

a) Appearance	Form: liquid
b) Odor	No data available
c) Odor Threshold	No data available
d) pH	No data available
e) Melting point/freezing point	-28.9 °C
f) Initial boiling point and boiling range	111 °C
g) Flash point	Not applicable
h) Evaporation rate	No data available
i) Flammability (solid, gas)	No data available
j) Upper/lower flammability or explosive limits	No data available
k) Vapor pressure	23.3 hPa at 20 °C
l) Vapor density	No data available
m) Relative density	No data available
n) Water solubility	completely miscible at 20 °C soluble
o) Partition coefficient: n-octanol/water	No data available
p) Autoignition	Not applicable

- temperature
- q) Decomposition temperature No data available
- r) Viscosity Viscosity, kinematic: No data available  
Viscosity, dynamic: No data available
- s) Explosive properties No data available
- t) Oxidizing properties No data available

## 9.2 Other safety information

No data available

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## SECTION 10: Stability and reactivity

### 10.1 Reactivity

No data available

### 10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

### 10.3 Possibility of hazardous reactions

Violent reactions possible with:

The generally known reaction partners of water.

Generates dangerous gases or fumes in contact with:

Acids

### 10.4 Conditions to avoid

no information available

### 10.5 Incompatible materials

Strong acids, Organic materials, Powdered metals, Forms shock-sensitive mixtures with certain other materials., Amines, Reacts violently with ammonium salts, aziridine, methanol, and phenylaceto primary aliphatic or aromatic amines to form explosively unstable n-chlor 55°C.

### 10.6 Hazardous decomposition products

In the event of fire: see section 5

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## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Mixture

#### Acute toxicity

No data available

Symptoms: If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the esophagus and the stomach.

Symptoms: mucosal irritations, Cough, Shortness of breath, Possible damages:, damage of respiratory tract

#### Skin corrosion/irritation

No data available

Mixture causes burns.

**Serious eye damage/eye irritation**

No data available

Mixture causes serious eye damage. Risk of blindness!

**Respiratory or skin sensitization**

No data available

**Germ cell mutagenicity**

No data available

**Carcinogenicity**

No data available

**Reproductive toxicity**

No data available

**Specific target organ toxicity - single exposure**

No data available

**Specific target organ toxicity - repeated exposure**  
No data available

**Aspiration hazard**

No data available

**11.2 Additional Information**

Not available

burning sensation, Cough, wheezing, laryngitis, Shortness of breath, spasm, inflammation and edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary edema, Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Other dangerous properties can not be excluded.

Handle in accordance with good industrial hygiene and safety practice.

**Components**

**sodium hypochlorite solution**

**Acute toxicity**

LD50 Oral - Rat - male - 1,100 mg/kg

(OECD Test Guideline 401)

LD50 Dermal - Rabbit - male and female - > 20,000 mg/kg

(OECD Test Guideline 402)

**Skin corrosion/irritation**

Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)

**Serious eye damage/eye irritation**

Causes serious eye damage.

**Respiratory or skin sensitization**

- Guinea pig

Result: Not a skin sensitizer.  
(OECD Test Guideline 406)

#### **Germ cell mutagenicity**

Result: negative  
Mutagenicity (micronucleus test)  
Mouse - male  
Result: negative

#### **Carcinogenicity**

##### **Reproductive toxicity**

No data available

##### **Specific target organ toxicity - single exposure**

No data available

##### **Specific target organ toxicity - repeated exposure**

No data available

##### **Aspiration hazard**

No data available

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## **SECTION 12: Ecological information**

### **12.1 Toxicity**

#### **Mixture**

No data available

### **12.2 Persistence and degradability**

No data available

### **12.3 Bioaccumulative potential**

No data available

### **12.4 Mobility in soil**

No data available

### **12.5 Results of PBT and vPvB assessment**

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

### **12.6 Other adverse effects**

No data available

#### **Components**

##### **sodium hypochlorite solution**

Toxicity to fish	LC50 - Pimephales promelas (fathead minnow) - 0.08 mg/l - 96 h Remarks: (Regulation (EC) No 1272/2008, Annex VI) (ECOTOX Database)
Toxicity to daphnia and other aquatic invertebrates	EC50 - Daphnia magna (Water flea) - 0.04 mg/l - 48 h Remarks: (Regulation (EC) No 1272/2008, Annex VI) (ECOTOX Database)

Toxicity to algae	EC50 - Pseudokirchneriella subcapitata - 0.036 mg/l - 72 h
Toxicity to bacteria	static test EC50 - activated sludge - 77.1 mg/l - 3 h (OECD Test Guideline 209) Remarks: (ECHA)

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## SECTION 13: Disposal information

### 13.1 Waste treatment methods

#### Product

Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself. See [www.retrologistik.com](http://www.retrologistik.com) for processes regarding the return of chemicals and containers, or contact us there if you have further questions. According to Quality Environment Regulation (Scheduled Waste) 2005, waste need to be sent to designated premise for recycle, treatment or disposal. Please contact Kualiti Alam for waste classification and correct disposal method.

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## SECTION 14: Transportation information

### 14.1 UN number

ADR/RID: 1791	IMDG: 1791	IATA-DGR: 1791
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### 14.2 UN proper shipping name

ADR/RID:	HYPOCHLORITE SOLUTION
IMDG:	HYPOCHLORITE SOLUTION (sodium hypochlorite solution)
IATA-DGR:	Hypochlorite solution

### 14.3 Transport hazard class(es)

ADR/RID: 8	IMDG: 8	IATA-DGR: 8
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### 14.4 Packaging group

ADR/RID: III	IMDG: III	IATA-DGR: III
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### 14.5 Environmental hazards

ADR/RID: yes	IMDG Marine pollutant: yes	IATA-DGR: no
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### 14.6 Special precautions for user

None

### 14.7 Incompatible materials

Strong acids, Organic materials, Powdered metals, Forms shock-sensitive mixtures with certain other materials., Amines, Reacts violently with ammonium salts, aziridine, methanol, and phenylaceto primary aliphatic or aromatic amines to form explosively unstable n-chlor 55°C.

#### Other regulations

Hazchem Code : 2X

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## SECTION 15: Regulatory information

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

#### Notification status

**AICS:** On the inventory, or in compliance with the inventory

<b>DSL:</b>	All components of this product are on the Canadian DSL
<b>ENCS:</b>	On the inventory, or in compliance with the inventory
<b>ISHL:</b>	Not in compliance with the inventory - water
<b>KECI:</b>	On the inventory, or in compliance with the inventory
<b>NZIoC:</b>	Not in compliance with the inventory
<b>PICCS:</b>	On the inventory, or in compliance with the inventory

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**SECTION 16: Other information**

**Full text of H-Statements referred to under sections 2 and 3.**

H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

**Further information**

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See [www.sigma-aldrich.com](http://www.sigma-aldrich.com) and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.

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