# SAFETY DATA SHEET

## 1. Identification

| | |
|---|---|
| **Product identifier** | **Muriatic Acid (5-15%)** |
| **Other means of identification** | Sierra Muriatic acid, Hydrochloric acid |
| **Recommended use** | Hydrochloric acid is used as a neutralizing agent and as a chemical reagent in the large-scale production of other chemicals. |
| **Recommended restrictions** | None known. |

**Manufacturer/Importer/Supplier/Distributor information**

| | |
|---|---|
| **Company name** | Carus Corporation |
| **Address** | 315 5th Street<br>Peru, Illinois 61354, USA |
| **Telephone** | (815) 223-1500 |
| **Toll Free** | (800) 435-6856 |
| **Fax** | (815) 224-6816 |
| **E-mail** | salesmkt@caruscorporation.com |
| **Website** | www.caruscorporation.com |
| **Company name** | Alexander Chemical Corporation, a Carus Group Inc. Company |
| **Address** | 7593 S. First Road,<br>Kingsbury Industrial Park, Kingsbury, Indiana 46345, USA |
| **Website** | www.alexanderchemical.com |
| **Company name** | Sierra Chemical Co, a Carus Group Inc. Company |
| **Address** | 2302 Larkin Circle<br>Sparks, Nevada 89431, USA |
| **Website** | www.sierrachemsales.com |
| **Contact person** | Dr. Chithambarathanu Pillai |
| **Telephone** | (800) 348-8827 - All other non-emergency inquiries about the product should be directed to the company |
| **Emergency telephone number** | For Hazardous Materials [or Dangerous Goods] Incidents ONLY<br><br>(spill, leak, fire, exposure or accident), call CHEMTREC at<br>CHEMTREC®, USA: 001 (800) 424-9300<br>CHEMTREC®, Mexico (Toll-Free - must be dialed from within country):<br>001-800-13-203-9987<br>CHEMTREC®, Other countries: 001 (703) 527-388 |

## 2. Hazard(s) identification

| | | |
|---|---|---|
| **Physical hazards** | Corrosive to metals | Category 1 |
| **Health Hazards** | Skin corrosion/irritation | Category 1 |
| | Serious eye damage/eye irritation | Category 1 |
| | Specific Target Organ Toxicity, Single Exposure | Category 3 respiratory tract irritation |

**OSHA defined hazards** Not classified.

**Label elements**

**Signal word** Danger

**Hazard statement** Causes severe skin burns and eye damage. May be corrosive to metals. May cause respiratory irritation.

**Precautionary statement**

| | |
|---|---|
| **Prevention** | Keep only in original container. Do not breathe mist or vapor. Wash thoroughly after handling. Use only outdoors or in a well-ventilated area. Wear protective gloves/protective clothing/eye protection/face protection. |
| **Response** | If swallowed: Rinse mouth. Do NOT induce vomiting. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center/doctor. Wash contaminated clothing before reuse. Absorb spillage to prevent material damage. |
| **Storage** | Store in a well-ventilated place. Keep container tightly closed. Store locked up. Store in corrosive resistant container with a resistant inner liner. |
| **Disposal** | Dispose of contents/container in accordance with local/regional/national/international regulations. |

**Hazard(s) not otherwise classified (HNOC)** None known.

## 3. Composition/information on ingredients

**Mixtures**

| Chemical name | CAS number | % |
|---|---|---|
| Hydrochloric acid | 7647-01-0 | 5-15% |

**Composition comments** All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

## 4. First-aid measures

**Inhalation** Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

**Skin contact** Take off immediately all contaminated clothing. Rinse skin with water/shower. Call a physician or poison control center immediately. Chemical burns must be treated by a physician. Wash contaminated clothing before reuse.

**Eye contact** Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.

**Ingestion** Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.

**Most important symptoms/effects, acute and delayed** Burning pain and severe corrosive skin damage. Irritation of nose and throat. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. May cause respiratory irritation. Coughing.

**Indication of immediate medical attention and special treatment needed** Provide general supportive measures and treat symptomatically. Chemical burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim under observation. Symptoms may be delayed.

**General information** Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

## 5. Fire-fighting measures

**Suitable extinguishing media** Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).

**Unsuitable extinguishing media** Do not use water jet as an extinguisher, as this will spread the fire.

**Specific hazards arising from the chemical** Hydrogen chloride gas.

**Special protective equipment and precautions for firefighters** Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

**Fire fighting equipment/instructions** Move containers from fire area if you can do so without risk.

**Specific methods** Use standard firefighting procedures and consider the hazards of other involved materials.

## 6. Accidental release measures

**Personal precautions, protective equipment and emergency procedures**

Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

**Methods and materials for containment and cleaning up**

This product is miscible in water. Should not be released into the environment.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb spillage to prevent material damage. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Prevent entry into waterways, sewer, basements or confined areas. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

**Environmental precautions**

Prevent further leakage or spillage if safe to do so. Do not contaminate water. Avoid discharge into drains, water courses or onto the ground.

## 7. Handling and storage

**Precautions for safe handling**

Do not breathe mist or vapor. Do not get in eyes, on skin, or on clothing. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

**Conditions for safe storage, including any incompatibilities**

Store locked up. Store in a cool, dry place out of direct sunlight. Store in corrosive resistant container with a resistant inner liner. Keep only in the original container. Refrigeration recommended. Store away from incompatible materials (see Section 10 of the SDS).

## 8. Exposure controls/personal protection

**Occupational exposure limits**

**US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)**

| Components | Type | Value |
|---|---|---|
| Hydrochloric acid (CAS 7647-01-0) | Ceiling | 7 mg/m3 |
| | | 5 ppm |

**US. ACGIH Threshold Limit Values**

| Components | Type | Value |
|---|---|---|
| Hydrochloric acid (CAS 7647-01-0) | Ceiling | 2 ppm |

**US. NIOSH: Pocket Guide to Chemical Hazards**

| Components | Type | Value |
|---|---|---|
| Hydrochloric acid (CAS 7647-01-0) | Ceiling | 7 mg/m3 |
| | | 5 ppm |

**Biological limit values**

No biological exposure limits noted for the ingredient(s).

**Appropriate engineering controls**

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.

**Individual protection measures, such as personal protective equipment**

**Eye/face protection**

Chemical respirator with organic vapor cartridge and full facepiece.

**Skin protection**

**Hand protection**

Wear appropriate chemical resistant gloves. Neoprene or butyl rubber gloves are recommended. Suitable gloves can be recommended by the glove supplier. Be aware that the liquid may penetrate the gloves. Frequent change is advisable.

**Other**

Wear appropriate chemical resistant clothing.

**Respiratory protection**

Chemical respirator with organic vapor cartridge and full facepiece.

| | |
|---|---|
| **Thermal hazards** | Wear appropriate thermal protective clothing, when necessary. |
| **General hygiene considerations** | Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. |

## 9. Physical and chemical properties

| | |
|---|---|
| **Appearance** | |
| **Physical state** | Liquid. |
| **Form** | Liquid. |
| **Color** | Colorless. |
| **Odor** | Pungent. Hydrogen chloride gas. |
| **Odor threshold** | Not available. |
| **pH** | < 1 |
| **Melting point/freezing point** | Not available. |
| **Initial boiling point and boiling range** | 144 - 183 |
| **Flash point** | -87.0 - -63.0 °F (-66.1 - -52.8 °C) |
| **Evaporation rate** | Not available. |
| **Flammability (solid, gas)** | Not available. |
| **Upper/lower flammability or explosive limits** | |
| **Flammability limit - lower (%)** | Not available. |
| **Flammability limit - upper (%)** | Not available. |
| **Explosive limit - lower (%)** | Not available. |
| **Explosive limit - upper (%)** | Not available. |
| **Vapor pressure** | 17 mm Hg |
| **Vapor density** | Not available. |
| **Relative density** | 1.01 - 1.16 |
| **Solubility(ies)** | |
| **Solubility (water)** | Completely soluble in water. |
| **Partition coefficient (n-octanol/water)** | Not available. |
| **Auto-ignition temperature** | Not available. |
| **Decomposition temperature** | Not available. |
| **Viscosity** | Not available. |

## 10. Stability and reactivity

| | |
|---|---|
| **Reactivity** | Reacts violently with strong alkaline substances. This product may react with reducing agents. May be corrosive to metals. |
| **Chemical stability** | Material is stable under normal conditions. |
| **Possibility of hazardous reactions** | No dangerous reaction known under conditions of normal use. |
| **Conditions to avoid** | Avoid temperatures exceeding the flash point. Do not mix with other chemicals. Contact with incompatible materials. |
| **Incompatible materials** | Bases. Strong oxidizing agents. Reducing agents. Metals. Amines. |
| **Hazardous decomposition products** | No hazardous decomposition products are known. |

## 11. Toxicological information

**Information on likely routes of exposure**

| | |
|---|---|
| **Inhalation** | May cause irritation to the respiratory system. |
| **Skin contact** | Causes severe skin burns. |
| **Eye contact** | Causes serious eye damage. |

**Ingestion** Causes digestive tract burns.

**Symptoms related to the physical, chemical and toxicological characteristics** Burning pain and severe corrosive skin damage. Irritation of nose and throat. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. May cause respiratory irritation. Coughing.

**Information on toxicological effects**

**Acute toxicity** May cause respiratory irritation.

| Components | Species | Test Results |
|---|---|---|
| Hydrochloric acid (CAS 7647-01-0) | | |
| **Acute** | | |
| *Inhalation* | | |
| LC50 | Rat | 3124 mg/l, 1 Hours |
| *Oral* | | |
| LD50 | Rabbit | 900 mg/kg |

**Skin corrosion/irritation** Causes severe skin burns and eye damage.

**Serious eye damage/eye irritation** Causes serious eye damage.

**Respiratory or skin sensitization**

**Respiratory sensitization** Not available.

**Skin sensitization** This product is not expected to cause skin sensitization.

**Germ cell mutagenicity** No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

**Carcinogenicity** This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

**IARC Monographs. Overall Evaluation of Carcinogenicity**

Hydrochloric acid (CAS 7647-01-0) 3 Not classifiable as to carcinogenicity to humans.

**OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)**

Not listed.

**Reproductive toxicity** This product is not expected to cause reproductive or developmental effects.

**Specific target organ toxicity - single exposure** May cause respiratory irritation.

**Specific target organ toxicity - repeated exposure** Not classified.

**Aspiration hazard** Not available.

## 12. Ecological information

**Ecotoxicity** Because of the low pH of this product, it would be expected to produce significant ecotoxicity upon exposure to aquatic organisms and aquatic systems.

| Components | | Species | Test Results |
|---|---|---|---|
| Hydrochloric acid (CAS 7647-01-0) | | | |
| **Aquatic** | | | |
| Fish | LC50 | Western mosquitofish (Gambusia affinis) | 282 mg/l, 96 hours |

**Persistence and degradability** No data is available on the degradability of this product.

**Bioaccumulative potential** No data available.

**Mobility in soil** No data available.

**Other adverse effects** No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

## 13. Disposal considerations

**Disposal instructions** Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Dispose of contents/container in accordance with local/regional/national/international regulations.

**Local disposal regulations** Dispose in accordance with all applicable regulations.

**Hazardous waste code** D002: Waste Corrosive material [pH <=2 or =>12.5, or corrosive to steel]
The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

| | |
|---|---|
| **Waste from residues / unused products** | Dispose of in accordance with local regulations. |
| **Contaminated packaging** | Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied. |

## 14. Transport information

**DOT**

| | |
|---|---|
| **UN number** | UN1789 |
| **UN proper shipping name** | Hydrochloric acid |
| **Transport hazard class(es)** | |
| **Class** | 8 |
| **Subsidiary risk** | - |
| **Label(s)** | 8 |
| **Packing group** | II |
| **Special precautions for user** | Read safety instructions, SDS and emergency procedures before handling. |
| **Special provisions** | A3, A6, B3, B15, IB2, N41, T8, TP2, TP12 |
| **Packaging exceptions** | 154 |
| **Packaging non bulk** | 202 |
| **Packaging bulk** | 242 |

**IATA**

| | |
|---|---|
| **UN number** | UN1789 |
| **UN proper shipping name** | Hydrochloric acid |
| **Transport hazard class(es)** | |
| **Class** | 8 |
| **Subsidiary risk** | - |
| **Label(s) Packing** | 8 |
| **group Environmental** | II |
| **hazards ERG Code** | No.<br>8L |
| **Special precautions for user** | Read safety instructions, SDS and emergency procedures before handling. |

**IMDG**

| | |
|---|---|
| **UN number** | UN1789 |
| **UN proper shipping name** | HYDROCHLORIC ACID |
| **Transport hazard class(es)** | |
| **Class** | 8 |
| **Subsidiary risk** | - |
| **Label(s) Packing** | 8 |
| **group Environmental hazards** | II |
| **Marine pollutant** | No. |
| **EmS** | F-A, S-B |
| **Special precautions for user** | Read safety instructions, SDS and emergency procedures before handling. |

| | |
|---|---|
| **Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** | This product is a liquid and when transported in bulk is covered under MARPOL 73/78 Annex II.<br>This product is listed in the IBC Code.<br>Ship type: 3<br>Pollution category: Z |

## 15. Regulatory information

**US federal regulations**

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
All components are on the U.S. EPA TSCA Inventory List.

**TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)**

Not regulated.

**OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)**

Not listed.

**CERCLA Hazardous Substance List (40 CFR 302.4)**

Hydrochloric acid (CAS 7647-01-0) LISTED

**Superfund Amendments and Reauthorization Act of 1986 (SARA)**

**Hazard categories** Immediate Hazard - Yes
Delayed Hazard - No
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

**SARA 302 Extremely hazardous substance**

| Chemical name | CAS number | Reportable quantity | Threshold planning quantity | Threshold planning quantity, lower value | Threshold planning quantity, upper value |
|---|---|---|---|---|---|
| Hydrochloric acid | 7647-01-0 | Not listed | | | |

**SARA 311/312 Hazardous chemical** Yes

**SARA 313 (TRI reporting)**

| Chemical name | CAS number | % by wt. |
|---|---|---|
| Hydrochloric acid (aerosol forms only) | 7647-01-0 | 31-37 |

**Other federal regulations**

**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Hydrochloric acid (CAS 7647-01-0)

**Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)**

Hydrochloric acid (CAS 7647-01-0) (only >37%)

**Safe Drinking Water Act (SDWA)** Not regulated.

**Drug Enforcement Administration (DEA). List 2, Essential Chemicals (21 CFR 1310.02(b) and 1310.04(f)(2) and Chemical Code Number**

Hydrochloric acid (CAS 7647-01-0) 6545

**Drug Enforcement Administration (DEA). List 1 & 2 Exempt Chemical Mixtures (21 CFR 1310.12(c))**

Hydrochloric acid (CAS 7647-01-0) 20 %WV

**DEA Exempt Chemical Mixtures Code Number**

Hydrochloric acid (CAS 7647-01-0) 6545

**US state regulations**

**US. Massachusetts RTK - Substance List**

Hydrochloric acid (CAS 7647-01-0)

**US. New Jersey Worker and Community Right-to-Know Act**

Hydrochloric acid (CAS 7647-01-0)

**US. Pennsylvania Worker and Community Right-to-Know Law**

Hydrochloric acid (CAS 7647-01-0)

**US. Rhode Island RTK**

Hydrochloric acid (CAS 7647-01-0)

**US. California Proposition 65**

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

**International Inventories**

| Country(s) or region | Inventory name | On inventory (yes/no)* |
|---|---|---|
| United States & Puerto Rico | Toxic Substances Control Act (TSCA) Inventory | Yes |

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

## 16. Other information, including date of preparation or last revision

**Issue date** 21-May-2015

**Revision date** -

**Version #** 01

**NFPA ratings**


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