# SAFETY DATA SHEET

**Creation Date** 02-May-2012 **Revision Date** 19-January-2018 **Revision Number** 4

## 1. Identification

**Product Name** **Sodium chlorite, unstabilized**

**Cat No. :** **AC223230000; AC223230025; AC223230050; AC223230100; AC223235000**

**CAS-No** 7758-19-2
**Synonyms** Alicide LD; Chlorous Acid, Sodium SAlt (8CI, 9CI)

**Recommended Use** Laboratory chemicals.
**Uses advised against** Not for food, drug, pesticide or biocidal product use

**Details of the supplier of the safety data sheet**

**Company**

**Importer/Distributor**
Fisher Scientific
112 Colonnade Road,
Ottawa, ON K2E 7L6,
Canada
Tel: 1-800-234-7437

Acros Organics
One Reagent Lane
Fair Lawn, NJ 07410

**Manufacturer**
Fisher Scientific
One Reagent Lane
Fair Lawn, NJ 07410
Tel: (201) 796-7100

**Emergency Telephone Number**
For information **US** call: 001-800-ACROS-01 / **Europe** call: +32 14 57 52 11
Emergency Number **US:**001-201-796-7100 / **Europe:** +32 14 57 52 99
**CHEMTREC** Tel. No.**US:**001-800-424-9300 / **Europe:**001-703-527-3887

## 2. Hazard(s) identification

**Classification**

**WHMIS 2015 Classification** Classified as hazardous under the Hazardous Products Regulations (SOR/2015-17)

| | |
|---|---|
| **Oxidizing solids** | Category 1 |
| **Acute oral toxicity** | Category 3 |
| **Acute dermal toxicity** | Category 2 |
| **Acute Inhalation Toxicity** | Category 2 |
| **Skin Corrosion/irritation** | Category 1 B |
| **Serious Eye Damage/Eye Irritation** | Category 1 |
| **Specific target organ toxicity - (repeated exposure)** | Category 2 |
| **Health Hazards Not Otherwise Classified** | Category 1 |

Contact with acids liberates very toxic gas (ClO2)
Corrosive to the respiratory tract

**Label Elements**

**Signal Word**
Danger

**Hazard Statements**
May cause fire or explosion; strong oxidizer
Toxic if swallowed
Fatal in contact with skin or if inhaled
Causes severe skin burns and eye damage
May cause damage to organs through prolonged or repeated exposure
Contact with acids liberates very toxic gas (ClO2)
Corrosive to the respiratory tract

**Precautionary Statements**
**Prevention**
Take any precaution to avoid mixing with acids
Do not breathe dust/fumes/gas/mist/vapours/spray
Wear respiratory protection
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
Keep/Store away from clothing/combustible materials
Take any precaution to avoid mixing with combustibles
Do not get in eyes, on skin, or on clothing
Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Wear protective gloves/protective clothing/eye protection/face protection
Wear fire/flame resistant/retardant clothing
**Response**
IF INHALED: Remove person to fresh air and keep comfortable for breathing
Immediately call a POISON CENTER/doctor
IF ON SKIN: Wash with plenty of soap and water
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
IF ON CLOTHING: Rinse immediately contaminated clothing and skin with plenty of water before removing clothes
Rinse mouth
Do NOT induce vomiting
Rinse skin with water/shower
Wash contaminated clothing before reuse
In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish
In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion
**Storage**
Store locked up
**Disposal**
Dispose of contents/container to an approved waste disposal plant

**Other Hazards**
Very toxic to aquatic life with long lasting effects
May cause pulmonary edema

## 3. Composition/Information on Ingredients

| Component | CAS-No | Weight % |
|---|---|---|
| Sodium chlorite | 7758-19-2 | 79 - 81 |
| Sodium chloride | 7647-14-5 | 5 - 10 |
| Sodium carbonate | 497-19-8 | 5 - 10 |

| | | |
|---|---|---|
| Sodium sulfate | 7757-82-6 | < 5 |
| Sodium hydroxide | 1310-73-2 | < 1 |
| Sodium chlorate | 7775-09-9 | < 1 |

## 4. First-aid measures

**Eye Contact** Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Immediate medical attention is required.

**Skin Contact** Wash off immediately with plenty of water for at least 15 minutes. Immediate medical attention is required.

**Inhalation** Move to fresh air. If not breathing, give artificial respiration. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Immediate medical attention is required.

**Ingestion** Do not induce vomiting. Call a physician or Poison Control Center immediately.

**Most important symptoms/effects** Causes burns by all exposure routes. Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation

**Notes to Physician** Treat symptomatically

## 5. Fire-fighting measures

**Suitable Extinguishing Media** Carbon dioxide ($CO_2$). Foam. Dry chemical. Chemical foam.

**Unsuitable Extinguishing Media** No information available

**Flash Point** No information available
**Method -** No information available

**Autoignition Temperature**
**Explosion Limits**
**Upper** No data available
**Lower** 7%
**Oxidizing Properties** Oxidizer

**Sensitivity to Mechanical Impact** No information available
**Sensitivity to Static Discharge** No information available

**Specific Hazards Arising from the Chemical**
Burning produces obnoxious and toxic fumes. Containers may explode when heated. Oxidizer: Contact with combustible/organic material may cause fire. May ignite combustibles (wood paper, oil, clothing, etc.). Do not allow run-off from fire fighting to enter drains or water courses.

**Hazardous Combustion Products**
Hydrogen chloride gas Sodium oxides
**Protective Equipment and Precautions for Firefighters**
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

**NFPA**

| Health | Flammability | Instability | Physical hazards |
|---|---|---|---|
| 4 | 0 | 2 | OX |

## 6. Accidental release measures

**Personal Precautions** Ensure adequate ventilation. Use personal protective equipment. Evacuate personnel to

safe areas.

**Environmental Precautions** Do not flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water system. Prevent product from entering drains. Local authorities should be advised if significant spillages cannot be contained.

**Methods for Containment and Clean Up** Wear self-contained breathing apparatus and protective suit. Sweep up or vacuum up spillage and collect in suitable container for disposal. Do not let this chemical enter the environment. Avoid dust formation. Soak up with inert absorbent material. Keep in suitable, closed containers for disposal. Sweep up and shovel into suitable containers for disposal.

## 7. Handling and storage

**Handling** Use only under a chemical fume hood. Do not breathe dust. Do not get in eyes, on skin, or on clothing. Do not ingest. Minimize dust generation and accumulation. Wash hands before breaks and immediately after handling the product. Keep away from clothing and other combustible materials.

**Storage** Keep in a dry, cool and well-ventilated place. Keep container tightly closed. Do not store near combustible materials. Keep containers tightly closed in a dry, cool and well-ventilated place. Corrosives area.

## 8. Exposure controls / personal protection

**Exposure Guidelines** This product does not contain any hazardous materials with occupational exposure limitsestablished by the region specific regulatory bodies.

| Component | Alberta | British Columbia | Ontario TWAEV | Quebec | ACGIH TLV | OSHA PEL | NIOSH IDLH |
|---|---|---|---|---|---|---|---|
| Sodium hydroxide | Ceiling: 2 mg/m³ | Ceiling: 2 mg/m³ | CEV: 2 mg/m³ | Ceiling: 2 mg/m³ | Ceiling: 2 mg/m³ | Ceiling: 2 mg/m³<br>TWA: 2 mg/m³ | IDLH: 10 mg/m³<br>Ceiling: 2 mg/m³ |

**Engineering Measures**

Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.

Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source

**Personal protective equipment**

**Eye Protection** Goggles

**Hand Protection** Protective gloves

| Glove material | Breakthrough time | Glove thickness | Glove comments |
|---|---|---|---|
| Natural rubber<br>Nitrile rubber<br>Neoprene<br>PVC | See manufacturers recommendations | - | Splash protection only |

Inspect gloves before use. observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information) gloves are suitable for the task: Chemical compatability, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion. gloves with care avoiding skin contamination.

**Respiratory Protection**

When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained properly

**Recommended Filter type:** Particulates filter conforming to EN 143

When RPE is used a face piece Fit Test should be conducted

**Environmental exposure controls**
Prevent product from entering drains. Do not allow material to contaminate ground water system. Local authorities should be advised if significant spillages cannot be contained.

**Hygiene Measures**
Handle in accordance with good industrial hygiene and safety practice. Keep away from food, drink and animal feeding stuffs. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing before re-use. Wash hands before breaks and at the end of workday.

## 9. Physical and chemical properties

| | |
|---|---|
| **Physical State** | Powder Solid |
| **Appearance** | White |
| **Odor** | Odorless |
| **Odor Threshold** | No information available |
| **pH** | No information available |
| **Melting Point/Range** | 180 - 200 °C / 356 - 392 °F |
| **Boiling Point/Range** | No information available |
| **Flash Point** | No information available |
| **Evaporation Rate** | Not applicable |
| **Flammability (solid,gas)** | No information available |
| **Flammability or explosive limits** | |
| **Upper** | No data available |
| **Lower** | 7% |
| **Vapor Pressure** | No information available |
| **Vapor Density** | Not applicable |
| **Specific Gravity** | No information available |
| **Solubility** | No information available |
| **Partition coefficient; n-octanol/water** | No data available |
| **Autoignition Temperature** | |
| **Decomposition Temperature** | 180 °C |
| **Viscosity** | Not applicable |
| **Molecular Formula** | Cl Na O2 |
| **Molecular Weight** | 90.44 |

## 10. Stability and reactivity

| | |
|---|---|
| **Reactive Hazard** | None known, based on information available |
| **Stability** | Oxidizer: Contact with combustible/organic material may cause fire. Hygroscopic. |
| **Conditions to Avoid** | Incompatible products. Exposure to moist air or water. Excess heat. Combustible material. |
| **Incompatible Materials** | Organic materials, Powdered metals, Strong reducing agents, Combustible material |
| **Hazardous Decomposition Products** | Hydrogen chloride gas, Sodium oxides |
| **Hazardous Polymerization** | Hazardous polymerization does not occur. |
| **Hazardous Reactions** | None under normal processing. |

## 11. Toxicological information

**Acute Toxicity**

| | |
|---|---|
| **Product Information** | |
| **Oral LD50** | Category 3. ATE = 50 - 300 mg/kg. |
| **Dermal LD50** | Category 2. ATE = 50 - 200 mg/kg. |

**Mist LC50** Based on ATE data, the classification criteria are not met. ATE > 5 mg/l.

**Component Information**

| Component | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|---|---|---|---|
| Sodium chlorite | LD50 = 165 mg/kg ( Rat ) | LD50 = 107.2 mg/kg ( Rabbit ) | LC50 = 230 mg/m³ ( Rat ) 4 h |
| Sodium chloride | LD50 = 3 g/kg ( Rat ) | LD50 > 10 g/kg ( Rabbit ) | LC50 > 42 g/m³ ( Rat ) 1 h |
| Sodium carbonate | 2800 mg/kg ( Rat ) | > 2000 mg/kg (rabbit) | 2.3 mg/l 2h (Rat) |
| Sodium sulfate | LD50 > 10000 mg/kg ( Rat ) | Not listed | Not listed |
| Sodium hydroxide | Not listed | LD50 = 1350 mg/kg ( Rabbit ) | Not listed |
| Sodium chlorate | LD50 = 4950 mg/kg ( Rat )<br>LD50 = 6250 mg/kg ( Rat ) | LD50 > 2000 mg/kg ( Rabbit )<br>LD50 > 10 g/kg ( Rabbit ) | LC50 > 5.59 mg/L ( Rat ) 4.5 h<br>LC50 > 28 g/m³ ( Rat ) 1 h |

**Toxicologically Synergistic Products** No information available

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

**Irritation** Causes burns by all exposure routes

**Sensitization** No information available

**Carcinogenicity** The table below indicates whether each agency has listed any ingredient as a carcinogen.

| Component | CAS-No | IARC | NTP | ACGIH | OSHA | Mexico |
|---|---|---|---|---|---|---|
| Sodium chlorite | 7758-19-2 | Not listed | Not listed | Not listed | Not listed | Not listed |
| Sodium chloride | 7647-14-5 | Not listed | Not listed | Not listed | Not listed | Not listed |
| Sodium carbonate | 497-19-8 | Not listed | Not listed | Not listed | Not listed | Not listed |
| Sodium sulfate | 7757-82-6 | Not listed | Not listed | Not listed | Not listed | Not listed |
| Sodium hydroxide | 1310-73-2 | Not listed | Not listed | Not listed | Not listed | Not listed |
| Sodium chlorate | 7775-09-9 | Not listed | Not listed | Not listed | Not listed | Not listed |

**Mutagenic Effects** No information available

**Reproductive Effects** No information available.

**Developmental Effects** No information available.

**Teratogenicity** No information available.

**STOT - single exposure** None known

**STOT - repeated exposure** None known

**Aspiration hazard** No information available

**Symptoms / effects,both acute and delayed** Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation

**Endocrine Disruptor Information** No information available

**Other Adverse Effects** The toxicological properties have not been fully investigated.

## 12. Ecological information

**Ecotoxicity**

Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. The product contains following substances which are hazardous for the environment.

| Component | Freshwater Algae | Freshwater Fish | Microtox | Water Flea |
|---|---|---|---|---|
| Sodium chlorite | Not listed | LC50: > 100 mg/L, 96h static (Lepomis macrochirus)<br>LC50: > 100 mg/L, 96h static | Not listed | EC50: = 0.026 mg/L, 48h (Daphnia magna)<br>EC50: 0.25 - 0.33 mg/L, 48h |

| | | | | |
|---|---|---|---|---|
| | | (Oncorhynchus mykiss) LC50: 100 - 500 mg/L, 96h static (Brachydanio rerio) | | Flow through (Daphnia magna) EC50: 0.012 - 0.018 mg/L, 48h Static (Daphnia magna) |
| Sodium chloride | Not listed | Pimephals prome: LC50: 7650 mg/L/96h | Not listed | EC50: 1000 mg/L/48h |
| Sodium carbonate | EC50: = 242 mg/L, 120h (Nitzschia) | Lepomis macrochirus: LC50: 300 mg/L/96h Gambusia affinis: LC50: 740 mg/L/96h | - | EC50: = 265 mg/L, 48h (Daphnia magna) |
| Sodium sulfate | - | Pimephales promelas: LC50: 13.5 - 14.5 g/L/96h | - | EC50: 4547 mg/L/96h EC50: 2564 mg/L/48h EC50: 4547 mg/L/96h |
| Sodium hydroxide | Not listed | LC50: = 45.4 mg/L, 96h static (Oncorhynchus mykiss) | Not listed | Not listed |
| Sodium chlorate | Not listed | LC50: = 7090 mg/L, 96h (Cyprinus carpio) LC50: = 4200 mg/L, 24h (Oncorhynchus mykiss) LC50: = 1750 mg/L, 96h (Oncorhynchus mykiss) LC50: = 13500 mg/L, 96h (Pimephales promelas) | Not listed | EC50: = 1093 mg/L, 24h (Daphnia magna) |

**Persistence and Degradability** Soluble in water Persistence is unlikely based on information available.

**Bioaccumulation/ Accumulation** No information available.

**Mobility** Will likely be mobile in the environment due to its water solubility.

| Component | log Pow |
|---|---|
| Sodium sulfate | -3 |

## 13. Disposal considerations

**Waste Disposal Methods** Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

## 14. Transport information

**DOT**

**UN-No** UN1496
**Proper Shipping Name** SODIUM CHLORITE
**Hazard Class** 5.1
**Packing Group** II

**TDG**

**UN-No** UN1496
**Proper Shipping Name** SODIUM CHLORITE
**Hazard Class** 5.1
**Packing Group** II

**IATA**

**UN-No** UN1496
**Proper Shipping Name** SODIUM CHLORITE
**Hazard Class** 5.1
**Packing Group** II

**IMDG/IMO**

**UN-No** UN1496
**Proper Shipping Name** SODIUM CHLORITE
**Hazard Class** 5.1
**Packing Group** II

## 15. Regulatory information

**International Inventories**

| Component | DSL | NDSL | TSCA | EINECS | ELINCS | NLP | PICCS | ENCS | AICS | IECSC | KECL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sodium chlorite | X | - | X | 231-836-6 | - | | X | X | X | X | X |
| Sodium chloride | X | - | X | 231-598-3 | - | | X | X | X | X | X |
| Sodium carbonate | X | - | X | 207-838-8 | - | | X | X | X | X | X |
| Sodium sulfate | X | - | X | 231-820-9 | - | | X | X | X | X | X |
| Sodium hydroxide | X | - | X | 215-185-5 | - | | X | X | X | X | X |
| Sodium chlorate | X | - | X | 231-887-4 | - | | X | X | X | X | X |

**Canada**

SDS in compliance with provisions of information as set out in Canadian Standard - Part 4, Schedule 1 and 2 of the Hazardous Products Regulations (HPR) and meets the requirements of the HPR (Paragraph 13(1)(a) of the Hazardous Products Act (HPA)).

## 16. Other information

**Prepared By**
Regulatory Affairs
Thermo Fisher Scientific
Email: EMSDS.RA@thermofisher.com

**Creation Date** 02-May-2012
**Revision Date** 19-January-2018
**Print Date** 19-January-2018
**Revision Summary** This document has been updated to comply with the requirements of WHMIS 2015 to align with the Globally Harmonised System (GHS) for the Classification and Labelling of Chemicals.

**Disclaimer**
**The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text**

**End of SDS**