

CHLOROACETIC ACID

GHS Safety Data Sheet

Version No:2.0

Page 1 of 14

Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME

CHLOROACETIC ACID

OTHER NAMES

C2-H3-Cl-O2, CH₂ClCO₂H, "monochloroacetic acid", "monochloroacetic acid", "monochloroethanoic acid", "alpha chloroacetic acid", solid, "chloroethanoic acid",

PROPER SHIPPING NAME

CHLOROACETIC ACID, SOLID

PRODUCT USE

Herbicide, preservative, bacteriostat, intermediate in production of carboxymethylcellulose; ethyl chloroacetate; glycine; synthetic caffeine; sarcosine; thioglycolic acid; EDTA; 2,4-D; 2,4,5-T.

SUPPLIER

Company: S D FINE- CHEM LIMITED

Address:

315- 317, T.V. INDUSTRIAL ESTATE,

248, WORLI,

MUMBAI- 400030.INDIA.

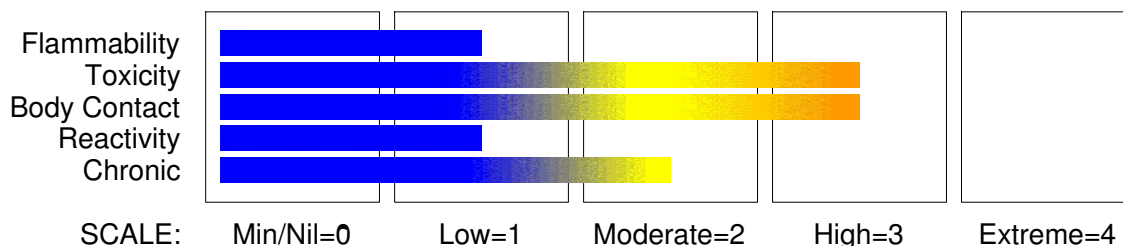
technical@sdfine.com

Telephone: 91- 22- 24959898

Telephone: 91- 22- 24959899

Fax: 91- 22- 24937232

HAZARD RATINGS



continued...

CHLOROACETIC ACID

GHS Safety Data Sheet

Version No:2.0

Page 2 of 14

Section 2 - HAZARDS IDENTIFICATION

GHS Classification

Acute Aquatic Hazard Category 1
Acute Toxicity (Dermal) Category 3
Acute Toxicity (Inhalation) Category 4
Acute Toxicity (Oral) Category 3
Skin Corrosion/Irritation Category 1C



EMERGENCY OVERVIEW

HAZARD

DANGER

Determined by using GHS criteria:

H311 H301 H332 H314 H400

Toxic in contact with skin

Toxic if swallowed

Harmful if inhaled

Causes severe skin burns and eye damage

Very toxic to aquatic life

PRECAUTIONARY STATEMENTS

Prevention

Use only outdoors or in a well ventilated area.

Wear protective gloves/clothing

Wash hands thoroughly after handling.

Avoid breathing dust/fume/gas/mist/vapours/spray.

Do not breathe dust or mist.

Wash thoroughly after handling.

Wear protective gloves/clothing and eye/face protection.

Do not eat, drink or smoke when using this product.

Response

Absorb spillage to prevent material damage.

IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.

Immediately call a POISON CENTER or doctor/physician.

IF ON SKIN: Gently 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 SWALLOWED: Rinse mouth. Do NOT induce vomiting.

Wash contaminated clothing before reuse.

If on skin or hair: remove/take off immediately all contaminated clothing. Rinse with water/shower.

continued...

CHLOROACETIC ACID

GHS Safety Data Sheet

Version No:2.0

Page 3 of 14

Section 2 - HAZARDS IDENTIFICATION

Call a POISON CENTER or doctor/physician if you feel unwell.
Specific treatment: refer to Label or MSDS.
Wash/Decontaminate removed clothing before reuse.
Remove/Take off immediately all contaminated clothing
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

Storage

Store locked up.
Store in a corrosive resistant container with a resistant liner.

Disposal

Dispose of contents and container in accordance with relevant legislation.

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

NAME	CAS RN	%
chloroacetic acid	79-11-8	> 99

Section 4 - FIRST AID MEASURES

SWALLOWED

Rinse mouth out with plenty of water.
For advice, contact a Poisons Information Centre or a doctor.
· If swallowed do NOT induce vomiting.
· If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.
· Observe the patient carefully.
· Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious
· Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink.
· Seek medical advice.

EYE

If this product comes in contact with the eyes:
· Immediately hold eyelids apart and flush the eye continuously with running water.
· Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.
· Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes.
· Transport to hospital or doctor without delay.
· Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

SKIN

If skin or hair contact occurs:
· Immediately flush body and clothes with large amounts of water, using safety shower if available.
· Quickly remove all contaminated clothing, including footwear.
· Wash skin and hair with running water. Continue flushing with water until advised to stop by the Poisons Information Centre.

continued...

CHLOROACETIC ACID

GHS Safety Data Sheet

Version No:2.0

Page 4 of 14

Section 4 - FIRST AID MEASURES

- Transport to hospital, or doctor.

INHALED

- If fumes or combustion products are inhaled remove from contaminated area.
- Lay patient down. Keep warm and rested.
- Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.
- Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary.
- Transport to hospital, or doctor, without delay.

NOTES TO PHYSICIAN

Experimental antidotes against fluoroacetate are said to be effective against chloroacetate. These include monoacetin (glycerol monoacetate), acetamide or ethanol.

GOSSELIN, SMITH & HODGE: Clinical Toxicology of Commercial Products, 5th Ed.

For acute or short term repeated exposures to strong acids:

- Airway problems may arise from laryngeal edema and inhalation exposure. Treat with 100% oxygen initially.
- Respiratory distress may require cricothyroidotomy if endotracheal intubation is contraindicated by excessive swelling
- Intravenous lines should be established immediately in all cases where there is evidence of circulatory compromise.
- Strong acids produce a coagulation necrosis characterised by formation of a coagulum (eschar) as a result of the dessicating action of the acid on proteins in specific tissues.

INGESTION:

- Immediate dilution (milk or water) within 30 minutes post ingestion is recommended.
- DO NOT attempt to neutralise the acid since exothermic reaction may extend the corrosive injury.
- Be careful to avoid further vomit since re-exposure of the mucosa to the acid is harmful. Limit fluids to one or two glasses in an adult.
- Charcoal has no place in acid management.
- Some authors suggest the use of lavage within 1 hour of ingestion.

SKIN:

- Skin lesions require copious saline irrigation. Treat chemical burns as thermal burns with non-adherent gauze and wrapping.
- Deep second-degree burns may benefit from topical silver sulfadiazine.

EYE:

- Eye injuries require retraction of the eyelids to ensure thorough irrigation of the conjunctival cul-de-sacs. Irrigation should last at least 20-30 minutes. DO NOT use neutralising agents or any other additives. Several litres of saline are required.
- Cycloplegic drops, (1% cyclopentolate for short-term use or 5% homatropine for longer term use) antibiotic drops, vasoconstrictive agents or artificial tears may be indicated dependent on the severity of the injury.
- Steroid eye drops should only be administered with the approval of a consulting ophthalmologist).

[Ellenhorn and Barceloux: Medical Toxicology].

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CHLOROACETIC ACID

GHS Safety Data Sheet

Version No:2.0

Page 5 of 14

Section 5 - FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

- Water spray or fog.
- Foam.
- Dry chemical powder.
- BCF (where regulations permit).
- Carbon dioxide.

FIRE FIGHTING

- Alert Fire Brigade and tell them location and nature of hazard.
- Wear full body protective clothing with breathing apparatus.
- Prevent, by any means available, spillage from entering drains or water course.
- Use water delivered as a fine spray to control fire and cool adjacent area.
- Avoid spraying water onto liquid pools.
- DO NOT approach containers suspected to be hot.
- Cool fire exposed containers with water spray from a protected location.
- If safe to do so, remove containers from path of fire.

Equipment should be thoroughly decontaminated after use.

FIRE/EXPLOSION HAZARD

- Combustible.
- Slight fire hazard when exposed to heat or flame.
- Heating may cause expansion or decomposition leading to violent rupture of containers.
- On combustion, may emit toxic fumes of carbon monoxide (CO).
- May emit acid smoke. May emit corrosive fumes.

Decomposes on heating and produces toxic fumes of: carbon dioxide (CO₂), phosgene, hydrogen chloride and chlorine.

FIRE INCOMPATIBILITY

Avoid contamination with strong oxidising agents as ignition may result.

Reacts with metals producing flammable / explosive hydrogen gas.

Personal Protective Equipment

Breathing apparatus.

Gas tight chemical resistant suit.

Limit exposure duration to 1 BA set 30 mins.

Section 6 - ACCIDENTAL RELEASE MEASURES

EMERGENCY PROCEDURES

MINOR SPILLS

DO NOT touch the spill material.

- Remove all ignition sources.
- Clean up all spills immediately.
- Avoid contact with skin and eyes.
- Control personal contact by using protective equipment.
- Use dry clean up procedures and avoid generating dust.
- Place in a suitable labelled container for waste disposal.

continued...

CHLOROACETIC ACID

GHS Safety Data Sheet

Version No:2.0

Page 6 of 14

Section 6 - ACCIDENTAL RELEASE MEASURES

MAJOR SPILLS

DO NOT touch the spill material.

Clear area of personnel and move upwind.

- Alert Fire Brigade and tell them location and nature of hazard.
- Wear full body protective clothing with breathing apparatus.
- Prevent, by any means available, spillage from entering drains or water course.
- No smoking, naked lights or ignition sources.
- Increase ventilation.
- Stop leak if safe to do so.
- Water spray or fog may be used to disperse / absorb vapour.
- Contain or absorb spill with sand, earth or vermiculite.
- Collect recoverable product into labelled containers for recycling.
- Collect solid residues and seal in labelled drums for disposal.
- Wash area and prevent runoff into drains.
- After clean up operations, decontaminate and launder all protective clothing and equipment before storing and re-using.
- If contamination of drains or waterways occurs, advise emergency services.

EMERGENCY RESPONSE PLANNING GUIDELINES (ERPG)

The maximum airborne concentration below which it is believed that nearly all individuals could be exposed for up to one hour WITHOUT experiencing or developing

life-threatening health effects is:

chloroacetic acid 75 mg/m³

irreversible or other serious effects or symptoms which could impair an individual's ability to take protective action is:

chloroacetic acid 15 mg/m³

other than mild, transient adverse effects without perceiving a clearly defined odour is:

chloroacetic acid 2.5 mg/m³

The threshold concentration below which most people will experience no appreciable risk of health effects:

chloroacetic acid 0.75 mg/m³

American Industrial Hygiene Association (AIHA)

Ingredients considered according to the following cutoffs

Very Toxic (T+)	>= 0.1%	Toxic (T)	>= 3.0%
R50	>= 0.25%	Corrosive (C)	>= 5.0%
R51	>= 2.5%		
else	>= 10%		

where percentage is percentage of ingredient found in the mixture

SAFE STORAGE WITH OTHER CLASSIFIED CHEMICALS



X X + X X +

+: May be stored together

O: May be stored together with specific preventions

X: Must not be stored together

continued...

CHLOROACETIC ACID

GHS Safety Data Sheet

Version No:2.0

Page 7 of 14

Section 6 - ACCIDENTAL RELEASE MEASURES

Personal Protective Equipment advice is contained in Section 8 of the MSDS.

Section 7 - HANDLING AND STORAGE

PROCEDURE FOR HANDLING

- Avoid all personal contact, including inhalation.
- Wear protective clothing when risk of overexposure occurs.
- Use in a well-ventilated area.
- WARNING: To avoid violent reaction, ALWAYS add material to water and NEVER water to material.
- Avoid smoking, naked lights or ignition sources.
- Avoid contact with incompatible materials.
- When handling, DO NOT eat, drink or smoke.
- Keep containers securely sealed when not in use.
- Avoid physical damage to containers.
- Always wash hands with soap and water after handling.
- Work clothes should be laundered separately. Launder contaminated clothing before re-use.
- Use good occupational work practice.
- Observe manufacturer's storing/handling recommendations.
- Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions are maintained.

SUITABLE CONTAINER

Glass container.

- Polyethylene or polypropylene container.
- Packing as recommended by manufacturer.
- Check all containers are clearly labelled and free from leaks.

Reacts with mild steel, galvanised steel / zinc producing hydrogen gas which may form an explosive mixture with air.

STORAGE INCOMPATIBILITY

Avoid storage with oxidisers.

Contact with moisture or water may generate heat.

Avoid storage with reducing agents, cyanides, sulphides and amines.

STORAGE REQUIREMENTS

Keep dry.

- Store in original containers.
- Keep containers securely sealed.
- No smoking, naked lights or ignition sources.
- Store in a cool, dry, well-ventilated area.
- Store away from incompatible materials and foodstuff containers.
- Protect containers against physical damage and check regularly for leaks.
- Observe manufacturer's storing and handling recommendations.

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE CONTROLS

The following materials had no OELs on our records

- chloroacetic acid:

CAS:79- 11- 8

continued...

CHLOROACETIC ACID

GHS Safety Data Sheet

Version No:2.0

Page 8 of 14

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

MATERIAL DATA

ES TWA: 0.3 ppm, 1.2 mg/m³

OES TWA: 0.3 ppm, 1.2 mg/m³ (skin)

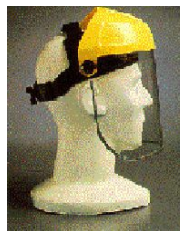
Exposure limits with "skin" notation indicate that vapour and liquid may be absorbed through intact skin. Absorption by skin may readily exceed vapour inhalation exposure.

Symptoms for skin absorption are the same as for inhalation. Contact with eyes and mucous membranes may also contribute to overall exposure and may also invalidate the exposure standard.

Odour Threshold Value: < 5 ppm

Monochloroacetic acid (MCA) is a strong acids which causes severe burns to the skin, eyes and respiratory tract. Skin exposure to molten MCA may be lethal. the perception of mucous membrane irritation in humans is reportedly 1.5 ppm (5.7 mg/m³). A workplace environmental exposure limit (WEEL) has been proposed by the AIHA and is thought to be low enough to prevent irritation whilst protecting against systemic toxicity.

PERSONAL PROTECTION



EYE

- Safety glasses with side shields.
- Chemical goggles.
- Full face shield may be required for supplementary but never for primary protection of eyes
- Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lens or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly. [CDC NIOSH Current Intelligence Bulletin 59].

HANDS/FEET

DO NOT handle directly. Wear gloves and use scoop / tongs / tools.

Elbow length PVC gloves.

Nitrile gloves.

PVC boots.

OTHER

- Overalls.
- PVC Apron.
- PVC protective suit may be required if exposure severe.

continued...

CHLOROACETIC ACID

GHS Safety Data Sheet

Version No:2.0

Page 9 of 14

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

- Eyewash unit.
 - Ensure there is ready access to a safety shower.
- Operators should be trained in procedures for safe use of this material.
Operators should be trained in correct use & maintenance of respirators.

GLOVE SELECTION INDEX

Glove selection is based on a modified presentation of the:

" Forsberg Clothing Performance Index" .

The effect(s) of the following substance(s) are taken into account in the computer- generated selection: chloroacetic acid

BUTYL	A
NEOPRENE	A
PE	A
VITON	A
PVC	C

A: Best Selection

B: Satisfactory; may degrade after 4 hours continuous immersion

C: Poor to Dangerous Choice for other than short term immersion

NOTE: As a series of factors will influence the actual performance of the glove,
a final selection must be based on detailed observation. -

* Where the glove is to be used on a short term, casual or infrequent basis,
factors such as "feel" or convenience (e.g. disposability), may dictate a choice
of gloves which might otherwise be unsuitable following long-term or frequent use.
A qualified practitioner should be consulted.

RESPIRATOR

Protection Factor	Half- Face Respirator	Full- Face Respirator	Powered Air Respirator
10 x ES	P1 Air- line*	- -	PAPR- P1 -
50 x ES	Air- line**	P2	PAPR- P2
100 x ES	-	P3	-
		Air- line*	-
100+ x ES	-	Air- line**	PAPR- P3

* - Negative pressure demand ** - Continuous flow.

The local concentration of material, quantity and conditions of use determine the type of
personal protective equipment required.

For further information consult your
Occupational Health and Safety Advisor.

ENGINEERING CONTROLS

Use in a well-ventilated area.

General exhaust is adequate under normal operating conditions. If risk of overexposure
exists, wear SAA approved respirator. Correct fit is essential to obtain adequate
protection. Provide adequate ventilation in warehouse or closed storage areas. Air
contaminants generated in the workplace possess varying "escape" velocities which, in
turn, determine the "capture velocities" of fresh circulating air required to effectively
remove the contaminant.

continued...

CHLOROACETIC ACID

GHS Safety Data Sheet

Version No:2.0

Page 10 of 14

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

Type of Contaminant: solvent, vapours, degreasing etc., evaporating from tank (in still air) aerosols, fumes from pouring operations, intermittent container filling, low speed conveyer transfers, welding, spray drift, plating acid fumes, pickling (released at low velocity into zone of active generation) direct spray, spray painting in shallow booths, drum filling, conveyer loading, crusher dusts, gas discharge (active generation into zone of rapid air motion) grinding, abrasive blasting, tumbling, high speed wheel generated dusts (released at high initial velocity into zone of very high rapid air motion).	Air Speed: 0.25- 0.5 m/s (50- 100 f/min) 0.5- 1 m/s (100- 200 f/min.) 1- 2.5 m/s (200- 500 f/min) 2.5- 10 m/s (500- 2000 f/min.)
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Within each range the appropriate value depends on:

Lower end of the range 1: Room air currents minimal or favourable to capture 2: Contaminants of low toxicity or of nuisance value only 3: Intermittent, low production. 4: Large hood or large air mass in motion	Upper end of the range 1: Disturbing room air currents 2: Contaminants of high toxicity 3: High production, heavy use 4: Small hood - local control only
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Simple theory shows that air velocity falls rapidly with distance away from the opening of a simple extraction pipe. Velocity generally decreases with the square of distance from the extraction point (in simple cases). Therefore the air speed at the extraction point should be adjusted, accordingly, after reference to distance from the contaminating source. The air velocity at the extraction fan, for example, should be a minimum of 1-2 m/s (200-400 f/min.) for extraction of solvents generated in a tank 2 meters distant from the extraction point. Other mechanical considerations, producing performance deficits within the extraction apparatus, make it essential that theoretical air velocities are multiplied by factors of 10 or more when extraction systems are installed or used.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE

Colourless to light brown deliquescent crystals or powder. Sharp odour.
Soluble in water, alcohol, ether, chloroform and carbon disulfide.

PHYSICAL PROPERTIES

Solid.
Corrosive.
Acid.

Molecular Weight: 94.50
Melting Range (°C): 50- 63
Solubility in water (g/L): Soluble 81%
pH (1% solution): 1- 2
Volatile Component (%vol): Low

Boiling Range (°C): 189
Specific Gravity (water=1): 1.40- 1.58
pH (as supplied): Not applicable
Vapour Pressure (kPa): 0.027 @ 25 C
Evaporation Rate: Not available

continued...

CHLOROACETIC ACID

GHS Safety Data Sheet

Version No:2.0

Page 11 of 14

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

Relative Vapour Density (air=1): 3.2
Lower Explosive Limit (%): 8
Autoignition Temp (°C): Not available.
State: Divided solid

Flash Point (°C): 126
Upper Explosive Limit (%): Not available.
Decomposition Temp (°C): Not available

log Kow (Prager 1995): 0.22

Section 10 - CHEMICAL STABILITY AND REACTIVITY INFORMATION

CONDITIONS CONTRIBUTING TO INSTABILITY

- Presence of incompatible materials.
- Product is considered stable.
- Hazardous polymerisation will not occur.

Section 11 - TOXICOLOGICAL INFORMATION

POTENTIAL HEALTH EFFECTS

ACUTE HEALTH EFFECTS

SWALLOWED

Toxic effects may result from the accidental ingestion of the material; animal experiments indicate that ingestion of less than 40 gram may be fatal or may produce serious damage to the health of the individual.

The material can produce chemical burns within the oral cavity and gastrointestinal tract following ingestion.

Considered an unlikely route of entry in commercial/industrial environments.

Ingestion of acidic corrosives may produce circumoral burns with a distinct discolouration of the mucous membranes of the mouth, throat and oesophagus. Immediate pain and difficulties in swallowing and speaking may also be evident. Oedema of the epiglottis may produce respiratory distress and possibly, asphyxia. Nausea, vomiting, diarrhoea and a pronounced thirst may occur. More severe exposures may produce a vomitus containing fresh or dark blood and large shreds of mucosa. Shock, with marked hypotension, weak and rapid pulse, shallow respiration and clammy skin may be symptomatic of the exposure. Circulatory collapse may, if left untreated, result in renal failure. Severe cases may show gastric and oesophageal perforation with peritonitis, fever and abdominal rigidity. Stricture of the oesophageal, gastric and pyloric sphincter may occur as within several weeks or may be delayed for years. Death may be rapid and often results from asphyxia, circulatory collapse or aspiration of even minute amounts. Delayed deaths may be due to peritonitis, severe nephritis or pneumonia. Coma and convulsions may be terminal.

EYE

The material can produce chemical burns to the eye following direct contact. Vapours or mists may be extremely irritating.

When applied to the eye(s) of animals, the material produces severe ocular lesions which are present twenty-four hours or more after instillation.

Direct eye contact with acid corrosives may produce pain, lachrymation, photophobia and burns. Mild burns of the epithelia generally recover rapidly and completely. Severe burns produce long-lasting and possible irreversible damage. The appearance of the burn may not

continued...

CHLOROACETIC ACID

GHS Safety Data Sheet

Version No:2.0

Page 12 of 14

Section 11 - TOXICOLOGICAL INFORMATION

be apparent for several weeks after the initial contact. The cornea may ultimately become deeply vascularised and opaque resulting in blindness.

SKIN

Skin contact with the material may produce toxic effects; systemic effects may result following absorption.

The material can produce chemical burns following direct contact with the skin.

Bare unprotected skin should not be exposed to this material.

Skin contact with acidic corrosives may result in pain and burns; these may be deep with distinct edges and may heal slowly with the formation of scar tissue.

INHALED

Evidence shows, or practical experience predicts, that the material produces irritation of the respiratory system in a substantial number of individuals following inhalation.

Inhalation of vapour may aggravate a pre-existing respiratory condition.

Acidic corrosives produce respiratory tract irritation with coughing, choking and mucous membrane damage. Symptoms of exposure may include dizziness, headache, nausea and weakness. In more severe exposures, pulmonary oedema may be evident either immediately or after a latent period of 5-72 hours. Symptoms of pulmonary oedema include a tightness in the chest, dyspnoea, frothy sputum and cyanosis. Examination may reveal hypotension, a weak and rapid pulse and moist rates. Death, due to anoxia, may occur several hours after onset of the pulmonary oedema.

CHRONIC HEALTH EFFECTS

Considered toxic by all exposure routes.

Principal routes of exposure are usually by skin contact/absorption and inhalation of generated dust.

The material may accumulate in the human body and progressively cause tissue damage.

Like fluoroacetate the compound is a competitive inhibitor of acetate oxidation, but it also reduces the sulfhydryl content of liver and kidney by acetylating -SH residues.

Repeated or prolonged exposure to acids may result in the erosion of teeth, inflammatory and ulcerative changes in the mouth and necrosis (rarely) of the jaw. Bronchial irritation, with cough, and frequent attacks of bronchial pneumonia may ensue.

Gastrointestinal disturbances may also occur. Chronic exposures may result in dermatitis and/or conjunctivitis.

TOXICITY AND IRRITATION

TOXICITY

Oral (rat) LD50: 580 mg/kg

Oral (rat) LD50: 76 mg/kg*

Inhalation (rat) LC50: 180 mg/m³

Dermal (rabbit) LD50: 175 mg/kg* [Van Waters & Rogers]

Equivocal tumorigen by RTECS criteria

IRRITATION

Nil Reported

Section 12 - ECOLOGICAL INFORMATION

Fish LC50 (96hr.) (mg/l):	150
log Kow (Prager 1995):	0.22
Hazardous Air Pollutant:	Yes
Half- life Soil - High (hours):	168
Half- life Soil - Low (hours):	24
Half- life Air - High (hours):	2050

continued...

CHLOROACETIC ACID

GHS Safety Data Sheet

Version No:2.0

Page 13 of 14

Section 12 - ECOLOGICAL INFORMATION

Half- life Air - Low (hours):	205
Half- life Surface water - High (hours):	168
Half- life Surface water - Low (hours):	24
Half- life Ground water - High (hours):	336
Half- life Ground water - Low (hours):	48
Aqueous biodegradation - Aerobic - High (hours):	168
Aqueous biodegradation - Aerobic - Low (hours):	24
Aqueous biodegradation - Anaerobic - High (hours):	672
Aqueous biodegradation - Anaerobic - Low (hours):	96
Aqueous biodegradation - Removal secondary treatment - High (hours):	19000
Aqueous biodegradation - Removal secondary treatment - Low (hours):	1900
Photolysis maximum light absorption - High (nano- m):	360
Aqueous photolysis half- life - High (hours):	19000
Aqueous photolysis half- life - Low (hours):	1900
Photooxidation half- life air - High (hours):	2300
Photooxidation half- life air - Low (hours):	230
First order hydrolysis half- life (hours):	23000
Fish LC50 (96hr.) (mg/l):	14- 20
Daphnia magna EC50 (48hr.) (mg/l):	30

Toxicity invertebrate: 2212-67-1

Bioaccumulation: molinate

Nitrif. inhib.: LC50(96)0.2-30ppm

Anaerobic effects: LC50(96)1.0-5.6mg/L

Section 13 - DISPOSAL CONSIDERATIONS

- Consult manufacturer for recycling options and recycle where possible .
- Consult State Land Waste Management Authority for disposal.
- Incinerate residue at an approved site.
- Recycle containers if possible, or dispose of in an authorised landfill.

Section 14 - TRANSPORTATION INFORMATION



Labels Required: TOXIC,CORROSIVE
HAZCHEM: 2X

UNDG:

Dangerous Goods Class: 6.1

UN Number: 1751

Shipping Name:CHLOROACETIC ACID, SOLID

Subrisk:

8

Packing Group:

II

Air Transport IATA:

ICAO/IATA Class: 6.1

UN/ID Number: 1751

ICAO/IATA Subrisk:

8

Packing Group:

II

continued...

CHLOROACETIC ACID

GHS Safety Data Sheet

Version No:2.0

Page 14 of 14

Section 14 - TRANSPORTATION INFORMATION

ERG Code: 6C
Shipping name:CHLOROACETIC ACID, SOLID

Maritime Transport IMDG:

IMDG Class:	6.1	IMDG Subrisk:	8
UN Number:	1751	Packing Group:	II
EMS Number:	F- A, S- B		

Shipping name:CHLOROACETIC ACID, SOLID

Section 15 - REGULATORY INFORMATION

REGULATIONS

chloroacetic acid (CAS: 79-11-8) is found on the following regulatory lists;
IMO MARPOL 73/78 (Annex II) - List of Noxious Liquid Substances Carried in Bulk
OECD Representative List of High Production Volume (HPV) Chemicals

Section 16 - OTHER INFORMATION

The above information is believed to be accurate and represent the best information currently available to us, but does not represent any warranty expressed or implied of the properties of the product. User should make their own investigation to determine the suitability of the information for their particular purpose.

Issue Date: 20-Apr-2018