



# ASHOK CHEM-PHARMA INTERNATIONAL

403/404 Sharda Chambers, 33 New Marine Lines, Mumbai- 400020

Tel: +91 22 40627200 / Fax: 40627214

Email: [kadakiaashok07@gmail.com](mailto:kadakiaashok07@gmail.com) / [ashokkadakia@gmail.com](mailto:ashokkadakia@gmail.com) / [marketing@ashokchempharma.com](mailto:marketing@ashokchempharma.com)

Website: [www.ashokchempharma.com](http://www.ashokchempharma.com)

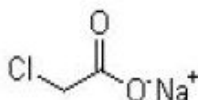
## SODIUM MONOCHLORO ACETATE

### MATERIAL SAFETY DATA SHEET

#### SECTION 1: Identification of the substance/mixture and of the company/undertaking

##### 1.1. Product identifier

PRODUCT NAME	: Sodium Chloroacetate
CAS RN	: 3926-62-3
EC#	: 223-498-3
SYNONYMS	: Monoxone; SMA; SMCA; Sodium chloroacetate; Sodium monochloroacetate; Sodium monochloroacetate
SYSTEMATIC NAME	: Sodium chloroacetate
MOLECULAR FORMULA	: $C_2O_2H_2ClNa$
STRUCTURAL FORMULA	



##### 1.2. Relevant identified uses of the substance or mixture and uses advised against

###### 1.2.1. Relevant identified uses

- It is used as an intermediate in the pharmaceutical industry. It is also used for commercial purposes.

**Uses advised against:** None

#### SECTION 2: Hazard(s) identification

##### 2.1. Classification of the substance or mixture

###### GHS-US classification

Acute toxicity Oral: Category 3

Skin Corrosion/Irritation: Category 2

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

##### 2.2. Label Elements

Hazard Pictogram: GHS 06, GHS 09



Signal Word: Danger

#### HAZARD AND PRECAUTIONARY STATEMENTS:

##### HAZARD STATEMENTS

- H301: Toxic if swallowed.
- H315: Causes Skin irritation.
- H400: Very toxic to aquatic life.

##### PRECAUTIONARY STATEMENTS

- P260: Do not breathe dust.
- P264: Wash hands, eyes and face thoroughly after handling.
- P270: Do not eat, drink or smoke when using this product.
- P280: Wear protective gloves/clothing and eye/face protection.

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- P271: Use only outdoors or in a well-ventilated area.
- P273: Avoid release to the environment.
- P261: Avoid breathing dust/fume/gas/mist/vapours/spray.
- P302 + P352: IF ON SKIN: Wash with plenty of soap and water.
- P314: Get medical advice/attention if you feel unwell.
- P332 + P313: If skin irritation occurs: Get medical advice/attention.
- P362: Take off contaminated clothing and wash before reuse.
- P301+310: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
- P405: Store locked up.
- P501: Dispose of contents/container to local/regional/national/international regulations.

## SECTION 3: Composition/Information on Ingredients

Chemical	CAS #	Purity	GHS-US classification
Sodium chloroacetate	3926-62-3	>98%	Acute toxicity Oral: Category 3 Skin Corrosion/Irritation: Category 2 Hazardous to the Aquatic Environment: Category 1 (Acute Hazard)

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

#### Key symptoms

#### Acute effects

- Systemic toxicity effects have been attributed to disruption of the cell energy supply leading to lactic acidosis. Hence delayed effects may be anticipated.
- Vomiting and diarrhoea are early signs followed by CNS effects including delirium and convulsions. Cardiac effects such as myocardial depression and arrhythmia have been reported. Renal failure and systemic effects including metabolic acidosis may be delayed.

(Reference: IPCS Program Monochloroacetic acid (PIM 352)

#### Chronic effects:

- Hepatotoxicity.
- Teratogenic effects have been stated. For SMCA (OECD SIDS report CAS RN 79-11-8).

#### FIRST AID:

##### Eyes

- If eye exposure has occurred, eyes must be flushed with lukewarm water for at least 15 minutes.
- Wash exposed skin areas THOROUGHLY with soap and water.
- Obtain authorization and/or further instructions from the local hospital for administration of an antidote or performance of other invasive procedures.
- RUSH to a health care facility.

##### Skin

- Remove victims from exposure. Emergency personnel should avoid self- exposure to chloroacetic acid.
- Evaluate vital signs including pulse and respiratory rate, and note any trauma. If no pulse is detected, provide CPR. If not breathing, provide artificial respiration. If breathing is labored, administer oxygen or other respiratory support.
- Remove contaminated clothing as soon as possible.
- RUSH to a health care facility.

##### Inhalation

- Move victims to fresh air. Emergency personnel should avoid self-exposure to chloroacetic acid.
- Evaluate vital signs including pulse and respiratory rate, and note any trauma. If no pulse is detected, provide CPR. If not breathing, provide artificial respiration. If breathing is labored, administer oxygen or other respiratory support.
- Obtain authorization and/or further instructions from the local hospital for administration of an antidote or performance of other invasive procedures.
- RUSH to a health care facility.

##### Ingestion

- Evaluate vital signs including pulse and respiratory rate, and note any trauma. If no pulse is detected, provide CPR. If not breathing, provide artificial respiration. If breathing is labored, administer oxygen or other respiratory support.
- Rinse mouth with large amounts of water. Instruct victims not to swallow this water.

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- DO NOT induce vomiting or attempt to neutralize!
- Obtain authorization and/or further instructions from the local hospital for administration of an antidote or performance of other invasive procedures.

## SECTION 5 : FIRE-FIGHTING MEASURES

### Extinguishing media

- *Appropriate extinguishing media:* Dry chemical powder, chemical foam, and alcohol resistant foam. Water may also be used. Water sprays can be effective in cooling down the fire-exposed containers and knocking down the vapors. Avoid usage of direct water jets.

### Special Protective Equipment and Precautions for Fire Fighter

- This material is extremely hazardous to health, but fire fighters may enter areas with extreme care. Full protective clothing including a self-contained breathing apparatus, coat, pants, gloves, boots and bands around legs, arms and waist should be provided. No skin surface should be exposed.
- Evacuate the area and fight fires from a safe distance.
- If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions or as per locally valid procedures.
- Fire fighters must wear Self Contained Breathing Apparatus (SCBA) and full protective clothing. The chemical is harmful in contact with skin.
- Chemical is water-soluble. Report any run-off of fire waters contaminated with this chemical as per local and federal procedures applicable.

### Unusual fire and explosion hazard

- Toxic vapors may be released on thermal decomposition including nitrogen oxides, carbon monoxide and cyanide.
- High vapor concentration may result in an explosion hazard.
- When heated to decomposition, it emits highly toxic fumes of phosgene and chlorides.
- Vapors are heavier than air. May travel considerable distance from source and flashback.
- Water may cause frothing if it gets below surface of the liquid and turns to steam. Contact with metals may evolve flammable hydrogen gas.

## SECTION 6 : ACCIDENTAL RELEASE MEASURES

### Minor Spills

- Clean up all spills immediately following relevant Standard Operating Procedures.
- Avoid breathing vapors and contact with skin and eyes.
- Shut off leak source if possible.
- Shut off all possible sources of ignition.
- Wear protective clothing, boots, impervious gloves and safety glasses.
- Wipe up.
- Decontaminate all equipment.

### Major Spill

- Alert Emergency Responders and tell them location and nature of hazard.
- Shut off all possible sources of ignition and increase ventilation.
- Wear protective clothing, full boots, impervious gloves, safety glasses and Self Contained Breathing Apparatus (SCBA), as may be deemed appropriate.
- Clear area of personnel and move upwind.
- Stop leaks if possible.
- Prevent, by any means available, spillage from entering drains or water and watercourses.
- Collect recoverable product into labeled containers for recycling, recovery or disposal.
- Contain spill with sand, earth or vermiculite.
- Spread area with lime or absorbent material, and leave for at least 1 hour before washing.
- Clean up all tools and equipment.
- Inform authorities in event of contamination of any public sewers, drains or water bodies.

## SECTION 7 : HANDLING AND STORAGE

### Precautions for safe handling

- Do not breathe vapor or mist.
- Wear protective gloves/clothing and eye/face protection.
- Wash thoroughly after handling.
- Ground and secure containers when dispensing or pouring product.
- Avoid contact with incompatible materials.
- When handling, DO NOT eat, drink or smoke.
- Launder contaminated clothing before re-use.
- If on skin or hair, IMMEDIATELY remove all contaminated clothing and rinse/shower with plenty of water.
- Use in a well ventilated place/Use protective clothing commensurate with exposure levels.

### Storage

- Store in a cool, well ventilated place.
- Store away from incompatible materials.

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- Keep container tightly closed.
- Keep securely closed when not in use.

## SECTION 8 : EXPOSURE CONTROLS / PERSONAL PROTECTION

### Control parameters

#### • Exposure Limits Values

US National Advisory Committee for Acute Exposure Guideline Levels for Hazardous Substances.

- 10 minutes: 12ppm (47mg/m<sup>3</sup>).
- 30 minute : 8.3 ppm (33 mg/m<sup>3</sup>).
- 1 hr : 6.6ppm (26 mg/m<sup>3</sup>).
- 8 Hr : 0.83 ppm(3.3 mg/m<sup>3</sup>).

Chemical name	ACGIH TLV	NIOSH	OSHS-FINAL PELs
Sodium chloroacetate	None listed	None listed	None listed

#### Exposure Limits (International):

- Recommended: 1mg/m<sup>3</sup> 8 hr TWA.
- No limit from any agency is available to the best of our knowledge.
- Statutory law: In several places the exposure limits for dusts will be considered applicable.

#### Derived No-Effect-Levels (DNEL) / Predicted No-effect-concentration (PNEC)

- DNEL and PNEC data not available.

### Exposure controls

#### Appropriate Engineering Controls:

- Provide exhaust ventilation or other engineering controls to keep the relevant airborne concentrations below their respective occupational exposure limits. Local ventilation is usually preferred. Ensure that eyewash stations and safety showers are close to the workstation location.

### Personal Protection

- Protective clothing should be selected specifically for the working place, depending on concentration and quantity of the hazardous substances handled. The resistance of the protective clothing to chemicals should be ascertained with the respective supplier.
- **Hands:** Rubber or neoprene gloves and additional protection including impervious boots, apron or coveralls as needed in areas of unusual exposure to prevent skin contact.
- **Material ratings:** Butyl gloves>3hours; PE>3 hours; Viton gloves> 3hours
- **Eyes:** Safety goggles/ Chemical Safety glasses and Face shield.
- **Clothing:** Boots and clothing to prevent contact.
- **Respirator:** Follow the OSHA respirator regulations found in 29CFR 1910.134 or European Standard EN 149. Always use a NIOSH or European Standard EN 149 approved respirator when necessary.
- For emergency situations, wear a positive pressure, pressure-demand, full face piece self-contained breathing apparatus (SCBA) or pressure-demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998).
- **General Hygiene and general comments:**
- Wash hands and face after working with substance.
- Immediately change contaminated clothing.
- Apply skin protective barrier cream.

## SECTION 9 : PHYSICAL AND CHEMICAL PROPERTIES

#### • Information on basic physical and chemical properties.

Sr.No.	Parameter	Typical value
1	Appearance	White powder
2	Odor	Acidic odor
3	Odor Threshold	Not available
4	Melting point	199°C
5	Boiling point	Not available
6	Flash point	270°C
7	Evaporation rate (n-BuAc=1)	Not available
8	Explosive limits	Not Available
9	Vapor pressure	Not Available
10	Vapor density (air=1)	Not Available

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11	Specific gravity (water=1)	Not Available
12	Solubility	Soluble In Water: 440 G/L (20°C). Slightly Soluble In Methanol. Insoluble In Acetone, Benzene, Ether, CCl <sub>4</sub> .
13	pH	Not Available
14	Log Pow (octanol/water)	-3.47
15	Auto-ignition temperature	Not available
16	Decomposition temperature	Not available
17	Viscosity	Not available
18	Molecular Weight	116.48
19	pKa (@25°C)	Not Available
20	Koc	Not Available.
21	Flammable material	No
22	Hygroscopic	Yes
23	Corrosive material	No
24	Explosive material	No

## SECTION 10: STABILITY AND REACTIVITY

- **Stability:** The product is stable for the purpose of transportation. Thermal decomposition sets at 1500C releasing hydrochloric acid, but not phosgene.
- **Conditions to avoid:** Keep away from heat, sparks, flame, high temperature and incompatible chemicals. Keep away from high temperature and high humidity.
- **Incompatible materials:** Strong oxidizing agents, amines, alkali hydroxides. Exothermic reactions with lower alcohols.
- **Hazardous decomposition products:** Depends on temperature, air supply and conditions. When Heated to decomposition gives off hydrogen chloride. It may also give off phosgene in fire conditions. Phosgene is reported as unlikely.
- Thermal decomposition may produce carbon monoxide, carbon dioxides, oxides of nitrogen
- **Possibility of hazardous reactions:** Hazardous Polymerization: Not reported.

## SECTION 11: TOXICOLOGICAL INFORMATION

### 11.1. Information on toxicological effects

#### a) Acute toxicity

Systemic toxicity effects have been attributed to disruption of the cell energy supply leading to lactic acidosis. Hence delayed effects may be anticipated.

Vomiting and diarrhoea are early signs followed by CNS effects including delirium and convulsions. Cardiac effects such as myocardial depression and arrhythmia have been reported. Renal failure and systemic effects including metabolic acidosis may be delayed.

- a) (Reference: IPCS Program Monochloroacetic acid (PIM 352) .

#### Chronic effects:

- Hepatotoxicity.
- Teratogenic effects have been stated. For SMCA (OECD SIDS report CAS RN 79-11-8).

#### TOXICITY:

- RTECS#: AG1400000

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<b>Type of Test</b>	LD50 –Lethal dose, 50 percent kill
<b>Route of exposure</b>	Oral
<b>Species observed</b>	Rodent- Rat
<b>Dose Data</b>	95mg/Kg
<b>Toxic effects</b>	Details of toxic effects not reported.
<b>Reference</b>	JHTAB Journal of Industrial Hygiene and Toxicology. (Cambridge, MA) V.18-31, 1936-49. For publisher information, see AEHLAU. Volume(issue)/page/year: 23.78.1941
<b>Type of Test</b>	LD50 –Lethal dose, 50 percent kill
<b>Route of exposure</b>	Oral
<b>Species observed</b>	Rodent- Rabbit
<b>Dose Data</b>	156mg/Kg
<b>Toxic effects</b>	Details of toxic effects not reported.
<b>Reference</b>	PCOC** Pesticide Chemicals Official; Compendium, Association of the American Pesticide Control Officials, Inc., 1966.(Topeka, KS) Volume (issue)/page/year: - ,1047,1966.

- b) **Skin corrosion/irritation**
  - Causes skin irritation.
- c) **Serious eye damage/Irritation**
  - Causes serious eye irritation.
- d) **Respiratory or skin sensitization**
  - No data is available.
- e) **Germ cell Mutagenicity**
  - Ames test negative.
- f) **Carcinogenicity**
  - Not listed by NTP, IARC and OSHA.
  - Not present on the EU CMR list.
  - According to information presently available Sodium Chloroacetate is not found to be carcinogenic.
- g) **Reproductive toxicity**
  - No data is available.
- h) **STOT-single exposure**
  - No data is available.
- i) **STOT- repeated exposure**
  - No data available.
- j) **Aspiration Hazards**
  - No data available.

## SECTION 12: ECOLOGICAL INFORMATION

### Toxicity

#### Ecotoxicity:

- Oral Domestic bird: 100 mg/kg (Source: RTECS)
- Oral chicken: 81mg/kg (Source: RTECS)
- Algae Desmodesmus subspicatus 0.025 mg/l (72 hour) (MCA)
- Crustacean Daphnia Magna EC50: 88mg/l (48 hr)

**Summary:** Used as a broad spectrum herbicide. Effects on plants at low concentrations expected. Extremely toxic to algae. Toxic to birds. Low to moderate toxicity to fish SMCA is expected to be less toxic than MCA. (OECD SIDS report)

### Persistence and degradability

- Readily biodegradable in both aerobic and even anaerobic conditions with enhanced rate following acclimatization.
- In river water 73% SMCA is mineralized to CO<sub>2</sub> in 8-10 days at 29°C
- Degradation in soil also occurs. Slow rate is observed in acidic pH and low temperature for both MCA and SMCA.

### Bioaccumulative potential

- BCF = 3.162
- Log Kow = -3.47

Based on the log Kow bioaccumulation is not expected.

### Mobility in soil

- Log Koc = 1.201 (predicted). Moderate absorption in soil.
- Henry's Law Constant = 4.858E-015 atm-m<sup>3</sup>/mole.
- Log Kow = -3.47 Not expected to bio accumulate.

### Results of PBT and vPvB assessment

- The substance does not meet the criteria for PBT or vPvB in accordance with Annex XIII.

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## Other adverse effects.

- Environment Fate:**

Based on the environmental modeling, this material has a low potential to get moderate absorbed in the organic matter of soil and is slightly volatile from water bodies. Since this is an estimated result it is recommended that the material should not be disposed into the environment. The material should never be disposed into the sewage.

## SECTION 13: Disposal considerations

- Waste treatment methods**

- Burn in a chemical incinerator equipped with an afterburner and scrubber.
- Exert extra care in igniting, as this material is combustible.
- Dispose of this material in accordance with standard practice for disposal of potentially hazardous materials as required by applicable federal, state or local laws. Note that disposal regulations may also apply to empty containers and equipment rinsates.

## SECTION 14: Transport information

- This substance is considered to be Hazardous for transport by Air/Rail/Road and Sea and thus regulated by IATA/ICAO/ARD/RID/IMO/IMDG.

S.No	Agency	UN Number	Proper Shipping name	Hazard Class	Packing Group
Land Transport	ADR/RIC	UN 2659	Sodium Chloroacetate	6,(6.1)	III
Maritime Transport	IMDG	UN 2659	Sodium Chloroacetate	6,(6.1)	III
Air Transport	IATA	UN 2659	Sodium Chloroacetate	6,(6.1)	III
Hazard Label		Toxic, 6,(6.1)			

## Environmental hazards:

- This material is harmful to the environment and is a marine pollutant.



## SECTION 15: REGULATORY INFORMATION

- European Union Information**

### Classification as per CLP Regulation 1272/2008:

- Hazards Class and Category:** Acute toxicity Oral category 3, Skin corrosion category 2, acute aquatic toxicity Category 1
- Hazard Statements:** H301, H315, H400

### US information

#### TSCA

CAS# 3926-62-3 is listed on the TSCA inventory.

#### Health & Safety Reporting List

None of the chemicals are on the Health & Safety Reporting List.

#### Chemical Test Rules

None of the chemicals in this product are under a Chemical Test Rule.

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## Section 12b

None of the chemicals are listed under TSCA Section 12b.

## TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

## CERCLA Hazardous Substances and corresponding RQs

None of the chemicals in this material have an RQ.

## SARA Section 302 Extremely Hazardous Substances

None of the chemicals in this product have a TPQ.

## SARA Codes

CAS # 3926-62-3: immediate, delayed, reactive.

**Section 313** No chemicals are reportable under Section 313.

## Clean Air Act:

This material does not contain any hazardous air pollutants.

This material does not contain any Class 1 Ozone depleters.

This material does not contain any Class 2 Ozone depleters.

## Clean Water Act:

None of the chemicals in this product are listed as Hazardous Substances under the CWA.

None of the chemicals in this product are listed as Priority Pollutants under the CWA.

None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

## OSHA:

None of the chemicals in this product are considered highly hazardous by OSHA.

## STATE

CAS# 3926-62-3 can be found on the following state right to know lists: New Jersey.

## California Prop 65

California: No Significant Risk Level: None of the chemicals in this product are listed.

## CANADA

**Record Type:** Domestic Substances List / Non-Confidential.

**CAS Registry Number:** 3926-62-3.

**DSL/NDSL Record Number:** 6995.

**WGK (Water Danger/Protection):** CAS# 3926-62-3: 2

## SECTION 16: OTHER INFORMATION

### a) Compilation information of safety data sheet

Date of compilation	: March 30, 2012
Chemical	: Sodium Chloroacetate
CAS #	: 3926-62-3
File Name	: 0306Gj Ghs05 Div.1 sds Sodium Chloroacetate
Revision Number	: 05
Date of Revision	: January 07,2016
Revision Due Date	: December,2017
Supersedes date	: October 13,2015

### b) A key or legend to aberrations and acronyms used in the safety data sheet

- PBT = Persistent Bioaccumulative and Toxic.
- vPvB= Very Persistent and Very Bioaccumulative.
- SCBA= Self Contained Breathing Apparatus.
- RTECS= Registry of Toxic Effects of Chemical Substances.
- NTP=National Toxicology Programm.
- IARC= International Agency for Research on Cancer.
- EPA=Environmental Protection Agency.
- TSCA= Toxic Substances Control Act.
- CERCLA= Comprehensive Environmental Response, Compensation, and Liability Act.

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- SARA= Superfund Amendments and Reauthorization Act.
- NFPA= National Fire Protection Association.
- WHIMS= Workplace Hazardous Materials Information System.
- DSL/NDSL= Domestic/Non-Domestic Substances List.
- CSR=Chemical Safety Report.
- BCF = Bio Concentration Factor.
- DNEL = Derived No Effect Level.
- PNEC = Predicted No Effect Concentration.
- TLV = Threshold Limit Value.
- ACGIH = American Conference of Governmental Industrial Hygienists.
- REACH = Registration, Evaluation, Authorisation and Restriction of Chemicals.
- CLP = Classification, Labelling and Packaging.
- LD / LC = Lethal Doses / Lethal Concentration.
- GHS = Globally Harmonised System.
- ADR = Accord europeen relative au transport international de marchandises.
- IMDG-Code = International Maritime Code for Dangerous Goods.
- EmS = Emergency measures on Sea.
- ICAO = International Civil Aviation Organization.
- IATA/DGR= International Air Transport Association/Dangerous Goods Regulation.

## c) Key Literature reference and sources for data

### Biographical reference and data sources

- CLP REG (regulation) (EC) no. 1272/2008, last modification by regulation (EC) no. 790/2009
- DIR 67/548/EWG, last modification by DIR 2009/2/EC
- REG (EC) no. 1907/2006, last modification by REG (EC) Nr. 453/2009
- JIHTAB Journal of Industrial Hygiene and Toxicology. (Cambridge, MA) V.18-31, 1936-49. For publisher information, see AEHLAU. Volume(issue)/page/year: 23,78,1941
- PCOC\*\* Pesticide Chemicals Official compendium, Association of the American Pesticide Control Officials, Inc., 1966.(Topeka, KS) Volume (issue)/page/year: - ,1047,1966

### SDS US (GHS HazCom 2012)

*This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.*

(End of Safety Data Sheet)

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