

## SAFETY DATA SHEET

### SECTION 1: Identification of the substance/mixture and of the company/undertaking

#### 1.1 Product identifiers

|              |                                |
|--------------|--------------------------------|
| Product name | Hydrochloric Acid 12N Solution |
| CAS number   | 7647-01-0                      |
| Synonyms     | Muriatic Acid                  |

#### 1.2 Relevant identified uses of the substance or mixture and uses advised against

|                 |                       |
|-----------------|-----------------------|
| Identified uses | Laboratory chemicals. |
|-----------------|-----------------------|

#### 1.3 Details of the supplier of the safety data sheet

|           |                                                                            |
|-----------|----------------------------------------------------------------------------|
| Company   | Lab Alley, LLC<br>12501 Pauls Valley Road<br>Austin, Texas 78737<br>U.S.A. |
| Telephone | 512-668-9918                                                               |
| Fax       | 512-886-4008                                                               |

#### 1.4 Emergency telephone

|                   |                              |          |
|-------------------|------------------------------|----------|
| Emergency Phone # | US & Canada: 1-800-535-5053  | INFOTRAC |
|                   | International 1-352-323-3500 | INFOTRAC |

### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

##### GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

|                                                    |            |
|----------------------------------------------------|------------|
| Corrosive to Metals                                | Category 1 |
| Skin Corrosion/Irritation                          | Category 1 |
| Serious Eye Damage/Eye Irritation                  | Category 1 |
| Specific Target Organ Toxicity - (single exposure) | Category 3 |
| Target Organ(s) - Respiratory system               |            |

## 2.2 GHS Label elements, including precautionary statements

Pictogram



Signal Word

Danger

Hazard statements

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

Precautionary statements

Prevention: Do not breathe dust/fume/gas/mist/vapors/spray. Wash hands, face, and any exposed skin thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection. Use only outdoors or in a well-ventilated area. Keep only in original container.

Response: Immediately call a POISON CENTER or doctor/physician.

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

IF ON SKIN (or hair): Take off all contaminated clothing immediately. Rinse skin with water/shower. Wash contaminated clothing before re-use.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

Spills: Absorb spillage to prevent material damage.

Storage: Store locked up in a dry, well-ventilated place in a tightly closed, corrosive-resistant polypropylene container with a resistant liner.

Disposal: Dispose of contents/container to an approved waste disposal plant.

## 2.3 Hazards not otherwise classified (HNOC) or not covered by GHS

None identified.

## SECTION 3: Composition/information on ingredients

### 3.1 Components

| Chemical name     | Common name and synonyms | CAS number | Concentration |
|-------------------|--------------------------|------------|---------------|
| Water             | H <sub>2</sub> O; Aqua   | 7732-18-5  | 55-60%        |
| Hydrochloric acid | Muriatic Acid            | 7647-01-0  | 40-45%        |

## SECTION 4: First aid measures

### 4.1 Description of first-aid measures

#### General advice

|                                |                                                                                                                                                                                                                                                                                                                                |
|--------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>If inhaled</b>              | Remove to fresh air. If not breathing, give artificial respiration. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Immediate medical attention is required. |
| <b>In case of skin contact</b> | Wash off immediately with plenty of water for at least 15 minutes. Immediate medical attention is required.                                                                                                                                                                                                                    |
| <b>In case of eye contact</b>  | Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Immediate medical attention required.                                                                                                                                                                                                 |
| <b>If swallowed</b>            | Do NOT induce vomiting. Call a physician or poison control center immediately.                                                                                                                                                                                                                                                 |

### 4.2 Most important symptoms and effects, both acute and delayed

Causes burns by all exposure routes. Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Ingestion causes swelling, severe damage to delicate tissue, and danger of perforation.

### 4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

|                                       |                                                                                       |
|---------------------------------------|---------------------------------------------------------------------------------------|
| <b>Suitable extinguishing media</b>   | Substance is nonflammable; use agent most appropriate to extinguish surrounding fire. |
| <b>Unsuitable extinguishing media</b> | No information available.                                                             |

### 5.2 Specific hazards arising from the substance or mixture

Corrosive material. Causes burns by all exposure routes. Thermal decomposition can lead to release of irritating gases and vapors.

Hazardous Combustion Products: Hydrogen chloride gas, Carbon monoxide (CO), Carbon dioxide (CO<sub>2</sub>), Hydrogen.

### 5.3 Special protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

### 5.4 Further information

**Flash Point** No information available.

**Autoignition Temperature** No information available.

#### Explosion limits

**Upper** No data available.

**Lower** No data available.

**Sensitivity to Mechanical Impact** No information available.

**Sensitivity to Static Discharge** No information available.

#### NFPA

| Health | Flammability | Instability | Physical hazards |
|--------|--------------|-------------|------------------|
| 3      | 0            | 1           | N/A              |

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment as required. Ensure adequate ventilation. Evacuate personnel to safe areas.

### 6.2 Environmental precautions

Should not be released into the environment.

### 6.3 Methods and materials for containment and cleaning up

Soak up with inert absorbent material. Keep in suitable, closed containers for disposal.

### 6.4 Reference to other sections

See Section 2 for full list of hazard and precaution statements. See Section 12 for additional Ecological Information.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

### Precautions on safe handling

Use only under a chemical fume hood. Ensure adequate ventilation. Wear personal protective equipment. Do not get in eyes, on skin, or on clothing. Do not breathe vapors or spray mist. Do not ingest.

### Hygiene measures

Handle in accordance with good industrial hygiene and safety practice.

## 7.2 Conditions for safe storage, including any incompatibilities

### Storage conditions

Keep containers tightly closed in a dry, cool, and well-ventilated place.

### Incompatibilities

Metals, Oxidizing agents, Reducing agents, Acids, Bases, Aldehydes.

## SECTION 8: Exposure controls/personal protection

### 8.1 Occupational exposure limits

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

| Component         | Type              | Value |         |
|-------------------|-------------------|-------|---------|
| Hydrochloric acid | Ceiling           | 5 ppm | 7 mg/m3 |
|                   | (Vacated) Ceiling | 5 ppm | 7 mg/m3 |

#### US. ACGIH Threshold Limit Values

| Component         | Type | Value |
|-------------------|------|-------|
| Hydrochloric acid | TLV  | 2 ppm |

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

| Component         | Type    | Value  |         |
|-------------------|---------|--------|---------|
| Hydrochloric acid | IDLH    | 50 ppm |         |
|                   | Ceiling | 5 ppm  | 7 mg/m3 |

#### Biological occupational exposure limits

No information available.

### 8.2 Exposure controls

#### Appropriate engineering controls

Use only under a chemical fume hood. Ensure that eyewash stations and safety showers are close to the workstation location.

#### Personal protective equipment

##### Eye/face protection

Wear appropriate protective eyeglasses or chemical safety goggles, as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN 166.

#### **Skin protection**

Wear appropriate protective gloves and clothing to prevent skin exposure.

#### **Body Protection**

Wear appropriate protective gloves and clothing to prevent skin exposure.

#### **Respiratory protection**

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

#### **Control of environmental exposure**

No information available.

## **SECTION 9: Physical and chemical properties**

### **9.1 Information on basic physical and chemical properties**

|                                           |                          |
|-------------------------------------------|--------------------------|
| Physical State                            | Liquid                   |
| Appearance                                | Colorless                |
| Odor                                      | Pungent                  |
| Odor Threshold                            | No information available |
| pH                                        | No information available |
| Melting Point/Range                       | No information available |
| Boiling Point/Range                       | No information available |
| Evaporation Rate                          | No information available |
| Flammability (solid)                      | Not applicable           |
| Flammability or explosive limit           | No information available |
| Upper                                     |                          |
| Lower                                     |                          |
| Vapor Pressure                            | No information available |
| Vapor Density                             | No information available |
| Density                                   | No information available |
| Solubility                                | Soluble in water         |
| Partition coefficient;<br>n-octanol/water | No data available        |
| Autoignition Temp                         | No information available |
| Decomposition Temp                        | No information available |
| Viscosity                                 | No information available |
| Molecular Formula                         | HCl                      |
| Molecular Weight                          | 36.46 g/mol              |
| VOC Content(%)                            | No information available |

Oxidizing properties

No information available

## 9.2 Other safety information

No information available.

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

No known reaction hazards, based on information available.

### 10.2 Chemical stability

Stable under normal conditions. Water reactive.

### 10.3 Possibility of hazardous reactions

Contact with metals may evolve flammable hydrogen gas. Corrosive to metals.

### 10.4 Conditions to avoid

Incompatible materials, excess heat, exposure to moist air or water.

### 10.5 Incompatible materials

Metals, Oxidizing agents, Reducing agents, Acids, Bases, Aldehydes.

### 10.6 Hazardous decomposition products

Hydrogen chloride gas, Carbon monoxide (CO), Carbon dioxide (CO<sub>2</sub>), Hydrogen.

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Product Information, Component Information

##### Acute toxicity

| Component         | LD50 Oral           | LD50 Dermal         | LC50 Inhalation    |
|-------------------|---------------------|---------------------|--------------------|
| Hydrochloric acid | 238-277 mg/kg (Rat) | 5010 mg/kg (Rabbit) | 1.68 mg/L (Rat) 1h |

##### Skin corrosion/irritation

Causes burns by all exposure routes.

##### Serious eye damage/eye irritation

Causes burns by all exposure routes.

##### Respiratory or skin sensitization

Causes burns by all exposure routes.

##### Germ cell mutagenicity

Mutagenic effects have occurred in experimental animals.

**Carcinogenicity**

| Component         | CAS       | IARC    | NTP        | ACGIH      | OSHA       | Mexico     |
|-------------------|-----------|---------|------------|------------|------------|------------|
| Hydrochloric acid | 7647-01-0 | Group 3 | Not listed | Not listed | Not listed | Not listed |

**Specific target organ toxicity - single exposure**

Respiratory system.

**Specific target organ toxicity - repeated exposure**

None known.

**Reproductive toxicity**

Experiments have shown reproductive toxicity effects on laboratory animals.

**Chronic effects**

Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Ingestion causes severe swelling, severe damage to delicate tissue, and danger of perforation.

**11.2 Additional Information**

The toxicological properties have not been fully investigated. See actual entry in RTECS for complete information.

**SECTION 12: Ecological information****12.1 Toxicity**

Do not empty into drains.

| Product           |      | Species         | Test Results  |
|-------------------|------|-----------------|---------------|
| Hydrochloric acid | LC50 | Freshwater Fish | 282 mg/L 96 h |

**12.2 Persistence and degradability**

Persistence is unlikely based on information available.

**12.3 Bio accumulative potential**

No information available.

**12.4 Mobility in soil**

Will likely be mobile in the environment due to its water solubility.

**12.5 Results of PBT and vPvB assessment**

No information available.

**12.6 Endocrine disrupting properties**

No information available.

**12.7 Other adverse effects**

No information available.

## SECTION 13: Disposal considerations

### 13.1 Waste Disposal Methods

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

## SECTION 14: Transport information

### DOT (US)

|                      |                   |
|----------------------|-------------------|
| UN no.               | UN1789            |
| Proper Shipping Name | HYDROCHLORIC ACID |
| Hazard Class         | 8                 |
| Packing Group        | II                |

### IMDG

|                      |                   |
|----------------------|-------------------|
| UN no.               | UN1789            |
| Proper Shipping Name | Hydrochloric acid |
| Hazard Class         | 8                 |
| Packing Group        | II                |

### IATA

|                      |                   |
|----------------------|-------------------|
| UN no.               | UN1789            |
| Proper Shipping Name | Hydrochloric acid |
| Hazard Class         | 8                 |
| Packing Group        | II                |

## SECTION 15: Regulatory information

**US federal regulations** This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

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

Not applicable.

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

Listed, Hydrochloric acid (CAS# 7647-01-0), RQ: 5000 lb.

### SARA 304 Emergency release notification

Not regulated.

### OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not regulated.

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

### **SARA 302 Extremely hazardous substance**

Not listed.

### **SARA 311/312 Hazardous**

See Section 2 for more information.

### **SARA 313 (TRI reporting)**

Not regulated.

## **Other federal regulations**

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

Listed, Hydrochloric acid (CAS# 7647-01-0).

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

Listed, Hydrochloric acid (CAS# 7647-01-0), RQ: 15000 lb.

### **Safe Drinking Water Act**

Not regulated.

### **FEMA Priority Substances Respiratory Health and Safety in the Flavor Manufacturing Workplace**

Not listed.

## **US state regulations**

### **US. Massachusetts RTK - Substance List**

Listed, Hydrochloric acid (CAS# 7647-01-0).

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

Listed, Hydrochloric acid (CAS# 7647-01-0).

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

Listed, Hydrochloric acid (CAS# 7647-01-0).

### **California Proposition 65**

Not listed.

## **SECTION 16: Other information**

Issue date: 09/29/2025

## **SECTION 17: Disclaimer**

The information provided on this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.