

Safety Data Sheet

Product name: Sodium hypochlorite

CAS No.: 7681-52-9

Prepared in accordance with GB/T 16483, GB/T 17519

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

>Product identifier

- Product name: Sodium hypochlorite
- CBnumber: CB1705333
- CAS: 7681-52-9
- EINECS Number: 231-668-3
- Synonyms: Sodium Hypochlorite, NaClO

>Relevant identified uses of the substance or mixture and uses advised against

- Relevant identified uses: For R&D use only. Not for medicinal, household or other use.
- Uses advised against: none

>Company Identification

- Company: Linyi Tuohui New Materials Co., Ltd.
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SECTION 2: Hazards identification

>Classification of the substance or mixture

Skin corrosion, Sub-category 1B

Serious eye damage, Category 1

Hazardous to the aquatic environment, short-term (Acute) - Category Acute 1

Hazardous to the aquatic environment, long-term (Chronic) - Category Chronic 1

>Label elements

Pictogram(s)



- Signal word Danger

Hazard statement(s)

H314 Causes severe skin burns and eye damage

H315 Causes skin irritation

H318 Causes serious eye damage

H400 Very toxic to aquatic life

H401 Toxic to aquatic life

Precautionary statement(s)

P273 Avoid release to the environment.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P310 Immediately call a POISON CENTER or doctor/physician.

P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P303+P361+P353 IF ON SKIN (or hair): Remove/Take off Immediately all contaminated clothing. Rinse SKIN with water/shower.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P405 Store locked up.

Prevention

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

P264 Wash ... thoroughly after handling.

P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/...

P273 Avoid release to the environment.

Response

P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P363 Wash contaminated clothing before reuse.

P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P316 Get emergency medical help immediately.

P321 Specific treatment (see ... on this label).

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P305+P354+P338 IF IN EYES: Immediately rinse with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P317 Get medical help.

P391 Collect spillage.

Storage

P405 Store locked up.

Disposal

P501 Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

>Other hazards

no data available

SECTION 3: Composition/information on ingredients

>Substance

- Product name: Sodium hypochlorite
- Synonyms: Sodium Hypochlorite, NaClO
- CAS: 7681-52-9
- EC number: 231-668-3
- MF: ClNaO
- MW: 74.44

SECTION 4: First aid measures

>Description of first aid measures

If inhaled

Fresh air, rest. Half-upright position. Artificial respiration may be needed. Administration of oxygen may be needed. Refer immediately for medical attention.

Following skin contact

First rinse with plenty of water for at least 15 minutes, then remove contaminated clothes and rinse again. Refer immediately for medical attention.

Following eye contact

Rinse with plenty of water for several minutes (remove contact lenses if easily possible). Refer immediately for medical attention.

Following ingestion

Rinse mouth. Do NOT induce vomiting. Give one or two glasses of water to drink. Refer immediately for medical attention.

>Most important symptoms and effects, both acute and delayed

no data available

>Indication of any immediate medical attention and special treatment needed

no data available

SECTION 5: Firefighting measures

>Extinguishing media

Use dry chemical, carbon dioxide or alcohol-resistant foam.

>Specific Hazards Arising from the Chemical

Not combustible. Gives off irritating or toxic fumes (or gases) in a fire.

>Advice for firefighters

In case of fire in the surroundings, use appropriate extinguishing media. In case of fire: keep drums, etc., cool by spraying with water.

>NFPA 704

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SECTION 6: Accidental release measures

>Personal precautions, protective equipment and emergency procedures

Personal protection: complete protective clothing including self-contained breathing apparatus. Do NOT let this chemical enter the environment. Ventilation. Collect leaking and spilled liquid in sealable non-metallic containers as far as possible. Then wash away with plenty of water. Do NOT absorb in saw-dust or other combustible absorbents.

>Environmental precautions

Prevent further spillage or leakage if it is safe to do so. Do not let the chemical enter drains. Discharge into the environment must be avoided.

>Methods and materials for containment and cleaning up

Collect and arrange disposal. Keep the chemical in suitable and closed containers for disposal. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment. Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations.

SECTION 7: Handling and storage

>Precautions for safe handling

Handling in a well ventilated place. Wear suitable protective clothing. Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Use non-sparking tools. Prevent fire caused by electrostatic discharge steam.

>Conditions for safe storage, including any incompatibilities

Separated from combustible substances, reducing agents, acids and food and feedstuffs. See Chemical Dangers. Cool. Keep in the dark. Well closed. Store only in original container.

SECTION 8: Exposure controls/personal protection

>Control parameters

Occupational Exposure limit values

no data available

Biological limit values

>Exposure controls

Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Set up emergency exits and the risk-elimination area.

>Individual protection measures

Eye/face protection

Wear face shield or eye protection in combination with breathing protection.

Skin protection

Protective gloves. Protective clothing.

Respiratory protection

Use ventilation, local exhaust or breathing protection.

Thermal hazards

no data available

SECTION 9: Physical and chemical properties

>Information on basic physicochemical properties

- Physical stateSolution
- ColourLight yellow
- Odour
no data available
- Melting point/freezing point
-28.9 °C. Atm. press.:1 013 hPa.
- Boiling point or initial boiling point and boiling range
111°C
- Flammability
no data available
- Lower and upper explosion limit/flammability limit
no data available
- Flash point
> 111 °C. Atm. press.:101.3 kPa.
- Auto-ignition temperature
no data available
- Decomposition temperature
no data available
- pH
12.5.;10.3.
- Kinematic viscosity
dynamic viscosity (in mPa s) = >= 1.4 - <= 1.6. Temperature:20°C. Remarks:Rotation of 200 rpm.;dynamic viscosity (in mPa s) = >= 1.1 - <= 1.4. Temperature:40°C. Remarks:Rotation of 200 rpm.
- Solubility
Miscible with water
- Partition coefficient n-octanol/water
log Pow = -3.42. Temperature:20 °C.
- Vapour pressure17.5 mmHg (20 °C)
- Density and/or relative density1.209

- Relative vapour density 1.209

- Particle characteristics

no data available

SECTION 10: Stability and reactivity

>Reactivity

no data available

>Chemical stability

>Possibility of hazardous reactions

Decomposes on heating and on contact with acids. Decomposes under the influence of light. This produces toxic and corrosive gases including chlorine (see ICSC 0126). The substance is a strong oxidant. It reacts violently with combustible and reducing materials. This generates fire and explosion hazard. The solution in water is a strong base. It reacts violently with acid and is corrosive. Attacks copper and its compounds and light metals.

>Conditions to avoid

>Incompatible materials

>Hazardous decomposition products

no data available

SECTION 11: Toxicological information

>Acute toxicity

- Oral: no data available
- Inhalation: LC50 - rat (male) - > 10.5 mg/L air.
- Dermal: no data available

>Skin corrosion/irritation

no data available

>Serious eye damage/irritation

>Respiratory or skin sensitization

>Germ cell mutagenicity

>Carcinogenicity

>Reproductive toxicity

>STOT-single exposure

The substance is corrosive to the eyes, skin, respiratory tract and digestive tract. Inhalation may cause lung oedema, but only after initial corrosive effects on eyes and/or airways have become manifest. The effects may be delayed. Medical observation is indicated. See Notes.

>STOT-repeated exposure

Repeated or prolonged contact with skin may cause dermatitis.

>Aspiration hazard

No indication can be given about the rate at which a harmful concentration of this substance in the air is reached on evaporation at 20°C.

SECTION 12: Ecological information

>Toxicity

- Toxicity to fish: LC50 - different fish species - 0.39 - 0.455 mg TRC/L - 96 h.
- Toxicity to daphnia and other aquatic invertebrates: EC50 - Daphnia magna - 141 µg/L - 48 h.
- Toxicity to algae: EC50 - Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum) - 0.036 mg/L - 72 h.
- Toxicity to microorganisms: EC50 - activated sludge of a predominantly domestic sewage - 563 mg/L - 3 h. Remarks:Respiration rate.

>Persistence and degradability

no data available

>Bioaccumulative potential

>Mobility in soil

>Toxics Screening Level

The ITSL for sodium hypochlorite is being established at 16 µg/m³ with an eight hour averaging time.

>Other adverse effects

no data available

SECTION 13: Disposal considerations

>Disposal methods**Product**

The material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.

Contaminated packaging

Containers can be triply rinsed (or equivalent) and offered for recycling or reconditioning. Alternatively, the packaging can be punctured to make it unusable for other purposes and then be disposed of in a sanitary landfill. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.

SECTION 14: Transport information

>UN Number

ADR/RID: UN1791 (For reference only, please check.)

IMDG: UN1791 (For reference only, please check.)

IATA: UN1791 (For reference only, please check.)

>UN Proper Shipping Name

ADR/RID: HYPOCHLORITE SOLUTION (For reference only, please check.)

IMDG: HYPOCHLORITE SOLUTION (For reference only, please check.)

IATA: HYPOCHLORITE SOLUTION (For reference only, please check.)

>Transport hazard class(es)

ADR/RID: 8 (For reference only, please check.)

IMDG: 8 (For reference only, please check.)

IATA: 8 (For reference only, please check.)

>Packing group, if applicable

ADR/RID: II (For reference only, please check.)

IMDG: II (For reference only, please check.)

IATA: II (For reference only, please check.)

>Environmental hazards

ADR/RID: Yes

IMDG: Yes

IATA: Yes

>Special precautions for user

no data available

>Transport in bulk according to IMO instruments

no data available

SECTION 15: Regulatory information

>Safety, health and environmental regulations specific for the product in question

European Inventory of Existing Commercial Chemical Substances (EINECS)

Listed.

EC Inventory

United States Toxic Substances Control Act (TSCA) Inventory

China Catalog of Hazardous chemicals 2015

New Zealand Inventory of Chemicals (NZIoC)

PICCS

Vietnam National Chemical Inventory

IECSC

Korea Existing Chemicals List (KECL)

Listed.

SECTION 16: Other information

>Abbreviations and acronyms

- CAS: Chemical Abstracts Service
- ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
- RID: Regulation concerning the International Carriage of Dangerous Goods by Rail
- IMDG: International Maritime Dangerous Goods
- IATA: International Air Transportation Association

- TWA: Time Weighted Average
- STEL: Short term exposure limit
- LC50: Lethal Concentration 50%
- LD50: Lethal Dose 50%
- EC50: Effective Concentration 50%

>References

- IPCS - The International Chemical Safety Cards (ICSC), website:
<http://www.ilo.org/dyn/icsc/showcard.home>
- HSDB - Hazardous Substances Data Bank, website:
<https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm>
- IARC - International Agency for Research on Cancer, website: <http://www.iarc.fr/>
- eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website:
http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en
- CAMEO Chemicals, website: <http://cameochemicals.noaa.gov/search/simple>
- ChemIDplus, website: <http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp>
- ERG - Emergency Response Guidebook by U.S. Department of Transportation, website:
<http://www.phmsa.dot.gov/hazmat/library/erg>
- Germany GESTIS-database on hazard substance, website:
<http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp>
- ECHA - European Chemicals Agency, website: <https://echa.europa.eu/>

>Other Information

Household bleaches usually contain about 5% sodium hypochlorite (about pH11, irritant), and more concentrated bleaches contain 10-15% sodium hypochlorite (about pH13, corrosive). The symptoms of lung oedema often do not become manifest until a few hours have passed and they are aggravated by physical effort. Rest and medical observation are therefore essential. Rinse contaminated clothing with plenty of water because of fire hazard. Also consult ICSC #0482 (Sodium hypochlorite, active chlorine <10%).