

# SAFETY DATA SHEET

## SODIUM HYPOCHLORITE (HYPO)



### 1. Identification of the Preparation and of the Company

1.1. Preparation name: **SODIUM HYPOCHLORITE (HYPO)**

Trade name: **SODIUM HYPOCHLORITE SOLUTION**

1.2. Application area: It is used as a bleaching agent in the paper and textile industry, as an oxidising and chlorinating agent in the chemical industry as well as for disinfection in waste water treatment, in human and animal health. It is the main active agent of the majority of household cleaning and disinfectants. It is also used for the inhibition of sliminess and as a preservative added to coolants.

1.3. Information on manufacturer/distributor:

**BorsodChem Zrt.**  
**H - 3700 Kazincbarcika**  
**Bolyai tér 1.**

Telephone: **+36 48 511 020**

Emergency information: **+36 48 511 515 (0-24h)**

E-mail address of the person responsible for the Safety Data Sheet:  
**sds@borsodchem.hu**

1.4. Emergency phone number:

**Health Information Service on Toxicology (HIST)**

Phone: +36 80 20 1199 (toll free green number)

+36 1 476 6400 or +36 1 476-6464 (0-24h)

### 2. Hazards Identification

Causes burns.

The use together with other substances is forbidden as toxic gas (chlorine) may release in case of contact with acids.

### 3. Composition

| Chemical name       | EINECS number | CAS number | Concentration range w/w % | Hazard classification |
|---------------------|---------------|------------|---------------------------|-----------------------|
| sodium hypochlorite | 231-668-3     | 7681-52-9  | 13-16                     | C<br>R31-34           |
| sodium hydroxide    | 215-185-5     | 1310-73-2  | 0.25-1                    | C<br>R35              |
| sodium carbonate    | 207-838-8     | 497-19-8   | 0-1                       | not hazardous         |
| sodium chloride     | 231-598-3     | 7647-14-5  | 11-18                     | not hazardous         |

### 4. First Aid Measures

4.1. **Skin contact:** Remove contaminated clothing. Wash affected area with plenty of water and cover with sterilised gauze. Get medical aid.

4.2. **Eye contact:** Rinse immediately and carefully with plenty of water for at least 10-15 minutes. Keep eyes open during rinsing. Rinsing water flow should not be too strong. Get medical aid.

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- 4.3. **Inhalation:** Take injured person to fresh air, and lay in a convenient position. Injured person must not make any effort, tight clothes must be loosened. Get medical aid.
- 4.4. **Ingestion:** Keep throat and oral cavity clean. Give large quantities of liquid: water or milk. Do not induce vomiting because danger of gastric cracking. Get medical aid immediately.
- 4.5. **Other information:** In case of danger of faint lay and transport victim in a stable side position. In case of shortness of breath half-sitting position is allowed. In case breathing is dropping out, breathing shall be assisted immediately or use respirator, if possible, give oxygen. Contaminated clothing has to be washed before reuse.

### 5. Fire Fighting Measures:

- 5.1. **Suitable extinguishing media:** suitable to the fire in the immediate neighbourhood.
- 5.2. **Extinguishing media not to be used for safety reasons:** - unknown
- 5.3. **Special accident hazards, combustion products, derivatives:** decomposes if heated
- 5.4. **Special protective equipment for fire-fighters:** Protective clothes. Self contained compressed air breathing apparatus.
- 5.5. **Other information:** Fire hazard class: "E", no danger of fire. Non-combustible liquid. In case of warming up, tanks shall be cooled with sprayed water and pulled out from the danger zone.

### 6. Accidental Release Measures

- 6.1. **Personal precautions:** Avoid eye and skin contact, use and wear individual protective clothing and devices.
- 6.3. **Environmental precautions:** Close place of leakage. In case of dead-water, the water system shall be closed, in case of rivers shipping embargo shall be introduced on waterways. Users taking off water shall be notified. On land close endangered area. In case large volumes of sodium hypochlorite is released the area shall be embanked, and the liquid pumped out. Inhabitants of residential and industrial areas shall be notified, and secure zones shall be established.
- 6.3. **Clean-up methods:** Small spills shall be covered with an absorbing agent, possibly dry soil or sand, and shall be removed in a closed container to a safe deposit for disposal. Wash site of spillage thoroughly with large amount of water. Flooring shall be cleaned up with water to avoid slipping.
- 6.4. **Other information:** In contact with acids, toxic chlorine gas releases! Notify relevant authorities.

### 7. Handling and storage

- 7.1. **Handling:** Use personal protective devices. For details see clause 8. Do not eat, drink, or smoke when handling the product. Do not get substance on skin or in eyes.
- 7.2. **Storage:** Store in a cool, dry, well-ventilated area with covered flooring, protected from direct sunlight, and away from all ignition sources. During long-term storage the substance decomposes and oxygen is released. Storage shall be in polyester tanks or in hard-rubber coated steel tanks, or in titanium tanks.

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### 8. Exposure Controls – Personal Protection

- 8.1. Exposure limits: no stipulation
- 8.2. Engineering measures:  
Suitable ventilation shall be provided.  
Suitable lighting shall be provided.  
Shower and wash-basin shall be available.  
First aid kit and eye flushing bottle shall be available.  
Personal protective equipment:  
Hand protection: alkali-proof protective gloves  
Respiratory protection: breathing mask +B2 marked insert, or suitable respiratory protective equipment  
Eye protection: tightly fitting alkali-proof safety goggles or face shield  
Skin protection: alkali-proof protective clothing, acid-proof shoes, boots.  
Others: Careful personal hygiene shall be observed. Substance makes solid surface slippery (danger of slipping).

### 9. Physical and Chemical Properties

- 9.1. General information:  
Appearance: yellowish liquid with chlorine-like odour
- 9.2. Substantial information related to health, safety and the environment:  
Boiling point (range): decomposes  
Melting point (range): on low temperature NaCl may crystallise from concentrated solution, and NaOCl\*5H<sub>2</sub>O below -6°C;  
Inflammability: non-combustible  
Flash point: non-combustible  
Auto-ignition: non-combustible  
Explosion limit: none  
Oxidation: oxidising agent  
Vapour pressure: 17.4-25 kPa (20°C)  
Relative density: 1.22-1.27 g/cm<sup>3</sup> (20°C)  
Solubility: perfectly mixes with water  
Viscosity: 1.5-2.0 mPa.s (25°C), depending on composition  
Others: Decomposes when increasing temperature and when in contact with heavy metals; chlorine gas is released when in contact with acids.

### 10. Stability and Reactivity:

- 10.1. Conditions to avoid: high temperature, light.
- 10.2. Materials to avoid: Acids, heavy metals, organic materials. Do not use together with acidic substances (e.g. hydrochloric acid).
- 10.3. Hazardous decomposition products: In contact with acids, toxic chlorine gas releases!

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### 11. Toxicological Information

Acute toxicity

Oral toxicity LD<sub>50</sub> rat: 12 mg/kg;

Skin irritation: Strongly irritating, corrosive.

Sensibility: Pain and weeping in the eye.

Sense of burning in the mucoderm of nose and throat as well as on skin.

Urge of strong coughing, shortness of breath, suffocation attacks, pulmonary oedema (after a few hours).

Stabbing pain and blistering in case of skin contact.

### 12. Ecological Information

12.1. **Acute ecotoxicity:** LC<sub>50</sub> fish (oncorhynchus gorboscha) 96 h: > 0.023-0.052 mg/l

LC<sub>50</sub> fish (pimephales promelas) 96 h: > 5.9 mg/l

LC<sub>50</sub> fish (alburnus alburnus) 96 h: > 32-37 mg/l

Toxic for aquatic organisms because of chlorine release.

12.2. **Biodegradability:** no data available

12.3. **WGK (German classification for endangering water quality):** 2 Harmful for water quality.

### 13. Disposal Considerations

Comply with national and local regulations in waste treatment.

13.1. **Product:** Do not dispose directly into drainage and the environment; transport it to the authorised hazardous waste deposit. Decomposes during long storage. Neutralisation with acids is prohibited!

13.2. **Packaging:** Reusable after purification.

### 14. Transport Information

|                    |   |   |
|--------------------|---|---|
| ADR/RID/GGVSE      | } | UN number: 1791                             |
| ADN/ADNR/IMDG-Code |   | Proper shipping name: HYPOCHLORITE SOLUTION |
| IATA-DGR/ICAO-TI   |   | Hazard class: 8                             |
|                    |   | Hazard identification number: 80            |
|                    |   | Packaging group: II.                        |
|                    |   | Does not contaminate sea                    |

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### 15. Regulatory Information:

No chemical safety analysis was prepared for this substance so far.

#### Further information on the label:



**corrosive**

- |      |   |
|------|---|
| R31  | Toxic gases are released when in contact with acids.  |
| R34  | Causes burns.   |
| R35  | Causes severe burns.  |
| S1/2 | Keep locked up and out of reach of children.  |
| S28  | After contact with skin, wash immediately with plenty of water.                                     |
| S45  | In case of accident or if you feel unwell, seek medical advice immediately. Show label if possible. |
| S50  | Do not mix with acids.  |
| S61  | Avoid release to environment. Refer to special instructions/Safety data sheets.                     |

#### Related national regulations:

1. Act XXV of 2000 on chemical safety.
2. Decree No. 44/2000 (27.12.) of the Ministry of Health on the detailed regulations of processes and activities related to hazardous materials and preparations.
3. Joint decree No. 25/2000 (30.09.) of the Ministry of Health and the Ministry of Social and Family Affairs on the chemical safety of workplaces.
4. Act CXX of 2007 on the amendment of decree of legal force No. 19 of 1979 about the announcement of the European Agreement Concerning the International Carriage of Dangerous Goods (ADR), as well as the announcement of the amendment and supplement of Attachments 'A' and 'B' to the ADR in year 2007.
5. Joint decree No. 38/2003 (07.07.) of Ministry of Health, Social and Family Affairs - Ministry of Agriculture and Rural Development – Ministry of Environment and Water on producing and distributing biocide products.

### 16. Other Information:

**C corrosive**

#### Risk phrases:

- |     |  |
|-----|--|
| R31 | Toxic gases are released when in contact with acids. |
| R34 | Causes burns.  |
| R37 | Causes severe burns.                                 |

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In case of preparations containing active chlorine and sold for public use, the following warnings shall be indicated on the packaging of preparations containing more than 1% active chlorine:

**“Warning! Do not use together with other products,  
as hazardous gas (chlorine) may release.”**

The substance is recommended for professional users only.

Sources:

1. Council Directive No. 67/548/EEC of 27 June 1967 on the approximation of laws, regulations and administrative provisions relating to the classification, packaging and labelling of dangerous substances
2. Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC.
3. International Chemical Safety Cards (WHO/IPCS/ILO)
4. Hommel: Hazardous substances 1989
5. N.Irving Sax, Richard J. Lewis: Dangerous Properties of Industrial Materials 7.ed.
6. Euro Chlor guidelines
7. <http://ecb.jrc.it>
8. HAYS PRODUCT BOOKLET B603/90: SODIUM-HYPOCHLORITE

The information in this MSDS is based on the knowledge currently available to us on the product. However, this information is provided without any warranty or legal obligation concerning the characteristics of the product.

This MSDS has been prepared for the purpose of assisting the user in fulfilling the obligations that are to be met when handling hazardous substances, but it does not exempt the user from observing and applying the requirements and regulations in relation to the activities performed, nor from taking the appropriate precautions.