MURIATIC ACID

Material Safety Data Sheet

Emergency 24 Hour Telephone: **CHEMTREC 800.424.9300**

Corporate Headquarters: Hasa Inc.
23119 Drayton Street
Saugus, California 91350
Telephone • 661.259.5848
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SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION			
1.1	**Product Identification**		
	1.1.1	**Product Name**	Hasa Muriatic Acid
	1.1.2	**CAS #** (Chemical Abstracts Service):	7647-01-0
	1.1.3	**RTECS** (Registry of Toxic Effects of Chemical Substances):	MW4025000
	1.1.4	**EINECS** (European Inventory of Existing Chemical Substances):	231-595-7
	1.1.5	**Synonym**	Hydrochloric Acid, Spirits of Salt
	1.1.6	**Chemical Name**	Hydrochloric Acid
	1.1.7	**Chemical Formula**	HCl
1.2	**Recommended Use**		Household cleaning, swimming pool water pH control and neutralization.
1.3	**Company Identification**		Hasa Inc. 23119 Drayton Street Santa Clarita (Saugus), California 91350
1.4	**Emergency Telephone Number**		**CHEMTREC:** 1-800-424-9300 (24 hour)
1.5	**Non-Emergency Assistance Telephone Number**		661-259-5848 (8 AM – 5 PM PST / PDT)

SECTION 2: EMERGENCY OVERVIEW and HAZARD IDENTIFICATION

2.1	**Emergency Overview.**		**DANGER!** Extremely corrosive, causes burns and eye damage, harmful if inhaled. Harmful or fatal if swallowed. Highly reactive with alkaline materials. Reacts with most metals to release hydrogen gas, a flammable gas.
2.2	**Hazards Acute Effects:** Hydrochloric acid is corrosive to the eyes, skin, and mucous membranes.		
	2.2.1	**Eye Contact:**	Immediate pain, severe burns and corneal damage, which may result in permanent blindness. Low concentrations of vapor or mist (10-35 ppm) can be immediately irritating causing redness.
	2.2.2	**Skin Contact:**	Dermal contact may produce severe burns, ulceration, and scarring.
	2.2.3	**Inhalation:**	Acute inhalation exposure may cause coughing, hoarseness, inflammation and ulceration of the respiratory tract, chest pain, and pulmonary edema in humans. Pulmonary irritation, lesions of the upper respiratory tract, and laryngeal and pulmonary edema have been reported in rodents acutely exposed by inhalation. Acute animal tests in rats, mice, and rabbits, have demonstrated hydrochloric acid to have moderate to high acute toxicity from inhalation.
	2.2.4	**Ingestion:**	Acute oral exposure may cause corrosion of the mucous membranes, esophagus, and stomach, with nausea, vomiting, and diarrhea reported in humans. Acute animal tests in rats, mice, and rabbits, have demonstrated hydrochloric acid to have moderate acute toxicity from oral exposure.
	2.2.5	**Aggravation of Pre-existing Medical Conditions:**	Skin irritation may be aggravated in individuals with existing skin lesions. Breathing of vapors or sprays (mists) may aggravate acute or chronic asthma and chronic pulmonary disease such as emphysema and bronchitis.
2.3	**Chronic Effects:** Chronic occupational exposure to hydrochloric acid has been reported to cause gastritis, chronic bronchitis, dermatitis, and photosensitization in humans. Prolonged exposure to low concentrations may also cause dental discoloration and erosion.		
2.4	**Carcinogenicity:** Hydrochloric acid is not classified as carcinogenic by ACGIH or IARC, not regulated as a carcinogen by OSHA, and not listed as carcinogens by NTP.		
2.5	**International Agency for Research on Cancer (IARC) Monographs:** Hydrochloric acid is classified as Group 3 (Not classifiable as to its carcinogenicity to humans).		

SECTION 3: COMPOSITION INFORMATION ON INGREDIENTS

	Ingredient	CAS No.	Weight % (Approx.)
3.1	Hydrochloric Acid	7647-01-0	31.44%
3.2	Water	7789-20-0	68.56%

SECTION 4: FIRST AID MEASURES

4.1.	**IF IN EYES**	• Hold eye open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment advice.
4.2.	**IF ON SKIN OR CLOTHING**	• Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15-20 minutes. • Call a poison control center or doctor for treatment advice.
4.3.	**IF INHALED**	• Move person to fresh air. • If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. • Call a poison control center or doctor for further treatment advice.
4.4.	**IF SWALLOWED**	• Call a poison control center or doctor immediately for treatment advice. • Have person sip a glass of water if able to swallow. • Do not induce vomiting unless told to do so by a poison control center or doctor. • Do not give anything by mouth to an unconscious person.

HOT LINE NUMBER

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-424-9300 for emergency medical treatment information.

NOTE TO PHYSICIAN

Probable mucosal damage may contraindicate the use of gastric lavage.

SECTION 5: FIRE FIGHTING MEASURES

5.1	**Flammability:**		Nonflammable and noncombustible.
5.2	**Auto-Ignition Temperature:**		Not applicable.
5.3	**Flash Point:**		Not applicable.
5.4	**Flammable Limits:**		Not applicable.
5.5	**Products of Combustion:**		Hydrogen and chlorine
5.6	**Fire Hazards in Presence of Various Substances:**		Reacts with many metals to liberate hydrogen gas which can form explosive mixtures with air.
5.7	**Explosion Hazards:**		Not sensitive.
5.8	**Fire Fighting Media and Instructions:**		
	5.8.1	**Extinguishing Media:**	Use extinguishing measures appropriate to local circumstances and the surrounding environment.
	5.8.2	**Small Fires:**	Use carbon dioxide, dry chemical, dry sand, alcohol-resistant foam or water spray.
	5.8.3	**Large Fires:**	Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. Dike fire-control water for later disposal; do not scatter the material.
5.9	**Fire Involving Tank Cars / Trailer Loads**		Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire.

SECTION 6: ACCIDENTAL RELEASE MEASURES		
6.1	**Small Spill:**	Gather up with a squeegee and place in pool and spa. If this is not possible, absorb with sand, diatomaceous earth or similar products and securely bag, and place in trash for collection.
6.2	**Large Spill:**	If possible without personal risk, stop leak. Try to prevent the materials from entering drains, waterways, or sewers and dispose of in accordance with local regulations. Rinse exposed area with dilute sodium carbonate solution. Call Hasa for advice.

SECTION 7: HANDLING AND STORAGE		
7.1	**Handling:**	Keep away from skins and eyes. Do not inhale or swallow. Do not mix with chlorine type bleaches or other household chemicals. Whenever handling muriatic acid, wear protective clothing (goggles, old clothing and rubber gloves). Remove protective clothing and wash before reuse.
7.2	**Storage and Disposal:**	Store muriatic acid in a clean, dry place in the upright position. Keep out of reach of children, pets and other animals. Rinse empty container thoroughly before discarding.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION			
8.1	**Engineering Controls:**		Local exhaust to maintain levels below Permissible Exposure Limit (PEL).
8.2	**Personal Protection:**		When necessary, wear splash goggles or safety glasses and gloves.
8.3	**Personal Protection in Case of a Large Spill:**		Wear splash goggles or safety glasses and gloves. If natural ventilation is insufficient, wear a NIOSH approved respirator.
8.4	**Exposure Guidelines:**		
	8.4.1	**ACGIH** (American Conference of Governmental and Industrial Hygienists) **TLV** (Threshold Limit Value)	5 ppm (7 mg/m^3) Ceiling
	8.4.2	**PEL** (OSHA Permissible Exposure Limit)	5 ppm (7 mg/m^3) Ceiling Limit
	8.4.3	**IDLH** (NIOSH Immediate Danger to Life & Health)	50 ppm (75 mg/m^3)
	8.4.4	**AIHA** (American Industrial Hygiene Association)	**ERPG – 1** (T*he maximum airborne concentration below which it is believed nearly all individuals could be exposed for up to one hour without experiencing other than mild transient adverse health effects or perceiving a clearly defined objectionable odor.)* : **3 ppm** **ERPG – 2** (*The maximum airborne concentration below which it is believed nearly all individuals could be exposed for up to one hour without experiencing or developing irreversible or other serious health effects or symptoms that could impair an individual's ability to take protective action.):* **20 ppm** **ERPG – 3** (*The maximum airborne concentration below which it is believed nearly all individuals could be exposed for up to one hour without experiencing or developing life-threatening health effects.)*: **150 ppm**

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES		
9.1	**Physical State and Appearance:**	Colorless liquid.
9.2	**Odor:**	Irritating and pungent odor.
9.3	**Taste:**	No information available
9.4	**Molecular Weight:**	36.46
9.5	**Color:**	Colorless
9.6	**pH (1% solution):**	<1.0
9.7	**Boiling Point:**	81 ^{o}C (178°F)
9.8	**Melting Point:**	Not applicable.
9.9	**Freezing Point:**	-42 ^{o}C (-44°F)
9.10	**Critical Temperature:**	Not applicable.
9.11	**Specific Gravity (H_2O=1):**	1.16 @ 15.5°C (60°F)
9.12	**Bulk Density:**	Not applicable.
9.13	**Density:**	9.7 lb. / gallon
9.14	**Vapor Pressure:**	20 mm Hg @ 20°C
9.15	**Vapor Density:**	Not pertinent.
9.16	**Volatility:**	Not applicable.
9.17	**Odor Threshold:**	4.7 ppm @ at 25 °C
9.18	**Water / Oil Distribution Coefficient:**	Not applicable.
9.19	**Dispersion Properties:**	Not applicable.
9.20	**Solubility in Water:**	Mixes well with water in all concentrations.

SECTION 10: STABILITY AND REACTIVITY		
10.1	**Stability:**	Stable under normal conditions of storage, handling, and use.
10.2	**Instability Temperature:**	85°C. Rate of decomposition increases with heat.
10.3	**Conditions of Instability:**	High heat, ultraviolet light.
10.4	**Incompatibility with Various Substances:**	Oxidizing agents, acids, nitrogen containing organic, metals, iron, copper, nickel, cobalt, organic materials, and ammonia. Corrosive to most metals with evolution of hydrogen gas, which may form explosive mixtures with air.
10.5	**Corrosivity:**	Corrosive to eyes and skin.
10.6	**Special Remarks on Reactivity:**	Rate of decomposition increases with heat.
10.7	**Special Remarks on Corrosivity:**	None.
10.8	**Hazardous Polymerization:**	Will not occur.

SECTION 11: TOXICOLOGICAL INFORMATION		
11.1	**Routes of Entry:**	Eyes, skin, ingestion, dermal absorption.
11.2	**Eye Irritation:**	NIOSH: 5 mg/30s rinse (rabbit).
11.3	**Acute Oral Toxicity** (LD_{50})**:**	NIOSH: 900 mg/kg (rabbit)
11.4	**Acute Inhalation Toxicity** (LC_{50})**:**	NIOSH: 6,400 mg/m^3/30 minute (rabbit).
11.5	**Chronic Effects on Humans:**	Chronic occupational exposure to hydrochloric acid has been reported to cause gastritis, chronic bronchitis, dermatitis, and photosensitization in humans. Prolonged exposure to low concentration may also cause dental discoloration and erosion.
11.6	**Toxic Effects on Humans:**	NIOSH: Lowest published lethal dose: 2,857 µg/kg
11.7	**Dermal Effects on Humans (mild):**	NIOSH: 4%/24 hour.
11.8	**Acute Potential Health Effects:**	No additional information available.
11.9	**Skin** (LD_{50})**:**	>5010 mg/kg
11.10	**Eyes:**	No additional information available.
11.11	**Ingestion:**	No additional information available.
11.12	**Inhalation** (LC_{50})**:**	1562 ppm / 4 hr (3124 ppm for 1 hr) rat 1108 ppm / I hr (mouse)
11.13	**Chronic Potential Health Effects:**	No additional information available.

SECTION 12: ECOLOGICAL INFORMATION		
12.1	**Ecotoxicity General**:	This product is toxic to fish and aquatic organisms. Do not contaminate water containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance, contact your State Water Board or Regional Office of the EPA.
12.2	**Ecotoxicological Information:**	**LC_{50}** Shrimp 100 to 330 ppm/48 hr (salt water) **LC_{50}** Mosquito Fish 282 mg/L (24 to 96 hours) **LC_{50}** Green crabs 100 mg/L (96 hr produced no stress effects) **LC_{50}** Gold fish 180 mg/L (96 hours) Aquatic Hazard Concern Level : moderate
12.3	**Persistence and Degradation:**	When hydrochloric acid is spilled onto soil, it will begin to infiltrate. The presence of water in the soil will influence the rate of chemical movement in the soil. During transport through the soil, hydrochloric acid will dissolve some of the soil material, in particular those of a carbonate base. The acid will be expected to remain for transport down toward the ground water table. Hydrogen chloride in water dissociates almost completely, with the hydrogen ion captured by the water molecules to form the hydronium ion.
12.4	**Products of Biodegradation:**	Not pertinent.

SECTION 13: DISPOSAL CONSIDERATIONS

Do not contaminate food or feed by storage, disposal, or cleaning of equipment. Product or rinsates that cannot be used should be diluted with water before disposal in a sanitary sewer. Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans, or other waters unless in accordance with the requirements of a National Pollutant Discharge Elimination system (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Dispose of in accordance with all applicable local, county, State, and Federal regulations.

SECTION 14: TRANSPORT INFORMATION

14.1	**Shipping Name:**	Hydrochloric Acid
14.2	**Hazard Class / Division:**	8
14.3	**Identification No.:**	UN 1789
14.4	**Packing Group:**	II
14.5	**Reportable Quantity (RQ):**	5,000 lb (1643 gallons)
14.6	**DOT Special Permit 6614:**	Hydrochloric acid may be shipped in deposit 1 gallon polyethylene bottles secured 4 per case in a plastic crate in accordance with DOT-SP-6614. In these cases, the special permit number "DOT-SP-6614" is included in the shipping description. The shipping description for return of empty deposit bottles and crates is "RESIDUE: LAST CONTAINED UN1789, HYDROCHLORIC ACID, 8, PGII, DOT-SP 6614".
14.7	**Deposit Pails, Carboys and Drums:**	The shipping description for return of empty deposit pails, carboys, and drum is "RESIDUE: LAST CONTAINED UN1789, HYDROCHLORIC ACID, 8, PGII".

14.8 **Materials of Trade (MOT) Exceptions.** Under certain conditions, spa and pool maintenance chemicals may be loaded into pool service and builders trucks and shipped as a MOT, not subject to DOT regulations. A MOT means a hazardous material, other than a hazardous waste, that is carried on a motor vehicle – by a private motor carrier in direct support of his/her principal business that is other than transportation by motor vehicle.

To qualify as a MOT, the hazardous material must fit into any one of the following classes or divisions (but not limited to) Corrosive Materials (Class 8) or Consumer Commodities (ORM-D).

Quantity Limit for MOT: For Corrosive Materials (Class 8) that belongs to Packing Group II or III, or is a consumer commodity (ORM-D) – the maximum amount of material in each package is 30 kg (66 lbs) for solids, or 30 L (8 gal) for liquids. The aggregate gross weight of all MOTs on a motor vehicle may not exceed 200 kg (440 pounds).

Packaging requirement:

1 Packagings must be leak tight for liquids and gases, sift proof for solids, and be securely closed, secured against shifting, and protected against damage.
2 Each material must be packaged in the manufacturer's original packaging, or a packaging of equal or greater strength and integrity.
3 Outer packagings are not required for receptacles (e.g., cans and bottles) that are secured against shifting in cages, carts, bins, boxes or compartments.

Hazard communication:

- A non-bulk packaging other than a cylinder (including a receptacle transported without an outer packaging) must be marked with a common name or proper shipping name to identify the material it contains, including the letters "RQ" if it contains a reportable quantity of a hazardous substance.
- The operator of a motor vehicle that contains a material of trade must be informed of the presence of the hazardous material (including whether the package contains a reportable quantity) and must be informed of the requirements of 49 CFR §173.6.

Other exceptions: A MOT may be transported on a motor vehicle under the provisions of 49 CFR §173.6 (e) with other hazardous materials without affecting its eligibility for these exceptions.

The MOTs regulations do not require:

- shipping papers;
- emergency response information;
- placarding; or
- formal training or retention of training records.

This information is not intended to convey all specific regulatory or operational requirements / information relating to this product. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

SECTION 15: REGULATORY INFORMATION

15.1	**U.S. Regulations:**		
	15.1.1	**OSHA HAZCOM** (Hazard Communication)	This material is considered hazardous under the HAZCOM standard (29 CFR 1910.1200).
	15.1.2	**OSHA PSM** (Process Safety Management)**:**	Not regulated under PSM standard (29 CFR 1910.119).
	15.1.3	**EPA EPCRA** (EPA Emergency Planning and Community Right-to-know Act)**:**	Not listed on Extremely Hazardous Substances and Their Threshold Planning Quantities. (Appendix A to 40 CFR Part 355)
	15.1.4	**EPA TSCA** (Toxic Substance Control Act)**:**	All components are listed or exempted. TSCA 12(b): This product is not subject to export notification.
	15.1.5	**EPA CERCLA** (Comprehensive Environmental Response, Compensation, and Liability Act):	Reportable Quantity (RQ) under CERCLA: 5000 lbs. (1643 gallons).
	15.1.6	**EPA FIFRA** (Federal Insecticide, Fungicide, Fungicide, and Rodenticide Act):	Not regulated under FIFRA.
	15.1.7	**EPA RMP** (Risk Management Plan):	Not regulated under RMP. (40 CFR 68.130)
15.2	**State of California Regulations:**		
	15.2.1	**CDPR** (California Department of Pesticide Regulation):	Registration No: 10897-50008-AA (spray adjuvant)
	15.2.2	**CalARP** (California Accidental Release Prevention):	Not regulated.
15.3	**Canada Regulations:**		
	15.3.1	**WHMIS** (Workplace Hazardous Materials Information System):	WHMIS classification: D1A - Poisonous and infectious material - Immediate and serious effects - Very toxic E - Corrosive Materials
	15.3.2	**DSL** (Domestic Substances List):	All components of this product are on the DSL.
15.4	**International Inventory:**		
	15.4.1	**AICS** (Australian Inventory of Chemical Substances):	On inventory or in compliance with inventory.
	15.4.2	**KECI** (Korean Existing Chemicals Inventory):	On inventory or in compliance with inventory.
	15.4.3	**PICCS** (Philippine Inventory of Chemicals and Chemical Substances)**:**	On inventory or in compliance with inventory.
	15.4.4	**IECSC** (Inventory of Existing Chemical Substances in China):	On inventory or in compliance with inventory.
	15.4.5	**NZIoC** (New Zealand Inventory of Chemicals):	On inventory or in compliance with inventory.

SECTION 16: OTHER INFORMATION

16.1	**HMIS III** (Hazardous Materials Identification System):		
	16.1.1	**HEALTH**	**3**
	16.1.2	**FLAMMABILITY**	**0**
	16.1.3	**PHYSICAL HAZARD**	**1**
16.2	**NFPA 704** (National Fire Protection Association):		
	16.2.1	**Health**	**3**
	16.2.2	**Flammability**	**0**
	16.2.3	**Instability**	**0**
	16.2.4	**Special**	None
16.3	**International Fire Code / International Building Code:**		Corrosive Liquid.
16.4	**ANSI** (American National Standards Institute):		
	16.4.1	**Hazardous Industrial Chemicals -** MSDSs-Preparation:	Complies with **ANSI Z400.1 – 2004**.
	16.4.2	**Hazardous Industrial Chemicals -** Precautionary Labeling:	Complies with **ANSI Z129.1 – 2006**.
16.5	**GHS** (Globally Harmonized System)**:**		
	16.5.1	**GHS Classification:**	Acute Toxicity (Inhalation Category 3)
	16.5.2	**GHS Symbol:**	
	16.5.3	**GHS Signal Word:**	Danger
	16.5.4	**GHS Hazard Statement:**	Toxic if inhaled.
16.6	**GHS** (Globally Harmonized System)**:**		
	16.6.1	**GHS Classification:**	Serious Eye Damage / Eye Irritation (Category 1)
	16.6.2	**GHS Symbol:**	
	16.6.3	**GHS Signal Word:**	Danger
	16.6.4	**GHS Hazard Statement:**	Causes severe skin burns and eye damage.

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Note: To convert concentrations in air (at 25°C) from ppm to mg/m^3: mg/m^3 = (ppm) × (molecular weight of the compound)/(24.45). For hydrochloric acid: 1 ppm = 1.49 mg/m^3.