

Safety Data Sheet
according to 1907/2006/EC, Article 31

Printing date: 29.08.2008

Revision: 29.08.2008

*** 1 Identification of substance:**

· **Product details:**

· **Trade name:** Nordic Chlor

· **Application of the substance / the preparation**

Intermediate

Biocide

· **Supplier/Manufacturer:**

NORDIC STALD KEMI Aps
Industriparken 15, Skodborg
6630 Rødding

· **Information department:** See supplier/manufacturer

· **Emergency information:** National Poisons Information Centre Tel.: +44 (0)870 6006266

2 Hazards identification

· **Hazard description:**



C Corrosive

· **Information pertaining to particular dangers for man and environment:**

Under working conditions mainly resorbed via respiratory tract.

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EC" in the latest valid version.

R 31 Contact with acids liberates toxic gas.

R 34 Causes burns.

· **Classification system:**

The classification was made according to the latest editions of the EU-lists, and expanded using company data and specialized literature.

*** 3 Composition/information on ingredients**

· **Chemical characterization**

· **Description:** Solution of sodium hypochlorite with approx. 13 % free available chlorine

· **Dangerous components:**

CAS: 7681-52-9 sodium hypochlorite, solution

EINECS: 231-668-3 C, N; R 31-34-50

EU Number: 017-011-00-1

10-25%

· **Additional information** For the wording of the listed risk phrases refer to section 16.

*** 4 First aid measures**

· **General information:**

First aid personnel should pay attention to their own safety.

Immediately remove any clothing soiled by the product.

· **After inhalation:**

Remove victim from contaminated area. If breathing is difficult, give oxygen. If breathing stops, provide artificial respiration. Call a doctor.

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In case of unconsciousness, place patients on their side in a stable position for transportation.

• **After skin contact:**

Take-off and remove wetted clothing, shoes and stocking immediately. Rinse affected parts of the body with plenty of water. Call a doctor immediately.

• **After eye contact:**

Protect unharmed eye.

Rinse the eyes with open eyelids for 10 - 15 minutes with water.

Immediate transport to ophthalmologist or ophthalmic clinic.

Reversibility and grade of damage is extremely depending on the time when rinsing is started. Time is the crucial factor. Seconds are important.

• **After swallowing:**

Drink plenty of water, but never give anything to an unconscious person.

Do not administer edible oils or ricinus oil.

Do not induce vomiting; call for medical help immediately.

Do not use acids or acidic substances as an antidot.

Give some milk.

Hold the head of the casualty low with the body in a prone position in order to avoid penetration of vomit into the air tube (danger of aspiration).

Immediately call an emergency physician to the place of accident.

• **Information for doctor:**

• **Treatment:**

Symptomatic treatment

(decontamination, vital functions)

In cases of irritation to the lungs, initial treatment with Dexametason metered aerosol.

5 Fire fighting measures

• **Suitable extinguishing agents:**

CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

Use fire fighting measures that suit the environment.

• **Special hazards caused by the material, its products of combustion or resulting gases:**

Dangerous decomposition product see chapter 10: stability and reactivity

• **Protective equipment:**

Wear self-contained respiratory protective device.

Wear fully protective suit.

• **Additional information:**

Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

Collect contaminated fire fighting water separately. It must not enter the sewage system.

Pay special attention to corrosive effects if water is used as extinguishing agent.

6 Accidental release measures

• **Person-related safety precautions:**



Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

Upon release of chlorine gas:

Wear respirator equipment which is independent of the ambient air and tightly closing chemical protection clothing.

• **Measures for environmental protection:**

Do not allow product to reach sewage system or any water course.

Inform respective authorities in case of seepage into water course or sewage system.

Do not allow to penetrate the ground/soil.

Suppress gases/fumes/haze with water spray.

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- **Measures for cleaning/collecting:**

Ensure adequate ventilation.

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Rinse residues with water.

Send for recovery or disposal in suitable receptacles.

Dispose contaminated material as waste according to item 13.

* 7 Handling and storage

- **Handling**

- **Information for safe handling:**

Ensure good ventilation/exhaustion at the workplace.

Carry out filling operations only at sites with extractors available.

Keep receptacles tightly sealed.

Keep away from heat and direct sunlight.

Restrict the quantity stored at the work place.

Avoid contact with eyes and skin.

Avoid inhalation of vapours.

Keep the working area dry and clean.

- **Information about protection against explosions and fires:**

No special measures required.

The product is not flammable

Select fire and explosion prevention measures according to the other substances stored/used.

- **Storage**

- **Requirements to be met by storerooms and receptacles:**

Store only in unopened original receptacles.

Provide alkali-resistant floor.

Unsuitable material:

Steel

Copper

Nickel

Zinc

Aluminium

Suitable material:

Glass

Ceramic

Polyethylene

PVC

- **Information about storage in one common storage facility:**

Do not store together with acids.

Store away from reducing agents.

Store away from inflammable substances.

Store away from foodstuffs.

Store away from feed.

- **Further information about storage conditions:**

Keep receptacle tightly sealed.

Protect from exposure to the light.

Protect from heat and direct sunlight.

- **Storage class 8 Corrosive products (VCI)**

- **Specific applications** Observe handling instructions for preparing ready-to-use mixtures and for using the solutions.

* 8 Exposure controls and personal protection

- **Additional information about design of technical systems:** No further data; see item 7.

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· Components with limit values that require monitoring at the workplace:

7782-50-5 chlorine

IOELV (European Union) Short-term value: 1.5 mg/m³, 0.5 ppm
 WEL (Great Britain) Short-term value: 1.5 mg/m³, 0.5 ppm
 OEL (Ireland) Short-term value: 3 mg/m³, 1 ppm
 Long-term value: 1.5 mg/m³, 0.5 ppm
 IOELV

· Additional information:

The lists that were valid during the creation were used as basis.

Under normal conditions only extremely small quantities of chlorine (gas) are released. However, contact with acids causes release of chlorine gas in huge dangerous quantities.

· Personal protective equipment

· General protective and hygienic measures:

Keep away from foodstuffs, beverages and feed.
 Immediately remove all soiled and contaminated clothing
 Wash hands before breaks and at the end of work.
 Avoid contact with eyes and skin absolutely.
 Provide eye bath.
 If larger quantities are handled provide emergency showers.

· Breathing equipment:

Under normal conditions of use not required.

In case of unintentional release of substance, exceeding the occupational exposure limit value:



In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

Short term filter device:

B2 - P2

· Protection of hands:

Chemical resistant gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

After use of gloves apply skin-cleaning agents and skin cosmetics.

· Material of gloves:

PVC

Nitrile rubber, NBR

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

· Penetration time of glove material:

The exact break-through time has to be found out by the manufacturer of the protective gloves and has to be observed.

480 minutes nitrile rubber (0,4 mm)

480 minutes PVC (0,7 mm)

· Eye protection:

Tightly sealed goggles.

If a splashing of the product is possible wear full face protection.

· Body protection:

Protective work clothing.

According to hazard:

Boots

Apron

9 Physical and chemical properties:

· General Information

Form:

Fluid

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- Colour:** Yellow
- Odour:** Characteristic
- **Change in condition:**
 - Melting point/Melting range:** -20 - -30°C
 - Boiling point/Boiling range:** not applicable
 - **Flash point:** not applicable
 - **Ignition temperature:** not applicable
 - **Decomposition temperature:** > 40°C
 - **Auto-ignition:** Product is not self-igniting.
 - **Danger of explosion:** Product does not present an explosion hazard.
 - **Vapour pressure at 20°C:** 25 hPa
 - **Density at 20°C:** 1.21-1.23 g/cm³
 - **Solubility in / Miscibility with Water:** Miscible
 - **pH-value at 20°C:** > 11

10 Stability and reactivity

- **Thermal decomposition / conditions to be avoided:**
No decomposition if used and stored according to specifications.
To avoid thermal decomposition do not overheat.
At approx. 40 °C thermic autocatalytic rearrangement to NaClO₃ and NaCl
- **Materials to be avoided:**
Acids
Reducing agents
- **Dangerous reactions:** Reacts with acids releasing chlorine
- **Dangerous products of decomposition:** Chlorine
- **Additional information:**
Sensitive to light
Corrosive to metals
(iron, aluminium)

11 Toxicological information

- **Acute toxicity:**
- **LD/LC50 values that are relevant for classification:**
7782-50-5 chlorine
Inhalative LC₅₀/4 h 293 mg/l (rat)
- **Primary irritant effect:**
- **on the skin:**
Caustic effect on skin and mucous membranes.
Strong irritating and corrosive effects on the upper, but also on the lower respiratory tract by chlorine (after contact with acids) possible.
- **on the eye:** Caustic effect
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**
The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:
Corrosive

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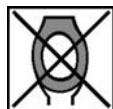
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Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

12 Ecological information

- **Ecotoxicological effects:**
- **Aquatic toxicity:**
 - EC₅₀/48h 0.4 mg/l (algae)
 - EC₅₀/96h 2.1 mg/l (daphnia magna)
 - LC₅₀/96h 6-32 mg/l (fish)
- **Remark:** Harmful effect by pH-value shift.
- **Remark:** Causes no biological oxygen consumption.
- **General notes:**
 - Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water.



Do not allow product to reach ground water, water course or sewage system.

Must not reach sewage water or drainage ditch undiluted or unneutralized.
 Danger to drinking water if even small quantities leak into the ground.

13 Disposal considerations

- **Product:**
- **Recommendation:**



Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

Disposal according to instructions of local authorities.

- **Uncleaned packagings:**
- **Recommendation:**
 - Disposal must be made according to official regulations.
 - Packagings that cannot be cleansed are to be disposed of in the same manner as the product.

14 Transport information

- Land transport ADR/RID (cross-border)



- **ADR/RID class:** 8 (C9) Corrosive substances.
- **Danger code (Kemler):** 80
- **UN-Number:** 1791
- **Packaging group:** III
- **Label:** 8
- **Description of goods:** 1791 HYPOCHLORITE SOLUTION

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· **Remarks:** Limited quantity: 5l per inner packaging, 30 kg gross per packaging unit

· **Maritime transport IMDG:**



· **IMDG Class:** 8
 · **UN Number:** 1791
 · **Label:** 8
 · **Packaging group:** III
 · **EMS Number:** F-A,S-B
 · **Marine pollutant:** No
 · **Proper shipping name:** HYPOCHLORITE SOLUTION

· **Air transport ICAO-TI and IATA-DGR:**



· **ICAO/IATA Class:** 8
 · **UN/ID Number:** 1791
 · **Label:** 8
 · **Packaging group:** III
 · **Proper shipping name:** HYPOCHLORITE SOLUTION
 · **Remarks:** Packing Instructions:
 For Limited Quantities: Y819 (Max Net Qty/Pkg: 1,0 l)
 Passenger and Cargo Aircraft: 819 (Max Net Qty/Pkg: 5 l)
 Cargo Aircraft only: 821 (Max Net Qty/Pkg: 60 l)

· **Transport/Additional information:** Keep away from acids.

15 Regulations

· **Markings according to EC guidelines:**

The product has been classified and marked in accordance with EU Directives / Ordinance on Hazardous Materials

· **Code letter and hazard designation of product:**



C Corrosive

· **Hazard-determining components of labelling:**

sodium hypochlorite, solution

· **Risk phrases:**

31 Contact with acids liberates toxic gas.

34 Causes burns.

· **Safety phrases:**

26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

28 After contact with skin, wash immediately with plenty of water.

36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

50 Do not mix with acids.

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- **National regulations**
 - **Information about limitation of use:** Restrictions on juvenile employment must be observed.
 - **Water hazard class:** Water hazard class 2 (Self-assessment): hazardous for water.
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16 Other information:

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Reasons for amendments:**
Regulation (EC) No. 1907/2006
General revision
 - **Relevant R-phrases:**
31 Contact with acids liberates toxic gas.
34 Causes burns.
50 Very toxic to aquatic organisms.
 - **Department issuing MSDS:**
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Marienstr. 3 D-64347 Griesheim
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Tel.: +49-6155-823241
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 - **Contact:** Angelika Torges
 - *** Data compared to the previous version altered.**
Changes have been made to chapters marked with a *, as compared to the previous version.
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