

**Chemical or mixture: Sodium Hypochlorite (NaClO)**Date of last revision  
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## 1. Identification

**Chemical or mixture (trade name):**SODIUM HYPOCHLORITE (NaClO)**Main recommended uses for the substance or mixture:**Water purification; industrial, domestic and hospital disinfectant, bleach manufacturing, bleach, bleaching.**Company Name:** Katrium Chemical Industries Ltd.**Address:** John Paul Road, 530 - Honorio Gurgel  
CEP: 21512-002  
Rio de Janeiro / RJ - Brazil**Contact Phone:** 55 (21) 2472-9060**Emergency telephone number:** SUATRANS COTEC - Or 0800 707 7022 0800 17 2020**Internet:**www.katrium.com.br

## 2. Hazards identification

**the substance or mixture:**

Corrosive to metals Category 1

Corrosion / skin irritation: Category 1B

Toxicity for specific target organs - single exposure: Category 3

Hazardous to the aquatic environment - Chronic Category 1

**GHS label elements****Words of warning:**Danger**Phrase (s) of danger:**H290 - May be corrosive to metals - H314 - Causes severe skin burns and eye damage - H335 - May cause respiratory irritation - H410 - very toxic to aquatic organisms with prolonged effects.**Phrase (s) of caution:**

- **General:**Not appropriate.
- **Prevention:**P271 - Use only outdoors or in well-ventilated areas - P280 - Wear protective gloves / protective clothing / eye protection / face protection.
- **the emergency response:**P305 + P351 + P338 - IN CASE OF EYE CONTACT: Rinse thoroughly with water for several minutes. P301 + P330 + P331 - IF SWALLOWED: Rinse mouth. DO NOT induce vomiting. P303 + P361 + P353 - IN CASE OF CONTACT WITH SKIN (or hair): Immediately remove all contaminated clothing. Rinse skin with water / take a shower.
- **Storage:**P406 - Store in a corrosion resistant container.

**Other hazards which do not result in classification:**It can cause severe burns and complete perforation of the mucosal tissues of the mouth, esophagus and stomach and lung edema if ingested or inhaled. Chronic inhalation exposure may cause effects in the lung as bronchopneumonia and thickening of the alveolar wall with cell proliferation and congestion.**Other information:**Not available.

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### 3. Composition and information about ingredients

**Product type: Substance**

**Ingredients or impurities contributing to hazard:**

Common chemical name or technical	CAS	Concentration or concentration range (%)
SODIUM HYPOCHLORITE	7681-52-9	13

### 4. First aid actions

**First aid actions**

- **Inhalation:** Remove the subject from the contaminated areas as soon as possible. Transport it to a well-ventilated place. Administer oxygen if the victims breathing with difficulty. Seek immediate medical attention.
- **Skin contact:** Remove contaminated clothing and shoes. Wash the affected with water. Consult a doctor immediately.
- **Eye contact:** Flush eyes as soon as possible, running water for 20 minutes holding the eyelids open. Consult a doctor immediately.
- **ingestion:** Vomiting may occur spontaneously, but does not lead. Lava and mouth with running water. Seek medical attention immediately.

**Most important symptoms and effects, acute and delayed:** Harmful in contact with skin. Material corrosive and can cause severe burns in all tissues with which they come into contact.

**Notes to physician:** Avoid contact with the product while helping the victim. symptomatic and supportive treatment, according to the clinical picture, with respiratory assistance. In case of contact with the skin does not rub the affected area.

### 5. Fire fighting measures

**Suitable extinguishing agents:** Not explosive / Not flammable.

Small proportions: Compatible with extinguishers. Major: Water or fog or foam.

**Unsuitable extinguishing media:** Water jets directly.

**Specific hazards of the substance or mixture:** The combustion of the chemical or its packaging can form toxic and irritant gases.

**Protective measures of the fire fighting team:** Use self-contained breathing equipment. Avoid contact with this material during fire fighting. If contact is unavoidable, use chemical resistant clothing.

### 6. control measures to spill or leak

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

- **For staff that is not part of the emergency services:** Isolate the location of the leak. Do not smoke. Do not touch damaged containers or spilled material without the use of appropriate clothing. Use personal protective equipment as described in Section 8.

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- **For emergency service personnel:** Use personal protective equipment as described in Section 8.

**Environmental precautions:** Prevent spilled material reaches waterways or sewage system.

**Methods and materials for sealing and containing:** Recover the product by placing poured into appropriate barrels, as set forth in identifying transport. Prior to disposal, undertake the necessary neutralization using reducing agents such as sodium thiosulfate, sodium bisulfite, sodium sulfite or hydrogen peroxide, observing the risk of violent reactions that may be. For disposal proceed pursuant to Section 13 of this MSDS.

**area isolation:** Keep unauthorized persons away.

**Methods and materials for cleaning:** collected material must be properly packaged, labeled and transported in accordance with legal standards and good practice. If not recovered, the residue must be properly neutralized for disposal.

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## 7. Handling and Storage

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### Precautions for safe handling

- **Worker exposure prevention:** Use personal protective equipment as described in Section 8.
- **Fire and explosion prevention:** The substance is not flammable.
- **Precautions and guidelines for safe handling:** The usual precautions for handling chemicals should be observed. Avoid any direct contact with the material.
- **Hygiene measures**
  - **appropriate:** Wash hands before breaks and at the end of the working period. Do not eat food or smoke during the work period. Remove contaminated clothing immediately.
  - **inappropriate:** Do not eat, drink or smoke when handling the product.

### Safe storage conditions

- **appropriate conditions:** Store in original container. Keep away from Incompatible products. Keep dry, labeled.
- **Conditions that should be avoided, including any incompatibilities:** Do not mix with incompatible materials (see "stability and reactivity" section).
- **Packaging materials**
  - **recommended:** Tanks of steel coated with hard rubber or plastic containers made of PE or PP or other strong material.
  - **inadequate:** Avoid contact with aluminum, zinc, tin and their alloys.

**Other information:** Keep away from heat, high temperatures and incompatible materials. Maintaining the sealed container. Use dikes or natural barriers to contain the leakage of the product. Take up dry. If possible leakage sealed using plugs, sealing strap or reversing the hole / slot / crumpled up. Collect all the material in containers suitable and properly labeled for subsequent treatment and disposal. Waste must be disposed of according to environmental local, state or federal law. To verify an appropriate location overflow and perform the security procedures described above.

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## 8. Exposure control and personal protection

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### Control parameters

- **Occupational exposure limits:** (NR 15) - there is no exposure limit, product not classified.

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- **Biological indicators:** There are biological indicators of exposure established by Brazilian legislation - NR 07.

**Engineering control measures:** No action is required engineering. It is recommended adequate ventilation and existence device as emergency showers and eye wash.

**Personal protective measures**

- **eye / face protection:** wide vision goggles, face shield
- **Skin Protection:** Infant Tychem or PVC, rubber or PVC boots
- **Breath protection:** Respirator with chemical filter (the case of brief exposure). In case of longer exposure, use an autonomous breathing mask.
- **Hand protection:** rubber gloves (PVC)
- **Thermal Hazards:** Not available.

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**9. Physical and chemical properties**

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- **Aspect**  
**physical state:** Liquid slightly greenish yellow
- **Odor:** pungent odor and irritating
- **Odor threshold:** Not available
- **pH:** 12
- **Melting point / freezing point:** Not available
- **Initial boiling point:** 110 ° C (solution of 15% NaClO)
- **Boiling Temperature Range:** Not available
- **Flash Point:** Non flammable
- **Evaporation rate:** Not available
- **Flammability (solid, gas):** Non flammable
- **lower flammability limit or explosive:** Not available
- **flammability limit or greater explosiveness:** Not available
- **Steam pressure:** Not available
- **Vapor Density:** Not available
- **Relative density:** 1.2 g / m<sup>3</sup> (solution at 12.69% by weight of NaClO at 20 °C)
- **Solubility (s):** Soluble in water.
- **Partition coefficient - n - octanol / water:** Not available
- **Autoignition Temperature:** Not available
- **Decomposition temperature:** Not available
- **Viscosity:** Not available

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**10. Stability and reactivity**

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**Chemical stability:** The stability of solution decreases under the action of heat, light, and the presence of impurities (traces of iron, nickel, copper, cobalt, aluminum, manganese)

**Reactivity:** Not available

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**Possibility of hazardous reactions:** Reacts violently with strong acids, halogenated organic compounds and nitrogenous organic compounds.

**Conditions to avoid:** Keeping the temperature between 15 - 25 ° C. The product is sensitive to light and moisture.

**Incompatible materials:** Acids (violent decomposition with liberation of chlorine), metals (decomposition with formation of oxygen).

**Hazardous decomposition products:** Chlorine, hypochlorous acid, sodium chlorate

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## 11. toxicological information

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**Acute toxicity:** In contact with skin and / or eyes, causes severe burns

**Corrosion / skin irritation:** It causes severe skin burns

**Serious eye damage / irritation:** It causes severe ocular burns

**respiratory or skin sensitization:** May result in respiratory irritation

**Germ cell mutagenicity:** Conclusion: not sufficient for classification

**carcinogenicity:** Conclusion: not sufficient for classification

**Reproductive toxicity:** Conclusion: not sufficient for classification

**Toxicity for specific target organs - single exposure:** Conclusion: not sufficient for classification

**Toxicity for specific target organs - repeated exposure:** Conclusion: not sufficient for classification

**Aspiration hazard:** Conclusion: not sufficient for classification

**Other information:** Very toxic to aquatic life with long lasting effects.

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## 12. ecological information

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**ecotoxicity:** The industrial sodium hypochlorite has higher levels than the bleach or bleach than domestic, presenting this way, greater risks.

**Persistence and degradability:** Not available

**bioaccumulative potential:** Not available

**Mobility in soil:** Not available

**Other adverse effects:** Do not allow that he shall come tanks, rivers and rainwater.

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## 13. Considerations disposal

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### Recommended methods for disposal

- **Product:** Keep any leftover product in their original containers tightly closed. Do not dispose in sewer systems, waterways and sewage treatment plants.
- **Used packaging:** Do not reuse empty containers. The containers should be washed and neutralized. Improper disposal of empty containers and remains of products on the environment cause contamination of soil, water and air, damaging the fauna, flora and human health.

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## 14. Transport Information

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**National and international regulations:**

**land:**

- **UN:**1791
- **Proper Shipping Name:**SODIUM HYPOCHLORITE
- **Class / Subclass:**8
- **Number of risk:**80
- **Packing group:**II
- **Dangerous for the environment:**Yes
- **Ground rules:**National Land Transportation Agency - Law 10,233 of June 5, 2001. NBR 7503/08

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## 15. Regulatory Information

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**specific safety regulations, health and the environment for the chemical:**

BRAZIL - MINISTRY OF LABOR - NR 26 - Decree 229.

BRAZIL - MINISTRY OF TRANSPORT - ANTT - Resolution No. 5232, of December 14, 2016.

BRAZIL - ABNT NBR 14725 Parts 1, 2, 3 and 4.

BRAZIL - MINISTRY OF LABOR - Decree 2657.

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## 16. Other information

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**important information, but not specifically described the previous sections:**

This MSDS was based on the current knowledge of the product and provides information on the protection, safety, health and the environment.

The caveat is that the handling of any chemical substance requires prior knowledge of its hazards for the user. It is up to the user company's product promotes training of its employees and contractors about the possible risks from the product.

**References:** [ABNT] ASSOCIATION BRAZILIAN TECHNICAL STANDARDS NBR 14725.

BRAZIL. Ministry of Transport. National Land Transportation Agency.

[ECHA] European Union. ECHA European Chemical Agency

**Captions and abbreviations:** CAS - Chemical Abstracts Service