Material Safety Data Sheet

Manufacturer/Distributor: Ruger Chemical Co.
Amend Drug & Chemical Co.
83 Cordier Street
Irvington, NJ 07111

Emergency Telephone No. CHEMTREC NO. (800) 424-8300
(201) 926-0331
Other Information (National Response Center NO. (800) 424-8302)

Prepared: MARCH 22, 1991

TRICHLOROACETIC ACID

Product Identification:
Synonyms: TCA; trichloroethanoic acid
Formula CAS No.: 76-03-9
Molecular Weight: 163.39
Chemical Formula: C3Cl3COOH
Hazardous Ingredients: Not applicable.

Precautionary Measures:
DANGER: CORROSIVE. CAUSES SEVERE BURNS.
HARMFUL IF SWALLOWED OR INHALED. INHALATION MAY
CAUSE LUNG DAMAGE.
Do not get in eyes, on skin, or on clothing.
Avoid breathing dust.
Keep container closed.
Use with adequate ventilation.
Wash thoroughly after handling.

Emergency/First Aid:
In case of contact, immediately flush skin or eyes with plenty of
water for at least 15 minutes. If swallowed, DO NOT INDUCE
VOMITING!
Give large quantities of water or milk if available. Never give
anything by mouth to an unconscious person. If inhaled, remove to
fresh air. Get medical attention for any breathing difficulty. In
all cases call a physician.
SEE SECTION 5.

DOT Hazard Class: Corrosive Material

SECTION 1 Physical Data
Appearance: White, hygroscopic crystals.
Odor: Pungent odor.
Solubility: Very soluble in water.
Boiling Point: 198°C (386°F).
Melting Point: 58°C (136°F)
Specific Gravity: 1.6
Vapor Density (Air = 1): 5.6
Vapor Pressure (mm Hg): 1.3@ 51°C
Evaporation Rate: No information found.

SECTION 2 Fire and Explosion Information
Fire:
Not considered to be a fire hazard.
Explosion:
Not considered to be an explosion hazard.

Fire Extinguishing Media:
Use any means suitable for extinguishing surrounding fire.

Special Information:
In the event of a fire, wear full protective clothing and
NIOSH-approved self-contained breathing apparatus with full
facepiece operated in the pressure demand or other positive
pressure mode.

SECTION 3 Reactivity Data
Stability:
Stable under ordinary conditions of use and storage. Solutions
are acidic.

Hazardous Decomposition Products:
Carbon monoxide, carbon dioxide, chloroform, hydrogen chloride.

Hazardous Polymerization:
Will not occur.

Incompatibilities:
Strong bases. Heating with alkali yields chloroform and alkali
carbonate. Acid solutions in water can react with metals to
liberate hydrogen gas.

SECTION 4 Leak/Spill Disposal Information
Spills: Ventilate area of leak or spill. Clean-up personnel
need protection against inhalation or contact with substance.
Cover spilt with excess sodium bicarbonate. Carefully sweep up
the material and place in a corrosive resistant container for
disposal. Disposal: Neutralize prior to burning. Burn in
approved incinerator equipped with an afterburner and scrubber.
Alternatively, neutralized waste may be disposed in an approved
waste facility.

Ensure compliance with local, state and federal regulations.

RUGER CHEMICAL CO., INC.
AMEND DRUG & CHEMICAL CO.
83 CORDIER STREET
IRVINGTON, NJ 07111

Effective Date: 04/06/89, Supersedes 07/13/87

TRICHLOROACETIC ACID
Addendum to Material Safety Data Sheet

REGULATORY STATUS

Hazard Categories for SARA
Section 311/312 Reporting
Acute Chronic Fire Pressure Reactive
X X

Product or Components
of Product:

TRICHLOROACETIC ACID (76-03-9)

SARA Section 302 EHS RQ: Reportable Quantity of Extremely Hazardous Substance, listed at 40 CFR 355.
SARA Section 302 EHS TPO: Threshold Planning Quantity of Extremely Hazardous Substance. An asterisk (*) following a Threshold Planning Quantity signifies that if the material is a solid and has a particle size equal to or larger than 100 micrometers, the Threshold Planning Quantity = 10,000 LBS.
SARA Section 313 Chemicals: Toxic Substances subject to annual release reporting requirements listed at 40 CFR 372.65.
CERCLA Sec. 103: Comprehensive Enviromental Response, Compensation and Liability Act (Superfund). Releases to air, land or water of these hazardous substances which exceed the Reportable Quantity (RQ) must be reported to the National Response Center; (800-424-8802); Listed at 40 CFR 302.4
RCRA: Resource Conservation and Reclamation Act. Commercial chemical product wastes designated as acute hazards and toxic under 40 CFR 261.33

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TRICHLOROACETIC ACID
SECTION 5 Health Hazard Information

A. EXPOSURE / HEALTH EFFECTS

Inhalation:
Inhalation of dust may cause coughing, choking, with variable symptoms of headache, dizziness, and weakness. May cause lung edema; serious cases could be fatal.

Ingestion:
Corrosive. Sore throat, severe abdominal pain, vomiting, and tissue damage may occur.

Skin Contact:
Corrosive. Redness, pain, skin burns can occur.

Eye Contact:
Corrosive. Redness, pain, blurred vision can occur.

Chronic Exposure:
Long exposure to acid fumes may cause erosion of the teeth followed by jaw necrosis. Bronchial irritation with chronic cough and frequent attacks of bronchial pneumonia may also occur.

Aggravation of Pre-existing Conditions:
Persons with skin disorders, eye problems, or respiratory problems may be more susceptible to the effects of this substance.

B. FIRST AID

Inhalation:
Remove to fresh air. Get medical attention for any breathing difficulty.

Ingestion:
DO NOT INDUCE VOMITING! Give large quantities of water or milk if available. Never give anything by mouth to an unconscious person. Get medical attention immediately.

Skin Exposure:
In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Call a physician immediately.

Eye Exposure:
Wash eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

C. TOXICITY DATA (RTECS, 1986)


SECTION 6 Occupational Control Measures

Airborne Exposure Limits:

- OSHA Permissible Exposure Limit (PEL): 1 ppm (TWA)
- ACGIH Threshold Limit Value (TLV): 1 ppm (TWA)

VENTILATION SYSTEM:
A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, "Industrial Ventilation, A Manual of Recommended Practices", most recent edition, for details.

PERSONAL RESPIRATORS:
(NIOSH Approved)
If the TLV is exceeded a full facepiece chemical cartridge respirator may be worn, in general, up to 100 times the TLV or the maximum use concentration specified by the respirator supplier, whichever is less. Alternatively, a supplied air full facepiece respirator or airlined hood may be worn.

SKIN PROTECTION:
Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls to prevent skin contact.

EYE PROTECTION:
Use chemical safety goggles and/or full face shield where dusting or splashing of solutions is possible. Contact lenses should not be worn when working with this material. Maintain eye wash fountains and quick-drench facilities in work area.

SECTION 7 Storage and Special Information

Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect against physical damage. Isolate from incompatible substances.