

## MATERIAL SAFETY DATA SHEET

Date Printed: 08/31/2006

Date Updated: 02/01/2006

Version 1.6

## Section 1 - Product and Company Information

Product Name SODIUM HYPOCHLORITE SOLUTION  
Product Number 71696  
Brand FLUKA

Company Sigma-Aldrich  
Address 3050 Spruce Street  
SAINT LOUIS MO 63103 US

Technical Phone: 800-325-5832  
Fax: 800-325-5052  
Emergency Phone: 314-776-6555

## Section 2 - Composition/Information on Ingredient

Substance Name	CAS #	SARA 313
SODIUM HYPOCHLORITE, 10 % = C < 25 %	None	No

Ingredient Name	CAS #	Percent	SARA 313
WATER	7732-18-5	>= 85	No
SODIUM HYPOCHLORITE	7681-52-9	>= 10 < 25	No

Formula NaOCl  
Synonyms Antiformin \* B-K liquid \* Carrel-dakin solution \*  
Chloros \* Chlorox \* Clorox \* Dakins solution \*  
Deosan \* Hyclorite \* Hypochlorite solution  
containing >7% available chlorine by wt. (UN1791)  
\* Javex \* Klorocin \* Milton \* Neo-cleaner \*  
Neoseptal CL \* Parozone \* Purin B \* Sodium  
chloride oxide \* Sodium hypochlorite \* Sodium  
oxychloride \* Surchlor

RTECS Number: NH3486300

## Section 3 - Hazards Identification

## EMERGENCY OVERVIEW

Corrosive.

Contact with acids liberates toxic gas. Causes burns.

## HMIS RATING

HEALTH: 3

FLAMMABILITY: 0

REACTIVITY: 0

## NFPA RATING

HEALTH: 3

FLAMMABILITY: 0

REACTIVITY: 0

For additional information on toxicity, please refer to Section 11.

## Section 4 - First Aid Measures

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### ORAL EXPOSURE

If swallowed, wash out mouth with water provided person is conscious. Call a physician. Do not induce vomiting.

### INHALATION EXPOSURE

If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

### DERMAL EXPOSURE

In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. Call a physician.

### EYE EXPOSURE

In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

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## Section 5 - Fire Fighting Measures

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### AUTOIGNITION TEMP

N/A

### FLAMMABILITY

N/A

### EXTINGUISHING MEDIA

Suitable: Noncombustible. Use extinguishing media appropriate to surrounding fire conditions.

### FIREFIGHTING

Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.  
Specific Hazard(s): Emits toxic fumes under fire conditions.

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## Section 6 - Accidental Release Measures

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### PROCEDURE TO BE FOLLOWED IN CASE OF LEAK OR SPILL

Evacuate area.

### PROCEDURE(S) OF PERSONAL PRECAUTION(S)

Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves.

### METHODS FOR CLEANING UP

Absorb on sand or vermiculite and place in closed containers for disposal. Ventilate area and wash spill site after material pickup is complete.

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## Section 7 - Handling and Storage

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### HANDLING

User Exposure: Do not breathe vapor. Do not get in eyes, on skin, on clothing. Avoid prolonged or repeated exposure.

### STORAGE

Suitable: Keep tightly closed.  
Incompatible Materials: Acids

### SPECIAL REQUIREMENTS

Avoid contact with acid.

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## Section 8 - Exposure Controls / PPE

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### ENGINEERING CONTROLS

Safety shower and eye bath. Use only in a chemical fume hood.

### PERSONAL PROTECTIVE EQUIPMENT

Respiratory: Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator.  
Hand: Compatible chemical-resistant gloves.  
Eye: Chemical safety goggles.  
Other: Faceshield (8-inch minimum).

### GENERAL HYGIENE MEASURES

Wash contaminated clothing before reuse. Discard contaminated shoes. Wash thoroughly after handling.

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## Section 9 - Physical/Chemical Properties

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Appearance	Physical State: Liquid	
Property	Value	At Temperature or Pressure
Molecular Weight	74.44 AMU	
pH	N/A	
BP/BP Range	111 °C	760 mmHg
MP/MP Range	- 30.0 - -20. °C	
Freezing Point	N/A	
Vapor Pressure	17.5 mmHg	20 °C
Vapor Density	N/A	
Saturated Vapor Conc.	N/A	
SG/Density	1.2 - 1.25 g/cm <sup>3</sup>	
Bulk Density	N/A	
Odor Threshold	N/A	
Volatile%	N/A	
VOC Content	N/A	
Water Content	N/A	
Solvent Content	N/A	
Evaporation Rate	N/A	
Viscosity	N/A	
Surface Tension	N/A	
Partition Coefficient	N/A	
Decomposition Temp.	N/A	
Explosion Limits	N/A	
Flammability	N/A	
Autoignition Temp	N/A	
Refractive Index	N/A	
Optical Rotation	N/A	
Miscellaneous Data	N/A	
Solubility	Solubility in Water:Miscible.	

N/A = not available

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## Section 10 - Stability and Reactivity

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### STABILITY

Stable: Stable.

Materials to Avoid: Strong acids, Organic materials, Finely powdered metals, Forms explosive mixtures with:, Amines Reacts violently with ammonium salts, aziridine, methanol, and phenylacetonitrile, sometimes resulting in explosions. Reacts with primary aliphatic or aromatic amines to form explosively unstable n-chloroamines. Reaction with formic acid becomes explosive at 55°C.

#### HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Chlorine.

#### HAZARDOUS POLYMERIZATION

Hazardous Polymerization: Will not occur

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### Section 11 - Toxicological Information

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#### ROUTE OF EXPOSURE

Skin Contact: Causes burns.

Skin Absorption: May be harmful if absorbed through the skin.

Eye Contact: Causes burns.

Inhalation: May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.

Ingestion: May be harmful if swallowed.

#### SIGNS AND SYMPTOMS OF EXPOSURE

Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin. Symptoms of exposure may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting. Inhalation may result in spasm, inflammation and edema of the larynx and bronchi, chemical pneumonitis, and pulmonary edema.

#### TOXICITY DATA

Oral

Mouse

5800 mg/kg

LD50

Remarks: Behavioral:Change in motor activity (specific assay).

Gastrointestinal:Other changes.

#### IRRITATION DATA

Eyes

Rabbit

10 mg

Remarks: Moderate irritation effect

#### CHRONIC EXPOSURE - CARCINOGEN

Result: This product is or contains a component that is not classifiable as to its carcinogenicity based on its IARC, ACGIH, NTP, or EPA classification.

#### IARC CARCINOGEN LIST

Rating: Group 3

#### CHRONIC EXPOSURE - MUTAGEN

Species: Human

Dose: 100 PPM  
Exposure Time: 24H  
Cell Type: lymphocyte  
Mutation test: Cytogenetic analysis

Species: Human  
Dose: 149 MG/L  
Cell Type: Embryo  
Mutation test: Sister chromatid exchange

Species: Hamster  
Dose: 100 MG/L  
Cell Type: lung  
Mutation test: Cytogenetic analysis

Mutation test: Histidine reversion (Ames)

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## Section 12 - Ecological Information

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### ACUTE ECOTOXICITY TESTS

Test Type: EC50 Daphnia  
Species: Daphnia magna  
Time: 24 h  
Value: 0.070 - 0.7 mg/l

Test Type: LC50 Fish  
Species: Pimephales promelas (Fathead minnow)  
Time: 96 h  
Value: 0.22 mg/l

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## Section 13 - Disposal Considerations

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### APPROPRIATE METHOD OF DISPOSAL OF SUBSTANCE OR PREPARATION

Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state, and local environmental regulations.

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## Section 14 - Transport Information

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### DOT

Proper Shipping Name: Hypochlorite solutions  
UN#: 1791  
Class: 8  
Packing Group: Packing Group III  
Hazard Label: Corrosive  
PIH: Not PIH

### IATA

Proper Shipping Name: Hypochlorite solution  
IATA UN Number: 1791  
Hazard Class: 8  
Packing Group: III

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## Section 15 - Regulatory Information

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### EU ADDITIONAL CLASSIFICATION

Symbol of Danger: C  
Indication of Danger: Corrosive.  
R: 31-34

Risk Statements: Contact with acids liberates toxic gas. Causes burns.

S: 26-36/37/39-45

Safety Statements: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing, gloves, and eye/face protection. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

#### US CLASSIFICATION AND LABEL TEXT

Indication of Danger: Corrosive.

Risk Statements: Contact with acids liberates toxic gas. Causes burns.

Safety Statements: Wear suitable protective clothing, gloves, and eye/face protection. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

#### UNITED STATES REGULATORY INFORMATION

SARA LISTED: No

TSCA INVENTORY ITEM: Yes

#### CANADA REGULATORY INFORMATION

WHMIS Classification: This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.

DSL: Yes

NDSL: No

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#### Section 16 - Other Information

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#### DISCLAIMER

For R&D use only. Not for drug, household or other uses.

#### WARRANTY

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. Copyright 2006 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.