

COMPANY IDENTITY: CSD/STARTEX  
PRODUCT IDENTITY: MURIATIC ACID  
NEW MSDS DATE: 11/01/2007

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#### MATERIAL SAFETY DATA SHEET

This Material Safety Data Sheet conforms to the requirements of ANSI Z400.1, using the International Chemical Safety Cards of the Global Harmonizing System.

THIS MSDS COMPLIES WITH 29 CFR 1910.1200 (HAZARD COMMUNICATION STANDARD)

IMPORTANT: Read this MSDS before handling & disposing of this product.

Pass this information on to employees, customers, & users of this product.

#### SECTION 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND COMPANY

PRODUCT IDENTITY: MURIATIC ACID  
COMPANY IDENTITY: CSD/STARTEX  
COMPANY ADDRESS: P O BOX 3087  
COMPANY CITY: CONROE, TX 77305  
COMPANY PHONE: 1-936-228-0865  
CHEMTREC PHONE: 1-800-424-9300

#### SECTION 2. COMPOSITION/INFORMATION ON INGREDIENTS

CONTAINS: 65-75% WATER (7732-18-5)  
25-35% HYDROCHLORIC ACID (7647-01-0)[231-595-7],  
Number in parentheses is CAS #, number in brackets is European EC #.

#### SECTION 3. HAZARDS IDENTIFICATION

##### RISK STATEMENTS:

R35 Cause severe burns.  
R36/37/38 Irritating to eyes, respiratory system and skin.  
R23 Toxic by inhalation.

##### SAFETY STATEMENTS:

S36/37/39 Wear suitable protective clothing, gloves and eye/face protection.  
S9 Keep container in a well-ventilated place.  
S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
S45 In case of accident, or if you feel unwell, seek medical advice immediately. (Show the label where possible).  
S62 If swallowed, do not induce vomiting; seek medical advice immediately and show this container or label.

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#### SECTION 4. FIRST AID MEASURES

##### EYE CONTACT:

For eyes, flush with plenty of water for 15 minutes & get medical attention.

##### SKIN CONTACT:

In case of contact with skin immediately remove contaminated clothing.  
Wash thoroughly with soap & water. Wash contaminated clothing before reuse.

##### INHALATION:

After high vapor exposure, remove to fresh air. If breathing is difficult, give oxygen. If breathing has stopped, trained personnel should immediately begin artificial respiration. If the heart has stopped, trained personnel should immediately begin cardiopulmonary resuscitation (CPR).

##### SWALLOWING:

Rinse mouth. Do NOT induce vomiting. GET MEDICAL ATTENTION IMMEDIATELY.  
Do NOT give liquids to an unconscious or convulsing person.

#### SECTION 5. FIRE FIGHTING MEASURES

##### FIRE & EXPLOSION PREVENTIVE MEASURES

Not applicable.

##### EXTINGUISHING MEDIA

In case of fire in surroundings, use appropriate extinguishing media.

##### SPECIAL FIRE FIGHTING PROCEDURES

Water spray may be ineffective on fire but can protect fire-fighters & cool closed containers. Use fog nozzles if water is used.  
Do not enter confined fire-space without full bunker gear.  
(Helmet with face shield, bunker coats, gloves & rubber boots).  
Use NIOSH approved positive-pressure self-contained breathing apparatus.

##### UNUSUAL EXPLOSION AND FIRE PROCEDURES

Noncombustible.

Reacts with most metals producing hydrogen which is extremely flammable & may explode. Applying to hot surfaces requires special precautions.  
Closed containers may explode from pressure if exposed to extreme heat.

#### SECTION 6. ACCIDENTAL RELEASE MEASURES

##### PERSONAL PROTECTIVE MEASURES:

EVACUATE DANGER AREA! Consult an expert!  
Keep unprotected personnel away.  
Use complete chemical protective suit with self-contained breathing apparatus.

##### CONTAINMENT AND CLEAN-UP MEASURES:

Stop spill at source. Dike and contain.  
Collect leaking & spilled liquid in sealable containers as far as possible.

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#### SECTION 7. HANDLING AND STORAGE

##### HANDLING

Use only with adequate ventilation. Avoid breathing of vapor or spray mist. Do not get in eyes, on skin or clothing. Wear OSHA Standard full face shield. Consult Safety Equipment Supplier. Wear gloves, apron & footwear impervious to this material. Wash clothing before reuse. NEVER pour water into this substance. When dissolving or diluting, always add it slowly to the water.

##### STORAGE

Keep separated from strong oxidants, strong bases, combustible & reducing substances, metals. Keep cool. Keep dry. Keep inside a well-ventilated room. Do not store above 49 C/120 F. Keep container tightly closed & upright when not in use to prevent leakage. Reacts with most metals producing hydrogen which is extremely flammable & may explode. Wear full face shield, gloves & full protective clothing when opening or handling. When empty, drain completely, replace bungs securely.

#### SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION:

##### RESPIRATORY EXPOSURE CONTROLS

A respiratory protection program that meets OSHA 29 CFR 1910.134 and ANSI Z86.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant a respirator's use.

##### VENTILATION

LOCAL EXHAUST	: Necessary
MECHANICAL (GENERAL)	: Necessary
SPECIAL	: None
OTHER	: None

Please refer to ACGIH document, "Industrial Ventilation, A Manual of Recommended Practices", most recent edition, for details.

##### PERSONAL PROTECTIONS:

Wear OSHA Standard full face shield. Consult Safety Equipment Supplier. Wear gloves, apron & footwear impervious to this material. Wash clothing before reuse.

##### WORK & HYGIENIC PRACTICES:

Provide readily accessible eye wash stations & safety showers. Wash at end of each workshift & before eating, smoking or using the toilet. Promptly remove clothing that becomes contaminated. Destroy contaminated leather articles. Launder or discard contaminated clothing.

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#### SECTION 9. PHYSICAL DATA

APPEARANCE :	Liquid, Water-White
ODOR :	Sharp, acid
BOILING RANGE :	81 100 110 C / 178 212 230 F
AUTO IGNITION TEMPERATURE :	Not Applicable
LOWER FLAMMABLE LIMIT IN AIR (% by vol):	Not Applicable
FLASH POINT (TEST METHOD):	Not Applicable
FLAMMABILITY CLASSIFICATION:	Non-Combustible
GRAVITY @ 68/68 F / 20/20 C :	
SPECIFIC GRAVITY (Water=1) :	1.160
POUNDS/GALLON :	9.663
VOC'S (>0.44 Lbs/Sq In) :	0.0 Vol. % / 0.0 g/L / 0.000 Lbs/Gal
TOTAL VOC'S (TVOC) :	0.0 Vol. % / 0.0 g/L / 0.000 Lbs/Gal
NONEXEMPT VOC'S (CVOC) :	0.0 Vol. % / 0.0 g/L / 0.000 Lbs/Gal
HAZARDOUS AIR POLLUTANTS (HAPS) :	100.0 Wt. % / 1160.0 g/L / 9.662 Lbs/Gal
VAPOR PRESSURE (mm of Hg)@20 C	15.8
NONEXEMPT VOC PARTIAL PRESSURE (mm of Hg @ 20 C)	0.0
VAPOR DENSITY (air=1) :	1.0
WATER ABSORPTION :	Complete
pH (Neutrality) :	0.0

#### SECTION 10. STABILITY & REACTIVITY

##### STABILITY

Stable but Reacts with most metals producing hydrogen which is extremely flammable & may explode.

##### CONDITIONS TO AVOID

Isolate from oxidizers, alkalis, heat, & open flame.

##### MATERIALS TO AVOID

The substance is a strong acid, reacts violently with bases and is corrosive. Reacts violently with strong oxidants, forming toxic gas (chlorine). Reacts violently with strong bases, causing fire & explosion hazard. Attacks many metals, forming flammable/explosive gas (hydrogen).

##### HAZARDOUS DECOMPOSITION PRODUCTS

Hydrogen Chloride, Phosgene from heating.

##### HAZARDOUS POLYMERIZATION

Will not occur.

#### SECTION 11. TOXICOLOGICAL INFORMATION

MATERIAL	CAS #	TWA (OSHA)	TLV (ACGIH)	HAP
Water	7732-18-5	None Known	None Known	No
Hydrochloric Acid	7647-01-0	5 ppm	2 ppm	Yes

Each component showing 'Yes' under "HAP" is an EPA Hazardous Air Pollutant.

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SECTION 11. TOXICOLOGICAL INFORMATION (CONTINUED)

MATERIAL	CAS #	CEILING	STEL (OSHA/ACGIH)
Hydrochloric Acid	7647-01-0	None Known	5 ppm

ACUTE HAZARDS

EYE & SKIN CONTACT:

Severe burns to skin, defatting, dermatitis.  
Severe burns to eyes, redness, tearing, blurred vision.  
Liquid can cause Severe skin & eye burns. Wash thoroughly after handling.

INHALATION:

Severe respiratory tract irritation may occur. Vapor harmful.

SWALLOWING:

Harmful or fatal if swallowed.  
The symptoms of chemical pneumonitis may not show up for a few days.

SUBCHRONIC HAZARDS/CONDITIONS AGGRAVATED

CONDITIONS AGGRAVATED

Persons with severe skin, liver or kidney problems should avoid use.

CHRONIC HAZARDS

CANCER, REPRODUCTIVE & OTHER CHRONIC HAZARDS:

This product has no carcinogens listed by IARC, NTP, NIOSH, OSHA or ACGIH, as of this date, greater or equal to 0.1%.

TERATOGENICITY:

Embryo or Fetus: Stunted fetus, Inhalation, rat:  
TCLO = 450 mg/m<sup>3</sup>/hour  
Specific Developmental Abnormalities: homeostatis, inhalation, rat:  
TCLO = 450 mg/m<sup>3</sup>/hour

MUTAGENICITY:

Cytogenetic analysis: Hamster, lung = 30 mmol/L  
Cytogenetic analysis: Hamster, ovary = 8 mmol/L

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#### SECTION 12. ECOLOGICAL INFORMATION

##### MAMMALIAN INFORMATION:

Hydrochloric Acid:  
LD50 (ORAL)(Rat): > 90 mL/kg  
LC50 (Inhalation) (Mouse): 1108 ppm / 1 hour  
LD50 (SKIN) (Rabbit): 900 mg/kg

##### AQUATIC ANIMAL INFORMATION:

Hydrochloric Acid:  
Fish: Bluegill/Sunfish: 3.6 mg/L/48 hours: Lethal (unspecified)

##### ENVIRONMENTAL:

Rapidly hydrolyzes when exposed to water. Will exhibit extensive evaporation from soil surfaces. Upon transport through soil, hydrochloric acid will dissolve some soil materials (especially those with carbonate bases) and the acid will neutralize to some degree.

##### MOBILITY

This material is a mobile liquid.

##### DEGRADABILITY

This product is partially biodegradable.

##### ACCUMULATION

This product does not accumulate or biomagnify in the environment.

#### SECTION 13. DISPOSAL CONSIDERATIONS

Chemical waste generators must determine whether the discarded chemical is classified as a hazardous waste. US EPA guidelines for classification determination are listed in 40 CFR Part 261.3. Processing, use or contamination may change the waste management options. Recycle / dispose of observing national, regional, state, provincial and local health, safety & pollution laws. If in doubt, contact appropriate agencies.

#### SECTION 14. TRANSPORT INFORMATION

IF CONTAINER HAS > PRODUCT RQ (SEE SECTION 15) PUT "RQ," BEFORE SHIPPING NAME.  
DOT SHIPPING NAME: Hydrochloric acid,8,UN1789,PG-II  
DRUM LABEL: (CORROSIVE)  
IATA / ICAO: Hydrochloric acid,8,UN1789,PG-II  
IMO / IMDG: Hydrochloric acid,8,UN1789,PG-II  
EMERGENCY RESPONSE GUIDEBOOK NUMBER: 154

#### SECTION 15. REGULATORY INFORMATION

##### EPA REGULATION:

SARA SECTION 311/312 HAZARDS: Acute Health

All components of this product are on the TSCA list.  
SARA Title III Section 313 Supplier Notification  
This product contains the indicated <\*> toxic chemicals subject to the reporting requirements of Section 313 of the Emergency Planning & Community Right-To-Know Act of 1986 & of 40 CFR 372. This information must be included in all MSDSs that are copied and distributed for this material.

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SECTION 15. REGULATORY INFORMATION (CONTINUED)

SARA TITLE III INGREDIENTS	CAS#	WT. % (REG. SECTION)	RQ(LBS)
*Hydrochloric Acid	7647-01-0	25 (302,311,312,313)	5000

> 5000 LB / 2273 KG OF THIS PRODUCT IN 1 CONTAINER EXCEEDS THE "RQ" OF HYDROCHLORIC ACID.

Any release equal to or exceeding the RQ must be reported to the National Response Center (800-424-8802) and appropriate state and local regulatory agencies as described in 40 CFR 302.6 and 40 CFR 355.40 respectively. Failure to report may result in substantial civil and criminal penalties. State & local regulations may be more restrictive than federal regulations.

INTERNATIONAL REGULATIONS

The components of this product are listed on the chemical inventories of the following countries:  
Australia, Canada, China, Europe (EINECS), Japan, Korea, United Kingdom.

SECTION 16. OTHER INFORMATION

HAZARD RATINGS:

HEALTH (NFPA): 3, HEALTH (HMIS): 3, FLAMMABILITY: 0, REACTIVITY: 0  
This information is intended solely for the use of individuals trained in the NFPA & HMIS hazard rating systems.

EMPLOYEE TRAINING

See Section 3 for Risk & Safety Statements. Employees should be made aware of all hazards of this material (as stated in this MSDS) before handling it.

NOTICE

The supplier disclaims all expressed or implied warranties of merchantability or fitness for a specific use, with respect to the product or the information provided herein, except for conformation to contracted specifications. All information appearing herein is based upon data obtained from manufacturers and/or recognized technical sources. While the information is believed to be accurate, we make no representations as to its accuracy or sufficiency. Conditions of use are beyond our control, and therefore users are responsible for verifying the data under their own operating conditions to determine whether the product is suitable for their particular purposes and they assume all risks of their use, handling, and disposal of the product. Users also assume all risks in regards to the publication or use of, or reliance upon, information contained herein. This information relates only to the product designated herein, and does not relate to its use in combination with any other material or process.