

Effective Date: 08-21-85

PRODUCT IDENTIFICATION:

Synonyms: Muriatic acid

Formula CAS No.: 7647-01-0

Hazardous Ingredients:
Not Applicable

Molecular Weight: 36.46 (HCl)

Chemical Formula: HCl

PRECAUTIONARY MEASURES

DANGER! CORROSIVE.
CAUSES SEVERE BURNS. MAY BE FATAL IF SWALLOWED. HARMFUL IF INHALED.

Do not get in eyes, on skin, or on clothing.

Avoid breathing mist.

Use only with adequate ventilation.

Wash thoroughly after handling.

Store in a tightly closed container.

Remove and wash contaminated clothing promptly.

This substance is classified as a POISON under the Federal Caustic Poison Act.

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. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. In all cases call a physician.

SEE SECTION 5.

DOT Hazard Class: Corrosive Material

Physical Data

Appearance: Clear, colorless fuming liquid.

Odor: Pungent odor of hydrogen chloride.

Solubility: Infinite in water with slight evolution of heat.

Boiling Point: 53°C (127°F);

Azeotrope (20.2%) boils at 109°C (228°F)

Vapor Density (Air=1): No information found.

Melting Point: -74°C (-101°F)

Vapor Pressure (mm Hg): 190 @ 25°C (77°F)

Specific Gravity: 1.18

Evaporation Rate: No information found.

Fire and Explosion Information

Fire:

Can react with metals to release flammable hydrogen gas.

Explosion:

Not considered to be an explosion hazard.

Fire Extinguishing Media:

If involved in a fire, use water spray.

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.

Reactivity Data

Stability:

Stable under ordinary conditions of use and storage. Containers may burst when heated.

Hazardous Decomposition Products:

When heated to decomposition, emits toxic hydrogen chloride fumes and will react with water or steam to produce heat and toxic and corrosive fumes.

Hazardous Polymerization:

Will not occur.

Incompatibilities:

A strong mineral acid, concentrated hydrochloric acid is highly reactive with strong bases, metals, metal oxides, hydroxides, amines, carbonates and other alkaline materials. Incompatible with materials such as cyanides, sulfides, sulfites, and formaldehyde.

Leak/Spill Disposal Information

Clean-up personnel should wear protective clothing and respiratory equipment suitable for toxic or corrosive fluids or vapors. Isolate or enclose the area of the leak or spill.

Small Spills: Flush with water and neutralize with alkaline material (such as ash, lime, etc.). Sewer neutralized material with excess water.

Larger spills and lot sizes:

Neutralize with alkaline material, pick up with absorbent material (sand, earth, vermiculite). Provide forced ventilation to dissipate fumes. Dispose in a RCRA-approved waste facility or sewer the neutralized slurry with excess water if local ordinances allow.

Reportable Quantity (RQ)(CWA/CERCLA): 5000 lbs.

Comply with local, state and federal regulations.

Health Hazard InformationA. Exposure/Health EffectsInhalation:

Corrosive! Inhalation of vapors can cause choking, inflammation of the nose, throat, and upper respiratory tract.

Ingestion:

Corrosive! Swallowing hydrochloric acid can cause immediate pain and burns of the mouth, throat, esophagus and gastrointestinal tract. May cause nausea, vomiting, and diarrhea.

Skin Contact:

Corrosive! Can cause redness, pain, and severe skin burns. Concentrated solutions cause deep ulcers and discolor skin.

Eye Contact:

Corrosive! Vapors are irritating and may cause damage to the eyes. Splashes may cause severe burns and permanent eye damage.

Chronic Exposure:

Long-term exposure to concentrated vapors may cause erosion of teeth. Long term exposures seldom occur due to the corrosive properties of the acid.

Aggravation of Pre-existing Conditions:

Persons with pre-existing skin disorders or eye disease may be more susceptible to the effects of this substance.

B. FIRST AIDInhalation:

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

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. Thoroughly clean shoes before reuse. Get medical attention 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, 1982)

Oral-rat LD50: 900 mg/kg (Hydrochloric acid concentrated)
Mutation references cited.

Occupational Control MeasuresSECTION 6Airborne Exposure Limits:

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

Ventilation System:

A system of local 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 dust or vapor 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 1 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:

Rubber or neoprene gloves and additional protection including impervious boots, apron, or coveralls, as needed in areas of unusual exposure to prevent skin contact.

Eye Protection:

Use chemical safety goggles and/or a full face shield where splashing is possible. Contact lenses should not be worn when working with this material.

Maintain eye wash fountain and quick-drench facilities in work area.

Storage and Special Information SECTION 7

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

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