



# Safety Data Sheet - Version 5.0

Preparation Date 12/14/2016

Latest Revision Date (If Revised)

SDS Expiry Date 12/13/2019

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

### 1.1 Product Identifier

**Chemical Name** Sodium Hypochlorite Solution (available chlorine 10-15 %)

**Catalogue #** S634985

### 1.2 Relevant Identified Uses of the Substance or Mixture and Uses Advised Against

**Product Uses** To be used only for scientific research and development. Not for use in humans or animals.

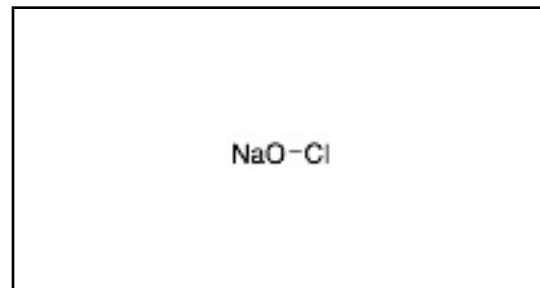
### 1.3 Details of the Supplier of the Safety Data Sheet

**Company** Toronto Research Chemicals  
2 Brisbane Road  
Toronto, ON M3J 2J8  
CANADA

**Telephone** +14166659696

**FAX** +14166654439

**Email** orders@trc-canada.com



### 1.4 Emergency Telephone Number

**Emergency#** +14166659696 between 0800-1700 (GMT-5)

## 2. HAZARDS IDENTIFICATION

### WHMIS Classification (Canada)

E Corrosive Material

### WHMIS Symbols (Canada)



### 2.1/2.2 Classification of the Substance or Mixture and Label Elements

#### GHS Hazards Classification (According to EU Regulation 1272/2008 and US OSHA 1910.1200)

Skin Corrosion (Category 1B)

Serious Eye Damage (Category 1)

Hazardous to the Aquatic Environment, Acute Hazard (Category 1)

Hazardous to the Aquatic Environment, Long-Term Hazard (Category 1)

#### EU Classification (According to EU Regulation 67/548/EEC)

Causes severe burns. Risk of serious damage to the eyes. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

#### EU Risk and Safety Statements (According to EU Regulation 67/548/EEC)

##### Hazard Statements Hazard Codes

Corrosive

C



Environmental Hazard

N



##### Risk Codes and Phrases

R35 Causes severe burns.

R41 Risk of serious damage to the eyes.

R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

### Safety Precaution Codes and Phrases

- S61 Avoid release to the environment. Refer to special instructions.  
S36/37/39 Wear suitable protective clothing, gloves and eye/face protection.  
S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

### GHS Hazards Identification (According to EU Regulation 1272/2008 and US OSHA 1910.1200)

Signal Word Danger



### GHS Hazard Statements

- H314 Causes severe skin burns and eye damage.  
H318 Causes serious eye damage.  
H400 Very toxic to aquatic life.  
H410 Very toxic to aquatic life with long lasting effects.

### GHS Precautionary Statements

- P273 Avoid release to the environment.  
P280 Wear protective gloves/protective clothing/eye protection/face protection.  
P304/P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
P310 Immediately call a POISON CENTER or doctor/physician  
P305/P351/P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

### 2.3 Unclassified Hazards/Hazards Not Otherwise Classified

No data available.

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1 Substances

Molecular Formula: ClNaO

Molecular Weight: 74.44

CAS Registry #: 7681-52-9

EC#:

#### Synonyms

Hypochlorous Acid Sodium Salt; AD Gel; ActiPlus N 2818; AgClor 310; Antiformin; Aron Clean; Aron Clean LB 10; B-K Liquid; Baso Agri+; Belizna; Belkina; Carrel-Dakin Solution; Chloros; Clorallex; Clorallex NL; Clorox; Comfor; Dakin's Solution; DanKlorix; Deosan; Dispatch; Dispatch (Salt); Fox-Chlor; Hishikurin S; Histolith; Hyclorite; Hypex; Hypure; Hypure N; Javel Water; Javelle Water; Javex; Javex 5; Jomax Mold & Mildew; Stain Remover; Klorocin; Linely; Milton; Milton Sterilising Fluid; Modified Dakin's Solution; Nades; Neo-cleaner; Neoseptal CL; Parazone; Parozone; Purelex; Purelox; Purin B; Raverrack D; Sanrack P; Sodium Chloride Oxide (NaClO); Sodium Hypochloride; Sodium Hypochlorite (NaClO); Sodium Hypochlorite (NaOCl)

### 3.2 Mixtures

Ingredient	CAS#	EC#	Index-No.	%Composition
Sodium hypochlorite	7681-52-9	231-668-3	017-011-00-1	>= 10 - < 15%
Water	7732-18-5	231-791-2	N/A	<= 85%

## 4. FIRST AID MEASURES

### 4.1 Description of First Aid Measures

#### General Advice

If medical attention is required, show this safety data sheet to the doctor.

#### If Inhaled

If inhaled, move casualty to fresh air. If not breathing, give artificial respiration and consult a physician.

#### In Case of Skin Contact

Remove contaminated clothing and shoes. Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

#### In Case of Eye Contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. Continue rinsing eyes during transport to hospital.

#### **If Swallowed**

Never give anything by mouth to an unconscious person. Rinse mouth with water. Do NOT induce vomiting unless advised to do so by a physician or Poison Control Center. Seek medical attention.

#### **4.2 Most Important Symptoms and Effects, Both Acute and Delayed**

The most important known symptoms and effects are described in the labeling (see section 2.2) and/or section 11.

#### **4.3 Indication of any Immediate Medical Attention and Special Treatment Needed**

No data available.

### **5. FIREFIGHTING MEASURES**

#### **5.1 Extinguishing Media**

Dry powder

#### **5.2 Special Hazards Arising from the Substance or Mixture**

Sodium oxides, Hydrogen chloride

#### **5.3 Advice for Firefighters**

Wear self contained breathing apparatus for fire fighting if necessary.

#### **5.4 Further Information**

No data available.

### **6. ACCIDENTAL RELEASE MEASURES**

#### **Personal precautions**

Wear respiratory protection. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

#### **Environmental precautions**

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

#### **Method and materials for containment and cleaning up**

Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

### **7. HANDLING AND STORAGE**

#### **Precautions for safe handling**

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed.

#### **Conditions for safe storage**

Keep container tightly closed in a dry and well-ventilated place.  
Keep in a dry place.

Storage conditions: Room Temperature

#### **7.3 Specific End Uses**

For scientific research and development only. Not for use in humans or animals.

### **8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

#### **8.1 Control Parameters**

Contains no components with established occupational exposure limits.

#### **8.2 Exposure Controls**

##### **Appropriate Engineering Controls**

A laboratory fumehood or other appropriate form of local exhaust ventilation should be used to avoid exposure.

##### **Personal Protective Equipment**

All recommendations below are advisory in nature and a risk assessment should be performed by the employer/end user prior to use of this product. The type of protective equipment must be selected based on the amount and concentration of the dangerous material being used in the workplace.

##### **Eye/Face Protection**

Safety goggles or face shield. All equipment should have been tested and approved under appropriate standards, such as NIOSH (US), CSA (Canada), or EN 166 (EU).

### **Skin Protection**

Gloves should be used when handling this material. Gloves are to be inspected prior to use. Contaminated gloves are to be removed using proper glove removal technique so that the outer surface of the glove does not contact bare skin. Dispose of contaminated gloves after use in compliance with good laboratory practices and local requirements.

Gloves used for incidental exposures (splash protection) should be designated as "chemical resistant" by EU standard EN 374 with the resistance codes corresponding to the anticipated use of the material. Unrated gloves are not recommended.

Suggested gloves: AnsellPro Sol-Vex nitrile gloves style 37-175, 15 mil thickness.  
Penetration time has not been determined.

Gloves used for prolonged direct exposure (immersion) should be designated "chemical resistant" as per EN 734 with the resistance codes corresponding to the anticipated use of the material.

Suggested gloves: AnsellPro Viton/Butyl gloves style 38-612, 4/8 mil thickness.  
Penetration time has not been determined.

These recommendations may not apply if the material is mixed with any other chemical, or dissolved into a solution. A risk assessment must be performed to ensure the gloves will still offer acceptable protection.

### **Body Protection**

Fire resistant (Nomex) lab coat or coveralls.

### **Respiratory Protection**

Recommended respirators are NIOSH-approved N100 or CEN-approved FFP3 particulate respirators. These are to be only used as a backup to local exhaust ventilation or other engineering controls. If the respirator is the only means of protection, a full-face supplied air respirator must be used.

## **9. PHYSICAL AND CHEMICAL PROPERTIES**

### **9.1 Information on Basic Physical and Chemical Properties**

**A) Appearance**

Clear Light Yellow Solution

**B) Odour**

No data available

**C) Odour Threshold**

No data available

**D) pH**

No data available

**E) Melting Point/Freezing Point**

N/A

**F) Initial Boiling Point/Boiling Range**

No data available

**G) Flash point**

No data available

**H) Evaporation Rate**

No data available

**I) Flammability (Solid/Gas)**

No data available

**J) Upper/Lower Flammability/Explosive Limits**

No data available

**K) Vapour Pressure**

No data available

**L) Vapour Density**

No data available

**M) Relative Density**

No data available

**N) Solubility**

Water

**O) Partition Coefficient: n-octanol/water**

No data available

**P) Auto-Ignition Temperature**

No data available

**Q) Decomposition Temperature**

No data available

**R) Viscosity**

No data available

**S) Explosive Properties**

No data available

**T) Oxidizing Properties**

No data available

**9.2 Other Information**

no data available

## **10. STABILITY AND REACTIVITY**

**10.1 Reactivity**

No data available.

**10.2 Chemical Stability**

Stable under recommended storage conditions.

### **10.3 Possibility of Hazardous Reactions**

No data available.

### **10.4 Conditions to Avoid**

No data available.

### **10.5 Incompatible Materials**

Strong acids, Organic materials, Powdered metals, Forms shock-sensitive mixtures with certain other materials, Amines, Reacts violently with ammonium salts, azirdine, 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.

### **10.6 Hazardous Decomposition Products**

**In the event of fire:** See section 5. **Other decomposition products:** No data available.

## **11. TOXICOLOGICAL INFORMATION**

### **11.1 Information on Toxicological Effects**

#### **A) Acute Toxicity**

**Oral LD50:** No data available.

**Inhalation LC50:** No data available.

**Dermal LD50:** No data available.

#### **B) Skin Corrosion/Irritation**

No data available

#### **C) Serious Eye Damage/Irritation**

Corrosive - causes skin and eye burns. May also cause respiratory tract damage.

#### **D) Respiratory or Skin Sensitization**

No data available

#### **E) Germ Cell Mutagenicity**

No data available

#### **F) Carcinogenicity**

Limited evidence of a carcinogenic effect.

This compound has been designated as Group 3: Not classifiable as to its carcinogenicity in humans.

#### **G) Reproductive Toxicity/Teratogenicity**

No data available

#### **H) Single Target Organ Toxicity - Single Exposure**

No data available

#### **I) Single Target Organ Toxicity - Repeated Exposure**

No data available

#### **J) Aspiration Hazard**

No data available

#### **K) Potential Health Effects and Routes of Exposure**

##### **Inhalation**

May be harmful if inhaled. Material is extremely destructive to the mucous membranes and respiratory tract.

##### **Ingestion**

May be harmful if swallowed.

##### **Skin**

May be harmful if absorbed through skin. Causes skin burns.

##### **Eyes**

Causes severe eye burns and possible permanent eye damage.

#### **L) Signs and Symptoms of Exposure**

The most important known symptoms and effects are described in the labeling (see section 2.2) and/or section 11.

To the best of our knowledge, the chemical, physical, and toxicological properties of this material have not been thoroughly investigated.

#### **M) Additional Information**

RTECS: NH3486300

## **12. ECOLOGICAL INFORMATION**

### **12.1 Toxicity**

No data available.

## **12.2 Persistence and Degradability**

No data available.

## **12.3 Bioaccumulative Potential**

No data available.

## **12.4 Mobility in Soil**

No data available.

## **12.5 Results of PBT and vPvB Assessment**

No data available.

## **12.6 Other Adverse Effects**

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Very toxic to aquatic life with long lasting effects.

# **13. DISPOSAL CONSIDERATIONS**

## **13.1 Waste Treatment Methods**

### **A) Product**

Product may be burned in an incinerator equipped with afterburner and scrubber. Excess and expired materials are to be offered to a licensed hazardous material disposal company. Ensure that all Federal and Local regulations regarding the disposal and destruction of this material are followed.

### **B) Contaminated Packaging**

Dispose of as above.

### **C) Other Considerations**

Product is not to be disposed of in sanitary sewers, storm sewers, or landfills.

# **14. TRANSPORT INFORMATION**

## **14.1 UN Number**

DOT (US): UN1791                      IATA: UN1791                      IMDG: UN1791                      ADR/RID: UN1791

## **14.2 UN Proper Shipping Name**

DOT (US)/IATA:  
Hypochlorite solutions  
IMDG/ARD/RID:  
HYPOCHLORITE SOLUTION

## **14.3 Transport Hazard Class(es)**

DOT (US): 8                      IATA: 8                      IMDG: 8                      ADR/RID: 8

## **14.4 Packing Group**

DOT (US): III                      IATA: III                      IMDG: III                      ADR/RID: III

## **14.5 Environmental Hazards**

DOT (US): None                      IATA: None                      IMDG: None                      ADR/RID: None

## **14.6 Special Precautions for User**

None

# **15. REGULATORY INFORMATION**

This safety data sheet complies with the requirements of WHMIS (Canada), OSHA 1910.1200 (US), and EU Regulation EC No. 1907/2006 (European Union).

## **15.1 Safety, Health and Environmental Regulations/Legislation Specific for the Substance or Mixture**

### **A) Canada**

**DSL/NDSL Status:** This product or a component of this product is registered on the Canadian DSL/NDSL.

### **B) United States**

**TSCA Status:** This product or a component is listed on the US EPA TSCA.

### **C) European Union**

**ECHA Status:** This product or a component is registered with the EU ECHA.

## **15.2 Chemical Safety Assessment**

No data available

# **16. OTHER INFORMATION**

## **16.1 Revision History**

Original Publication Date: 12/14/2016

## **16.2 List of Abbreviations**

LD50                      Median lethal dose of a substance required to kill 50% of a test population.  
LC50                      Medial lethal concentration of a substance required to kill 50% of a test population.  
LDLo                      Lowest known lethal dose

TDL<sub>o</sub>            Lowest known toxic dose  
IARC            International Agency for Research on Cancer  
NTP             National Toxicology Program  
RTECS          Registry of Toxic Effects of Chemical Substances

### **16.3 Further Information**

Copyright 2015. Toronto Research Chemicals Inc. Copies may be made for internal use only. The above information is believed to be correct to the best of our knowledge, but is to be only used as a guide. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. Please take all due care when handling this product.