

# Material Safety Data Sheet

Chloroacetic Acid



## Section 1. Product and Company Identification

<b>Product name</b>	: Chloroacetic Acid
<b>Product code</b>	: CX0750
<b>Synonym</b>	: Mono-Chloroacetic Acid
<b>Material uses</b>	: Other non-specified industry: Analytical reagent.
<b>Manufacturer</b>	: EMD Chemicals Inc. P.O. Box 70 480 Democrat Road Gibbstown, NJ 08027 856-423-6300 Technical Service Monday - Friday: 8:00 - 5:00 PM
<b>Validation date</b>	: 10/16/2006.
<b>Print date</b>	:
<b>In case of emergency</b>	: 800-424-9300 CHEMTREC (USA) 613-996-6666 CANUTEC (Canada) 24 Hours/Day: 7 Days/Week

## Section 2. Hazards Identification

<b>Physical state</b>	: Solid. (Flakes. Deliquescent crystals.)
<b>OSHA/HCS status</b>	: This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
<b>Emergency overview</b>	: DANGER!  MAY BE FATAL IF INHALED, ABSORBED THROUGH SKIN OR SWALLOWED. CAUSES SEVERE EYE AND SKIN BURNS. CAUSES SEVERE RESPIRATORY TRACT IRRITATION. CAUSES DAMAGE TO THE FOLLOWING ORGANS: DIGESTIVE SYSTEM, RESPIRATORY TRACT, SKIN, EYE, LENS OR CORNEA. Do not ingest. Do not get in eyes or on skin or clothing. Do not breathe dust. Keep container closed. Use only with adequate ventilation. Wash thoroughly after handling.
<b>Routes of entry</b>	: Dermal contact. Eye contact. Inhalation. Ingestion.
<b>Potential acute health effects</b>	
<b>Eyes</b>	: Severely corrosive to the eyes.
<b>Skin</b>	: Very toxic in contact with skin. Severely corrosive to the skin.
<b>Inhalation</b>	: Very toxic by inhalation. Severely irritating to the respiratory system.
<b>Ingestion</b>	: Very toxic if swallowed. May cause burns to mouth, throat and stomach.
<b>Carcinogenic effects</b>	: No known significant effects or critical hazards.
<b>Mutagenic effects</b>	: No known significant effects or critical hazards.
<b>Teratogenicity / Reproductive toxicity</b>	: No known significant effects or critical hazards.
<b>Medical conditions aggravated by over-exposure</b>	: Repeated skin exposure can produce local skin destruction or dermatitis. Repeated or prolonged exposure to the substance can produce lung damage. Repeated exposure of the eyes to a low level of dust can produce eye irritation. Repeated or prolonged exposure to the substance can produce target organs damage.

See toxicological information (section 11)

## Section 3. Composition/Information on Ingredients

United States

Name	CAS number	% by Weight
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## Section 4. First Aid Measures

- Eye contact** : Get medical attention immediately. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Chemical burns must be treated promptly by a physician.
- Skin contact** : Get medical attention immediately. Flush contaminated skin with plenty of water. Continue to rinse for at least 10 minutes. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing or wear gloves. Chemical burns must be treated promptly by a physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Inhalation** : Get medical attention immediately. Move exposed person to fresh air. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- Ingestion** : Get medical attention immediately. Wash out mouth with water. Remove dentures if any. Move exposed person to fresh air. Keep person warm and at rest. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing or wear gloves.

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## Section 5. Fire Fighting Measures

- Flammability of the product** : No specific hazard.
- Products of combustion** : These products are carbon oxides (CO, CO<sub>2</sub>), halogenated compounds, hydrogen chloride.
- Extinguishing media**
- Suitable** : Use an extinguishing agent suitable for the surrounding fire.
- Not suitable** : None known.
- Special exposure hazards** : Not available.
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

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## Section 6. Accidental Release Measures

- Personal precautions** : Immediately contact emergency personnel. Keep unnecessary personnel away. Use suitable protective equipment.
- Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.
- Methods for cleaning up** : If emergency personnel are unavailable, vacuum or carefully scoop up spilled material and place in an appropriate container for disposal by incineration. Avoid creating dusty conditions and prevent wind dispersal.

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## Section 7. Handling and Storage

- Handling** : Do not ingest. Do not get in eyes or on skin or clothing. Keep container closed. Use only with adequate ventilation. Do not breathe dust. Wash thoroughly after handling.
- Storage** : Keep container tightly closed. Keep container in a cool, well-ventilated area.

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## Section 8. Exposure Controls/Personal Protection

### Product name

### Exposure limits

### United States

Chloroacetic Acid

**ACGIH TLV (United States, 1/2006). Skin Notes: Inhalable fraction and vapor. Because the estimated saturated vapor concentration may significantly contribute to the exposure at the TLV-TWA and evaporative losses of collected particulate matter may occur during sampling, both the particulate mass and vapor phase concentrations should be considered and summed to determine total airborne concentration.**

TWA: 0.5 ppm 8 hour/hours. Form: Inhalable fraction

**AIHA WEEL (United States, 1/2006). Skin Notes: 2004 Revised Document**

TWA: 0.5 ppm 8 hour/hours.

**Consult local authorities for acceptable exposure limits.**

**Engineering measures** : Use only with adequate ventilation. If user operations generate dust, fumes, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

### Personal protection

**Eyes** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts.

Recommended: safety glasses with side-shields , face shield

**Skin** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Body: Recommended: safety apron

**Respiratory** : Use a properly fitted, particulate filter respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

**Hands** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Recommended: neoprene

**Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

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## Section 9. Physical and Chemical Properties

**Physical state** : Solid. (Flakes. Deliquescent crystals.)

**Flash point** : Closed cup: 126.85°C (260.3°F).

**Auto-ignition temperature** : 499.95°C (931.9°F)

**Color** : White.

**Molecular weight** : 94.5 g/mole

**Molecular formula** : C2-H3-Cl-O2

**Boiling/condensation point** : 189°C (372.2°F)

**Melting/freezing point** : 63°C (145.4°F)

**Relative density** : 1.58 (Water = 1)

**Vapor density** : 3.26 (Air = 1)

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## Section 10. Stability and Reactivity

**Stability and reactivity** : The product is stable.

**Incompatibility with various substances** : Reactive or incompatible with the following materials: combustible materials, metals and alkalis.

**Hazardous decomposition products** : carbon oxides (CO, CO<sub>2</sub>) , Chlorine. , Phosgene gas.  
**Hazardous polymerization** : Will not occur.

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## Section 11. Toxicological Information

### Toxicity data

#### United States

Product/ingredient name	Test	Result	Route	Species
Chloroacetic Acid	LD50	55 mg/kg	Oral	Rat
	LDLo	225 mg/kg	Oral	Rat
	LDLo	125 mg/kg	Dermal	Rat
<b>Chronic effects on humans</b>	: <b>CARCINOGENIC EFFECTS:</b> A4 (Not classifiable for humans or animals.) by ACGIH. Causes damage to the following organs: digestive system, upper respiratory tract, skin, eye, lens or cornea.			
<b>Other toxic effects on humans</b>	: Extremely hazardous in case of skin contact (corrosive, permeator), of eye contact (corrosive), of ingestion, . Very hazardous in case of inhalation (lung irritant). Hazardous in case of inhalation (lung corrosive).			
<b>Specific effects</b>				
<b>Carcinogenic effects</b>	: No known significant effects or critical hazards.			
<b>Mutagenic effects</b>	: No known significant effects or critical hazards.			
<b>Teratogenicity / Reproductive toxicity</b>	: No known significant effects or critical hazards.			
<b>Sensitization</b>				
<b>Ingestion</b>	: May cause burns to mouth, throat and stomach.			
<b>Inhalation</b>	: Severely irritating to the respiratory system.			
<b>Eyes</b>	: Severely corrosive to the eyes.			
<b>Skin</b>	: Severely corrosive to the skin.			

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## Section 12. Ecological Information

### Ecotoxicity data

#### United States

Product/ingredient name	Species	Period	Result
Chloroacetic Acid	Scenedesmus subspicatus	48 hour/hours	0.028 mg/l
	(EC50)	48 hour/hours	0.07 mg/l
	Scenedesmus subspicatus	48 hour/hours	77 mg/l
	(EC50)		
Daphnia magna (EC50)			
<b>Environmental precautions</b>	: Very toxic to aquatic organisms.		
<b>Products of degradation</b>	: These products are carbon oxides (CO, CO <sub>2</sub> ) and water, halogenated compounds.		
<b>Toxicity of the products of biodegradation</b>	: The products of degradation are as toxic as the product itself.		

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## Section 13. Disposal Considerations

**Waste disposal** : The generation of waste should be avoided or minimized wherever possible. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements.


**Disposal should be in accordance with applicable regional, national and local laws and regulations. Local regulations may be more stringent than regional or national requirements.**

**The information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the**

responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

## Section 14. Transport Information

Regulatory information DOT Classification	UN number	Proper shipping name	Class	PG* Label	Additional information <u>Reportable quantity</u>
	UN1751	CHLOROACETIC ACID, SOLID	6.1, 8 II		100 lbs. (45.36 kg)

PG\* : Packing group

## Section 15. Regulatory Information

### United States

- HCS Classification** : Highly toxic material  
Corrosive material  
Target organ effects
- U.S. Federal regulations** : TSCA 8(b) inventory: Listed

SARA 302/304/311/312 extremely hazardous substances: Chloroacetic Acid  
SARA 302/304 emergency planning and notification: Chloroacetic Acid  
SARA 302/304/311/312 hazardous chemicals: Chloroacetic Acid  
SARA 311/312 MSDS distribution - chemical inventory - hazard identification:  
Chloroacetic Acid : Immediate (acute) health hazard, Delayed (chronic) health hazard  
Clean Water Act (CWA) 307: No products were found.  
Clean Water Act (CWA) 311: No products were found.  
Clean Air Act (CAA) 112 accidental release prevention: No products were found.  
Clean Air Act (CAA) 112 regulated flammable substances: No products were found.  
Clean Air Act (CAA) 112 regulated toxic substances: No products were found.

### SARA 313

Product name	CAS number	Concentration	
			<b>Form R - Reporting requirements</b> :
Chloroacetic Acid	79-11-8	100	
			<b>Supplier notification</b> :
Chloroacetic Acid	79-11-8	100	

SARA 313 notifications must not be detached from the MSDS and any copying and redistribution of the MSDS shall include copying and redistribution of the notice attached to copies of the MSDS subsequently redistributed.

- State regulations** : Pennsylvania RTK: Chloroacetic Acid : (environmental hazard, generic environmental hazard)  
Massachusetts RTK: Chloroacetic Acid  
New Jersey: Chloroacetic Acid

### Canada

- WHMIS (Canada)** : Class D-1B: Material causing immediate and serious toxic effects (Toxic).  
Class E: Corrosive material
- CEPA DSL/CEPA NDSL** : CEPA DSL: Chloroacetic Acid

This product has been classified according to the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

### EU regulations

**Hazard symbol/symbols** :



- Risk phrases** : R25- Toxic if swallowed.  
R34- Causes burns.  
R50- Very toxic to aquatic organisms.

**Safety phrases** : S1/2- Keep locked up and out of the reach of children.  
S23- Do not breathe [\*\*\*].  
S37- Wear suitable gloves.  
S45- In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).  
S61- Avoid release to the environment. Refer to special instructions/Safety data sheets.

**International regulations**

**International lists** : Australia (NICNAS): Chloroacetic Acid  
China: Chloroacetic Acid  
Germany water class: Chloroacetic Acid  
Japan (METI): Chloroacetic Acid  
Korea (TCCL): Chloroacetic Acid  
Philippines (RA6969): Chloroacetic Acid

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## Section 16. Other Information

**Label requirements** : DANGER!

MAY BE FATAL IF INHALED, ABSORBED THROUGH SKIN OR SWALLOWED.  
CAUSES SEVERE EYE AND SKIN BURNS.  
CAUSES SEVERE RESPIRATORY TRACT IRRITATION.  
CAUSES DAMAGE TO THE FOLLOWING ORGANS: DIGESTIVE SYSTEM, RESPIRATORY TRACT, SKIN, EYE, LENS OR CORNEA.

**National Fire Protection Association (U.S.A.)** :  
**Health** 1 **Flammability**  
4 0 **Instability**  
**Special**

**Notice to reader**

The statements contained herein are based upon technical data that EMD Chemicals Inc. believes to be reliable, are offered for information purposes only and as a guide to the appropriate precautionary and emergency handling of the material by a properly trained person having the necessary technical skills. Users should consider these data only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use, storage and disposal of these materials and the safety and health of employees and customers and the protection of the environment. EMD CHEMICALS INC. MAKES NO REPRESENTATION OR WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE, WITH RESPECT TO THE INFORMATION HEREIN OR THE PRODUCT TO WHICH THE INFORMATION REFERS.

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