



CHLOROACETIC ACID BUFFER MSDS

MATERIAL SAFETY DATA SHEET

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Effective Date: Feb 28, 2003
Document No.: MSD-CAR-99-0064
Revision No.: 0
Emergency Phone: 800-424-9300
(CHEMTREC 24hr)

SECTION 1. CHEMICAL IDENTIFICATION

CATALOG #: CAR-99-0064
NAME: CHLOROACETIC ACID BUFFER
SUBSTANCE: Chloroacetic Acid (~13%) with Potassium Acetate (~5%) in Deionized Water.

SECTION 2. COMPOSITION/INFORMATION ON INGREDIENTS

CAS#: 79-11-8 CHLOROACETIC ACID
SYNONYMS: Chloroethanoic Acid; MCAA; MCA; Monochloroacetic Acid.
MF: COOHCH_2Cl
PERCENTAGE: ~13%
EC NUMBER (EINECS): 201-178-4
EC INDEX NUMBER: 607-003-00-1

CAS#: 127-08-2 POTASSIUM ACETATE
SYNONYMS: Acetic Acid, Potassium Salt; Potassium Ethanoate.
MF: $\text{COOHCH}_3 \bullet \text{K}$
PERCENTAGE: ~5%
EC NUMBER (EINECS): 204-822-2

SECTION 3. HAZARDS IDENTIFICATION

LABEL PRECAUTIONARY STATEMENTS: CORROSIVE, POISON
ROUTES OF ENTRY: INHALATION, ABSORPTION AND INGESTION

NFPA Ratings (SCALE 0-4): HEALTH=3 FIRE=0 REACTIVITY=0
MAJOR HEALTH HAZARDS: Harmful if swallowed, respiratory tract burns, skin burns, eye burns and mucous membrane burns.

POTENTIAL HEALTH EFFECTS:

- INHALATION: Burns.
- SKIN CONTACT: Burns.



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-EYE CONTACT: Burns.
-INGESTION: Burns.
CARCINOGEN STATUS:
-OSHA: No.
-NTP: No.
-IARC: No.

SECTION 4. FIRST-AID MEASURES

SEEK MEDICAL ASSISTANCE FOR ANY OVEREXPOSURE.

INHALATION: If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. If breathing is difficult, oxygen should be administered by qualified personnel. Get immediate medical attention.

SKIN: Wash thoroughly with soap and water. Seek medical attention if burn persists and/or tissue appears damaged.

EYES: Immediately flush thoroughly with water for at least 15 minutes. Then get immediate medical attention.

INGESTION: Contact local Poison Control Center or physician immediately. Never give anything by mouth to an unconscious person. Give large amounts of water and/or milk. Allow vomiting to occur, but tilt head so aspiration does not occur. Seek medical attention immediately.

NOTE TO PHYSICIAN: Avoid gastric lavage or emesis.

SECTION 5. FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA: Regular dry chemical, carbon dioxide, water or regular foam.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Hazardous polymerization will not occur. Minimal fire hazard.

FLASH POINT: No Data.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Do not touch spilled material. Evacuate all unnecessary personnel. Wear a respirator, chemical safety goggles, rubber boots and rubber gloves. Absorb with sand or vermiculite and place in a closed container. Wash spill site with soapy water. Notify Local Emergency Planning Committee and State Emergency Response Commission for releases greater than or equal to RQ (U.S. SARA Section 304). If release occurs in the U.S. and is reportable under CERCLA Section 103, notify the National Response Center at (800) 424-8802 (USA) or (202) 426-2675 (USA). The RQ for 100% Chloroacetic acid is 100 lbs.



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SECTION 7. HANDLING AND STORAGE

Store and handle in accordance with all current regulations and standards. Keep separated from incompatible substances. Store in a cool dry place.

SECTION 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

EXPOSURE LIMIT for 100% Chloroacetic Acid:

4 mg/m³ (1mL/m³) AGS MAK 1 times/shift (skin)

0.3 ppm AIHA recommended TWA (skin)

1 ppm AIHA recommended STEL 15 min (skin)

0.3 ppm (1.2 mg/m³) UK OES TWA (skin)

MECHANICAL EXHAUST REQUIRED

CHEMICAL SAFETY GOGGLES.

NIOSH/MSHA-APPROVED RESPIRATOR.

SAFETY SHOWER AND EYE BATH.

COMPATIBLE CHEMICAL-RESISTANT GLOVES (RUBBER).

AVOID CONTACT WITH EYES, SKIN AND CLOTHING.

KEEP TIGHTLY CLOSED.

TOXIC

CORROSIVE

STORE IN A COOL DRY PLACE.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: Colorless liquid.

ODOR: Slight vinegar odor.

BOILING POINT: No Data.

WATER SOLUBILITY: Water Soluble and alcohol soluble.

SPECIFIC GRAVITY: No Data.

pH: ~2.5

SECTION 10. STABILITY AND REACTIVITY

REACTIVITY: Stable at normal temperatures and pressure.

CONDITIONS TO AVOID: Avoid heat, avoid inhalation. Minimize contact with material. Keep out of water supplies and sewers.

INCOMPATIBILITIES: Metals, bases, alcohols, oxidizing materials, combustible materials, amines, cyanides, sulfides and reducing agents.



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HAZARDOUS POLYMERIZATION: WILL NOT OCCUR.

DECOMPOSITION PRODUCTS: Phosgene, halogenated compounds, oxides of carbon.

SECTION 11. TOXICOLOGICAL INFORMATION

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

For 100% CHLOROACETIC ACID (*This Buffer Solution is only ~ 13%*):

CARCINOGEN STATUS: ACGIH: A4 –Not classifiable as a Human Carcinogen.

TOXICITY DATA:

100-250 mg/kg skin-guinea pig LD50 (Kodak); 140 mg/kg oral-rat LD50 (Kodak); 55 mg/kg oral-rat LD50; 180 mg/m³ inhalation-rat LC50.

LOCAL EFFECTS: Corrosive: Inhalation, skin eye and ingestion.

ACUTE TOXICITY LEVEL:

HIGHLY TOXIC: Inhalation.

TOXIC: Dermal absorption and ingestion.

TUMORIGENIC DATA: 100 mg/kg subcutaneous-mouse TDLo; 1300 mg/kg subcutaneous-mouse TD/65 weeks intermittent.

MUTAGENIC DATA: Mutation in microorganisms-mouse lymphocyte 548 mg/L (+S9); Mutation in mammalian somatic cells-mouse lymphocyte 400mg/L; Sister chromatid exchange-hamster ovary 160 mg/L.

HEALTH EFFECTS:

INHALATION: Corrosive substance. May cause severe irritation of respiratory tract with coughing, choking, pain and possibly burns of the mucous membranes. In some cases, pulmonary edema may develop, either immediately or more often within a period of 5-72 hours. The symptoms may include tightness in the chest, dyspnea, frothy sputum, cyanosis, and dizziness. Physical findings may include moist rales, low blood pressure and high pulse pressure. Severe cases may be fatal.

SKIN CONTACT: Found to be non-sensitizing when tested on guinea pig skin. Occupational exposure produced nausea and vomiting, tachycardia, hypokalemia, and occasional premature ventricular contractions.

ACUTE EXPOSURE: Direct contact may cause severe irritation, pain and possibly burns.

CHRONIC EXPOSURE: Effects depend on concentration and duration of exposure. Repeated or prolonged contact may result in dermatitis or effects similar to acute exposure.



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EYE CONTACT: Direct contact may cause severe irritation, pain and burns, possible severe. The degree of injury depends on the concentration and duration of exposure. The full extent of injury may not be immediately apparent. Repeated or prolonged contact may result in conjunctivitis.

INGESTION: May cause immediate pain and severe burns of the mucous membranes. There may be discoloration of the tissues. Swallowing and speech may be difficult at first and then almost impossible. The effects on the esophagus and gastrointestinal tract may range from irritation to severe corrosion. Edema of the epiglottis and shock may occur.

SECTION 12. ECOLOGICAL INFORMATION

ECOTOXICITY DATA (FOR 100% Chloroacetic Acid):

FISH TOXICITY: 5000 µg/L 24 weeks (Stress) Sea Lamprey (*Petromyzon marinus*)

INVERTEBRATE TOXICITY: 7700 µg/L 48 hours EC50 (Immobilization) Water Flea (*Daphnia magna*)

ALGAL TOXICITY: 70 µg/L 48 hours EC50 (Growth) Green Algae (*Scenedesmus subspicatus*).

SECTION 13. DISPOSAL CONSIDERATIONS

Subject to disposal regulations: U.S. EPA 40 CFR 262. Hazardous Waste Number: D002. Dispose in accordance with all applicable regulations.

SECTION 14. TRANSPORTATION INFORMATION

U.S. DOT 49 CFR 172.101:

HAZARD CLASS OR DIVISION: 6.1

SUBCLASS: 8

PROPER SHIPPING NAME: Chloroacetic acid solution.

UN ID Number: 1750

PACKING GROUP: II

LABELING REQUIREMENTS: CORROSIVE and POISON

AIR TRANSPORT:

PROPER SHIPPING NAME: Chloroacetic acid solution.

UN ID Number: 1750

PACKING GROUP: II



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IATA/ICAO CLASS: 6.1
SUBCLASS: 8
LABEL: TOXIC and CORROSIVE.
Hazard Identity No.: 68.
Class and Item No.: 6.1, 27°(b).

SECTION 15. REGULATORY INFORMATION

FOR 100% Chloroacetic Acid:

TSCA INVENTORY STATUS: Yes.
TSCA 12 (b) EXPORT NOTIFICATION: Not listed.
CERCLA SECTION 102a/103 (40CFR302.4): Yes.
Chloroacetic Acid: 100 lbs RQ.
SARA SECTION 302 (40CFR355.30): Yes.
Chloroacetic Acid: 100/1000 lbs TPQ
SARA SECTION 304 (40CFR355.40): Yes.
Chloroacetic Acid: 100 lbs RQ
SARA HAZARD CATEGORIES, SARA SECTIONS 311/312 (40CFR370.21):
ACUTE: Yes.
CHRONIC: Yes.
FIRE: No.
REACTIVE: No.
SUDDEN RELEASE: No.
SARA SECTION 313 (40CFR372.65): Yes.
OSHA PROCESS SAFETY (29CFR1910.119): No.
STATE REGULATIONS:
CALIFORNIA PROPOSITION 65: No.
Massachusetts Right-to-Know: Yes.
New Jersey Right-to-Know: Yes.
Pennsylvania Right-to-Know: Yes.
CANADIAN REGULATIONS:
WHMIS CLASSIFICATION: Not Determined.
EUROPEAN REGULATIONS:
EC CLASSIFICATIONS:
T Toxic
C Corrosive
N Dangerous for the Environment
EC RISK AND SAFETY PHRASES:
R 25 Toxic if swallowed.
R 34 Causes burns.
R 50 Very toxic to aquatic organisms.



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- S ½ Keep locked-up and out of reach of children.
S 23 Do not breath gas, fumes, vapor or spray.
S 37 Wear suitable gloves.
S 45 In case of accident or if you feel unwell, seek
 medical advise immediately (show the label where
 possible).
S 61 Avoid release to the environment.

GERMAN REGULATIONS:

Water Hazard Class (WGK): 2

SECTION 16. OTHER INFORMATION

The above information is believed to be correct and shall be used only as a guide. The information may be inclusive. Transgenomic, Inc. shall not be held liable for any damage resulting from handling or from contact with the above material.

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