

# SAFETY DATA SHEET

## MATERIAL SAFETY DATA SHEET

Last changed: 04/01/2007

Internal No:

Replaces date: 08/05/2006

SODIUM HYPOCHLORITE

### 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

**TRADE NAME** SODIUM HYPOCHLORITE  
**SYNONYMS** NATRIUMHYPOKLORITT > 10% AKTIVT KLOR ; SODIUM  
HYPOCHLORITE, BLEKEVÆSKE, CHLORBLEICHLAUGE  
**TYPE OF USE** Oxidising agent

### 2. HAZARDS IDENTIFICATION



Corrosive

#### HEALTH

Contact with acids or ammonia liberates toxic chlorine gas.

Corrosive

May cause permanent damage to eyes and skin, especially if the product is not washed away quickly enough.

#### FIRE AND EXPLOSION

The product is not combustible.

#### ENVIRONMENT

Major discharge may have a negative effect in a water environment due to local pH increase.

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### 3. COMPOSITION / INFORMATION ON INGREDIENTS

No	Ingredient name	Reg.No	EC No.	CAS No.	Conc. (wt%)	Classification
1	sodium hypochlorite, solution...% cl active		231-668-3	7681-52-9	10 - 20 %	C,R31 - R34
2	Sodiumhydroxide		215-185-5	1310-73-2	1 - 5 %	C,35
3	Sodium carbonate		207-838-8	497-19-8	1 - 5 %	Xi,36

Explanation of symbols: T+=highly toxic, T=toxic, C=corrosive, Xn=harmful, Xi=irritant E=Explosive, O=Oxidising, F+=Extremely flammable, F=Highly flammable, N=Dangerous for the environment, Cancer=Carcinogenic, Mut=Mutagenic, Rep=Toxic for reproduction, Conc.=Concentration

### INGREDIENT COMMENTS

R-phrases mentioned in section 3 are listed up in section 16 with complete text.

### 4. FIRST AID MEASURES

#### GENERAL

Move the exposed person to fresh air at once. Provide rest, warmth and fresh air. When unconscious, loosen tight clothing and position in secured sideposition. Make sure that the respiratory passages are free. In the event of respiratory paralysis, administer breathing assistance. In the event of cardiac arrest – administer cardiac massage.

#### INHALATION

In the event of massive inhalation, take the person out into the fresh air, and keep him/her warm and in a resting position. Contact physician if symptoms appears.

#### SKIN CONTACT

If available rinse immediately with Diphoterine. After rinsing with Diphoterine, rinse with water.If you don't have any Diphoterine, then use WATER.Immediately remove contaminated clothing. Rinse thoroughly with water until the irritation subsides. Do not try to neutralize. Get medical attention.

#### EYE CONTACT

If available rinse immediately with Diphoterine. After rinsing with Diphoterine, rinse with water, 0,9 % NaCl-solution or Ringer's solution. If you don't have any Diphoterine, then use WATER.Keep the eyes wide open. Remove any contact lenses and continue rinsing with water for at least 15 minutes (keep the eyelids open). Get medical attention immediately. Continue to rinse.

#### INGESTION

DO NOT INDUCE VOMITING! Rinse nose and mouth with water. If more than an insignificant quantity has been swallowed, drink two glasses of water or milk. Do not induce vomiting or give anything by mouth to an unconscious person. Immediately consult a doctor.

### 5. FIRE-FIGHTING MEASURES

#### EXTINGUISHING MEDIA

Extinguishing agent: wide water jet or alcohol-resistant foam.

#### FIRE AND EXPLOSION HAZARDS

Reaction with other substances may cause fire/explosion, see under "Stability and reactivity". Not combustible. Hydrochloric acid gas (corrosive) or chlorine gas (toxic) may be formed on heating or in the event of contact with strong oxidants.

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### PROTECTIVE EQUIPMENT FOR FIRE FIGHTERS

General: Evacuate all personnel, use protective equipment for fire fighting. Use a portable breathing apparatus when the product is involved in a fire.

### OTHER INFORMATION

Move container from fire area if it can be done without risk. Use water for cooling exposed containers. If possible, fight fire from protected position. Cylinders with pressurized gases must be removed from fire area.

## 6. ACCIDENTAL RELEASE MEASURES

### PERSONAL PRECAUTIONS

Wear necessary protective equipment. Evacuate the area. Personnel in down-wind direction must be evacuated. Keep unnecessary people away, isolate hazard area and deny entry. Use special protective clothing. Regular protection may not be safe.

### SAFETY ACTIONS TO PROTECT EXTERNAL ENVIRONMENT

Bank in and collect. Prevent dispersion through damming with sand, earth or other suitable material. Runoff or release to sewer, waterway or ground is forbidden.

### METHODS FOR CLEANING UP

Stop leak if possible without risk. Minor spillage can be taken up by absorbing material such as sand, earth and vermiculite. Minor spillage should be mopped up. Wipe away with paper or textile fabric. Collect the spillage into suitable containers for incineration.

### OTHER INFORMATION

Inform the fire-fighting service in the event major spillage.

## 7. HANDLING AND STORAGE

### HANDLING PRECAUTIONS

The product is corrosive. Sodium hypochlorite is unstable. By heating it splits to oxygen and chlorine. Strong heating may cause poisoning.

### HANDLING ADVICE

Always take care when handling chemicals. Corrosion injury may occur even if small quantities are ingested. Wear necessary protective equipment. Avoid inhalation and contact with skin and eyes. After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of water. If enclosed handling cannot be guaranteed, ventilation and protective clothing must be used.

### STORAGE

Keep container tightly closed, in a cool, well ventilated place. Protect from direct sunlight. Keep container dry. Store separate from heat sources, reducing substances, bases and metals. By tapping to storage tank, ensure that it doesn't contain compounds as given in section 10.

Suitable container: Glass.PVC. Polyethylene.

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### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### EXPOSURE CONTROL

When evaluating exposure, consider suitable method for sampling, and evaluate if stationary or mobile sampling is recommended. If enclosed handling cannot be guaranteed, ventilation and protective clothing must be used. Emergency shower and facilities for eye rinsing shall be available. Good working hygiene must always be observed when handling product. Take off immediately all contaminated clothing. Wash promptly with soap & water if skin becomes contaminated. Use appropriate skin cream to prevent drying of skin. Contaminated clothing to be placed in closed container until disposal or decontamination. Warn cleaning personnel of chemical's hazardous properties.

#### RESPIRATORY PROTECTION

If ventilation is insufficient, suitable respiratory protection must be applied. Respirator with combined gas/particle filter (B/P2). Suitable respiratory protection must be used at high concentrations. Use impermeable protective clothing.

#### EYE PROTECTION

Use approved safety goggles or face shield.

#### HAND PROTECTION

Chemical resistant gloves required for prolonged or repeated contact. Protective gloves (butyl rubber, chloroprene rubber). PVC. Change out of very dirty clothes as soon as possible.

#### PROTECTIVE CLOTHING

Wear appropriate clothing to prevent reasonably probable skin contact. Use a chemicals-resistant apron. Wear boots (trousers on the outside of the boots).

#### OEL value

Ingredient name	Cas nr.	Interval	ppm	mg/m3	Year	Notification
Sodiumhydroxide	1310-73-2	8 h		2,0	2003	T

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### 9. PHYSICAL AND CHEMICAL PROPERTIES

**Physical State** Liquid.  
**Colour** Yellow-green. Lightly coloured.  
**Odour** Chlorine.  
**Solubility** Miscible with water.

#### Physical and chemical parameters

Parameter	Value/unit	Method/reference	Observation
pH in solution		Base	
Melting point	-20 °C		
Boiling point		Decomposes	
Flash point		Not flammable	
Vapour pressure	17,5 mmHg	v 20C	
Density	1,2 g/cm <sup>3</sup>	v 20C	
Molecular weight	74,5		
Odor threshold	0,2 -0,5 ppm		

### 10. STABILITY AND REACTIVITY

#### STABILITY

Unstable.

#### MATERIALS TO AVOID

Reacts with most metals and also other compounds, including: Ammonia. Ammonium phosphate Carbamide. Copper. Manganese. Non-Oxidizing acids. Oxidizing substance. Solid metals. Powdered metal. Halogenated acids. combustible substances Amines.

#### HAZARDOUS DECOMPOSITION PRODUCTS

When heated or on contact with acids, chlorine gas is emitted which, on inhalation, may cause coughing, smarting in the nose and mouth, nausea, pressure across the chest and breathing difficulties.

### 11. TOXICOLOGICAL INFORMATION

#### GENERAL

Corrosive May cause permanent damage to eyes and skin, especially if it is not flushed away quickly enough.  
DegDegree of damage depends on the concentration of the product and tissue contact time.

#### INHALATION

Inhalation of vapour/fume/mist may cause burns in horal cavity, nose, throat, possibly in the respiratory system.  
Risk of pulmonary edema if chlorine gas is inhaled.

#### SKIN CONTACT

Causes burns. May cause redness, blisters and corrosion lesions. May cause tissue damage.

#### EYE CONTACT

Causes burns. Risk of permanent damage to vision and blindness, even if the solutions splashed are diluted.

#### INGESTION

Ingestion of concentrated product may cause severe burns to the mouth, throat and especially the esophagus. Esophagus damage is very severe and heals with difficulty. May result in death.

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### 12. ECOLOGICAL INFORMATION

#### AQUATIC ECOTOXICITY

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Test	Exposure time	Value/unit	Species	Source
Acute fish(LC50)	96 h	10 - 100 mg/l		<a href="http://ecb.jrc.it/esis/">http://ecb.jrc.it/esis/</a>
Acute fish(EC50)	72 h	0,4 mg/l	Dunakella primolecta	<a href="http://ecb.jrc.it/esis/">http://ecb.jrc.it/esis/</a>
Acute fish(EC50)	72 h	0,083 mg/l	Selanastrum capricornutum	<a href="http://ecb.jrc.it/esis/">http://ecb.jrc.it/esis/</a>
Acute fish(EC50)	72 h	24 mg/l	Pavlava lutheri	<a href="http://ecb.jrc.it/esis/">http://ecb.jrc.it/esis/</a>

#### ECOTOXICITY

Can be harmful to aquatic organisms.

#### MOBILITY

The product is water soluble and is expected to remain in the water phase.

#### OTHER EFFECTS

Major discharge may have a negative effect in a water environment due to local pH increase. Even low concentration and brief exposure may cause death or poisoning of fish and other aquatic organisms.

#### OTHER INFORMATION

Do not allow this chemical to contaminate sources of drinking water, waste water or soil! Must not be discharged into water repositories without cleaning. Spreading may be checked by pH measurements.

### 13. DISPOSAL CONSIDERATIONS

#### GENERAL REGULATIONS

Larger quantities must be disposed of at approved hazardous waste treatment facility or storage site, together with appropriate hazard waste documents. Packaging must be cleaned thoroughly, do not remove labelling or warning labels. This material and its container must be disposed of as hazardous waste.

#### CATEGORY OF WASTE

For waste disposal within the EU, use the EWC code most suitable for each individual occasion.

### 14. TRANSPORT INFORMATION

Classified as Dangerous Goods:  Yes  No  Not assessed

UN No.: 1791

#### TRADE NAME AND DESCRIPTION

HYPOCHLORITE SOLUTION

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### ADR/RID

<b>Class:</b>	8	<b>Packing group:</b>	III
<b>Danger form:</b>	8		
<b>Hazard Id:</b>	80		

### IMDG

<b>Class:</b>	8	<b>Packing group:</b>	III
<b>Sub Risk:</b>	-	<b>EMS:</b>	8-08
<b>Marine Pollutant:</b>	-		

### IATA

<b>Class:</b>	8	<b>Packing group:</b>	III
<b>Sub Risk:</b>	-		
<b>Label:</b>	Corrosive		

## 15. REGULATORY INFORMATION



Corrosive

**EC-Label**  No  Yes  Not assessed

### COMPOSITION

sodium hypochlorite, solution...% cl active (10 - 20 % ), Sodiumhydroxide (1 - 5 % ), Sodium carbonate (1 - 5 % )

### R-PHRASES

Nr.	R-Phrase text
R31	Contact with acids liberates toxic gas.
R34	Causes burns.

### S-PHRASES

S1/2 Keep locked up and out of the reach of children. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. S28 After contact with skin, wash immediately with plenty of water.S36/37/39 Wear suitable protective clothing, gloves and eye/face protection. S45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). S50 Do not mix with ammonia

### REFERENCES

Guiding values for pollution in the working atmosphere (ADN) (Norway-2004).  
Regulation to dangerous waste from ministry of Norway (2005).  
Norwegian adaption to Annex 1 of direktiv 67/548/EEC.  
Norwegian regulations regarding classifications and labelling of dangerous chemicals (incl.preparations)(2004)  
ADR/RID (2005).2006/8/EC

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### 16. OTHER INFORMATION



#### INFORMATION SOURCES

Arbeidstilsynets veiledning for Administrative normer i arbeidsatmosfæren.

Arbeidstilsynets brosjyre om verneutstyr.

Arbeidsmiljøseneterets hanskeguide.

Hva du må vite, når du bruker åndedrettsvern (Orientering, bestnr.: 539, Arbeidstilsynet).

#### VENDOR NOTES

Information given is intended to present guidelines for safe handling, use, processing, storage, transport, disposal and discharge; it is not intended to be a guarantee or quality specification.

Information given in this safety data sheet is in accordance with our information, and to the best of our knowledge, was correct on the last revision date.

#### LIST OF RELEVANT R-PHRASES

Nr.	R-Phrase text
R31	Contact with acids liberates toxic gas.
R34	Causes burns.
R35	Causes severe burns.
R36	Irritating to eyes.