# Safety Data Sheet

For INDIA, According to GHS (Rev. 8)

## HYDROCHLORIC ACID

Date of compilation: 18-08-2026 | Revised: 18-08-2026 | Version: 1

## SECTION 1: IDENTIFICATION

**1.1 GHS Product identifier:**

HYDROCHLORIC ACID
Muriatic Acid
**CAS:** 7647-01-0

**Other means of identification:**

Formula: HCl (aqueous solution)

**1.2 Recommended use of the chemical and restrictions on use:**

Relevant uses: Manufacture of chlorinated organic chemicals, dyes and dye intermediates, leather tanning, ore refining, rubber industry, pH correction and descaling. For industrial user only.

Uses advised against: All uses not specified in this section or in section 7.3.

**1.3 Supplier's details:**

**SURAJ CHEMICALS**
No 92, Govindappa Naicken Street, Shiva Complex, Chennai – 600001, Tamil Nadu, India
Tel: +91 - 7092722822, +91 - 9840284032 / +91 - 44 - 25393652, 42130281
Email: sales@surajchemicals.com | Website: www.surajchemicals.com
GST No: 33ACEPV8190L1ZZ

**1.4 Emergency phone number:**

Emergency Contact No: +91 - 7092722822, +91 - 9840284032

## SECTION 2: HAZARDS IDENTIFICATION

**2.1 Classification of the substance or mixture:**

**GHS:**
Classification of this product has been carried out in accordance with the Globally Harmonized System of Classification and Labelling of Chemicals (GHS), using the well-established public/harmonised classification for Hydrochloric Acid (CAS 7647-01-0) consistent with the source data (Corrosive Substance, Class 8):

| | |
|---|---|
| Skin Corr. 1B | Skin corrosion, Category 1B, H314 |
| STOT SE 3 | Respiratory tract irritation, single exposure, Category 3, H335 |

**2.2 GHS label elements, including precautionary statements:**

**GHS: Danger**

**Hazard statements:**

Skin Corr. 1B: H314 – Causes severe skin burns and eye damage.
STOT SE 3: H335 – May cause respiratory irritation.

**Precautionary statements:**

P260: Do not breathe mist/vapours/fumes.
P264: Wash hands thoroughly after handling.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P301+P330+P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303+P361+P353: IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310: Immediately call a POISON CENTER/doctor.
P405: Store locked up.
P501: Dispose of contents/container in accordance with local regulations on hazardous waste.

**2.3 Other hazards which do not result in classification:**

Non-combustible, but decomposes at high temperature (approx. 1000°C) into chlorine and hydrogen gases.

## SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

**3.1 Substances:**

**Chemical description:** Hydrochloric Acid, aqueous solution

In accordance with Annex 4.3.3 of the GHS, the product contains:

| Identification | Chemical Name / Classification | Concentration |
|---|---|---|
| CAS: 7647-01-0 | Hydrochloric Acid (Hydrogen Chloride, aqueous) — Skin Corr. 1B: H314; STOT SE 3: H335 – Danger | Technical/commercial grade (typically 30–35%) |
| — | Water (solvent) | Balance |

*To obtain more information on the hazards of the substances, consult sections 11, 12 and 16.*

**3.2 Mixtures:**

Aqueous solution – see composition table above.

## SECTION 4: FIRST AID MEASURES

**4.1 Description of necessary first-aid measures:**

Request medical assistance immediately, showing the SDS of this product.

**By inhalation:**

Move the victim to fresh air. If not breathing, give artificial respiration. Obtain medical attention immediately.

**By skin contact:**

Flush affected area with plenty of running water and obtain medical attention immediately.

**By eye contact:**

Flush affected area with plenty of running water and obtain medical attention immediately.

**By ingestion/aspiration:**

Have victim rinse mouth thoroughly with water. Have victim drink large amounts of water. Never give anything by mouth to an unconscious person. Obtain medical attention immediately.

**4.2 Most important symptoms/effects, acute and delayed:**

May cause irritation and burns to skin and eyes; may cause severe damage in case of eye splashes. Inhalation of vapours/mist may produce severe irritation of the upper respiratory tract. Can burn the mouth and digestive tract if swallowed.

**4.3 Indication of immediate medical attention and special treatment needed, if necessary:**

Not relevant. Treat as chemical burn.

## SECTION 5: FIRE-FIGHTING MEASURES

**5.1 Suitable extinguishing media:**

**Suitable:** Product is non-combustible; use extinguishing media appropriate for the surrounding fire.
**Unsuitable:** None known (not applicable/product is non-combustible).

**5.2 Specific hazards arising from the chemical:**

Non-combustible, but decomposes at higher temperatures into chlorine and hydrogen. Reacts with many metals to liberate flammable hydrogen gas.

**5.3 Special protective actions for fire-fighters:**

Wear self-contained breathing apparatus set and full protective clothing.

**Additional provisions:**

Cool fire-exposed containers with water spray from a safe distance.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

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

**For non-emergency personnel:**

Avoid skin and eye contact. Avoid inhaling fumes. Use appropriate personal protective equipment.

**For emergency responders:**

Wear protective equipment. Keep unprotected persons away.

**6.2 Environmental precautions:**

Avoid generating fumes. Prevent material entering sewers or confined spaces.

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

Contain the spill. Small acid spillage should be neutralised using soda ash and/or lime and flushed with a large quantity of water. Ample ventilation should be provided at the place.

**6.4 Reference to other sections:**

See sections 8 and 13.

## SECTION 7: HANDLING AND STORAGE

**7.1 Precautions for safe handling:**

**A. General precautions for safe use:**

Avoid contact with skin and eyes. Wear personal protective equipment. Avoid generating fumes/mists. Proper ventilation is required.

**B. Technical recommendations for the prevention of fires and explosions:**

Not applicable – product is non-combustible; avoid contact with reactive metals that may liberate flammable hydrogen gas.

**C. Technical recommendations on general occupational hygiene:**

Avoid direct contact or vapour inhalation. Wash hands thoroughly before eating, drinking or using the toilet. Do not eat or smoke in the work area.

**D. Technical recommendations to prevent environmental risks:**

Avoid generating fumes and discharge to drains/watercourses.

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

**A. Specific storage requirements:**

| | |
|---|---|
| Storage area | Cool, clean and well-ventilated area |
| Note | Keep away from direct sunlight |

**B. General conditions for storage:**

Store in acid-resistant (HDPE/PP/rubber-lined) containers, away from bases, reducing agents, metals and combustible materials.

**7.3 Specific end use(s):**

Except for the instructions already specified, it is not necessary to provide any special recommendation regarding the uses of this product.

## SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

**8.1 Control parameters:**

| Identification | Occupational Exposure Limit Type | Value |
|---|---|---|
| Hydrogen Chloride<br>CAS: 7647-01-0 | Time Weighted average concentration (8 hrs) (ACGIH TLV-Ceiling) | 2 ppm |
| | Short-term exposure limit | Not established for this grade |

**8.2 Appropriate engineering controls:**

Adequate ventilation. Avoid fume and mist generation. Use personal protective equipment.

**B. Respiratory protection:**

Anti-acid fumes respirator.

**C. Specific protection for the hands:**

Rubber gloves.

**D. Eye and face protection:**

Chemical goggles, face shield.

**E. Bodily protection:**

Rubber or PVC apron/suit along with gum boots.

**F. Additional emergency measures:**

Emergency shower and eyewash stations should be available.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

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

| Appearance | |
|---|---|
| Physical state at 20°C | Liquid |
| Color | Colourless |

| | |
|---|---|
| Odor | Pungent |
| **Volatility** | |
| Boiling point | 108°C |
| Freezing point | Approx. -42°C (technical/commercial grade) |
| Evaporation rate | Not applicable |
| **Product Description** | |
| Vapour density (Air=1) | 1.27 |
| pH | Acidic (<1) |
| Solubility in water | Miscible |
| Conductivity | Not known |
| Volatiles | Non-volatile (as solution) |
| **Flammability** | |
| Flash Point (Closed Cup) | Not applicable |
| Flammability (solid, gas) | Not applicable |
| Explosive properties | Not applicable |

**9.2 Other information:**

| | |
|---|---|
| Stability | Separates into chlorine and hydrogen if heated to around 1000°C |
| Corrosive to metals | Yes – reactive with most metals and their alloys |

## SECTION 10: STABILITY AND REACTIVITY

**10.1 Reactivity:**

Reactive with most metals and their alloys, bases, alkalis, unsaturated organic products, reducing agents, carbides, explosives, etc.

**10.2 Chemical stability:**

The product separates into chlorine and hydrogen if heated to around 1000°C; otherwise stable under recommended storage conditions.

**10.3 Possibility of hazardous reactions:**

Reacts with active metals to liberate flammable hydrogen gas; reacts violently with strong bases and oxidisers.

**10.4 Conditions to avoid:**

| Shock/Friction | Contact with Air | Increase in Temperature | Sunlight | Humidity |
|---|---|---|---|---|
| Not applicable | Not applicable | Decomposes at high temperature | Keep away from direct sunlight | Not applicable |

**10.5 Incompatible materials:**

| Bases / Alkalis | Reducing Agents | Carbides / Explosives | Reactive Metals |
|---|---|---|---|
| Avoid direct contact | Avoid direct contact | Avoid direct contact | Avoid contact (liberates hydrogen) |

**10.6 Hazardous decomposition products:**

Chlorine gas is liberated on decomposition at high temperature.

## SECTION 11: TOXICOLOGICAL INFORMATION

**11.1 Information on toxicological effects:**

In case of exposure that is repetitive, prolonged, or at concentrations higher than the recommended occupational exposure limits, adverse health effects may result depending on the means of exposure:

**A. Ingestion (acute effect):**

Can burn mouth and digestive tract.

**B. Inhalation (acute effect):**

Inhalation of vapours or mist may produce severe irritation of the upper respiratory tract.

**C. Contact with skin and eyes (acute effect):**

May cause irritation and burns. May cause severe damage in case of eye splashes.

**D. CMR effects (carcinogenicity, mutagenicity, reproductive toxicity):**

Classification criteria are not met based on available data.

**E. Sensitizing effects:**

Not known to be a skin or respiratory sensitiser.

**F. Specific target organ toxicity (STOT) – single exposure:**

May cause respiratory irritation.

**G. Specific target organ toxicity (STOT) – repeated exposure:**

Classification criteria are not met based on available data.

**H. Aspiration hazard:**

Classification criteria are not met based on available data.

**Product-specific toxicological information:**

| Identification | Acute Toxicity | Genus |
|---|---|---|
| Hydrochloric Acid<br>CAS: 7647-01-0 | LD50 oral: 900 mg/kg | Rabbit |

## SECTION 12: ECOLOGICAL INFORMATION

**Toxic to aquatic organisms; strongly acidic.**

**12.1 Toxicity:**

Ecotoxicity: Toxic. No further product-specific aquatic toxicity data available from the source; effects on aquatic life are principally due to pH depression.

**12.2 Persistence and degradability:**

Not determined

**12.3 Bioaccumulative potential:**

Not determined

**12.4 Mobility in soil:**

| | | | |
|---|---|---|---|

| Koc | Henry | Dry Soil | Moist Soil |
|---|---|---|---|
| Not relevant | Not relevant | No | No |

**12.5 Results of PBT and vPvB assessment:**

Non-applicable

**12.6 Other adverse effects:**

Behaviour in sewage: Not known

## SECTION 13: DISPOSAL CONSIDERATIONS

**13.1 Disposal methods:**

Neutralization with alkaline material (e.g. soda ash or lime) is usually required before disposal. Refer to national and local regulations on waste management for its disposal.

## SECTION 14: TRANSPORT INFORMATION

**Transport of dangerous goods by land (ADR/RID):**

| | |
|---|---|
| 14.1 UN number | UN1789 |
| 14.2 UN proper shipping name | HYDROCHLORIC ACID |
| 14.3 Transport hazard class(es) | 8 |
| 14.4 Packing group | II |
| 14.5 Environmental hazard | No |
| 14.6 Special precautions for user | Physico-chemical properties: see section 9 |
| 14.7 Transport in bulk | Not relevant |

**Transport of dangerous goods by sea (IMDG):**

| | |
|---|---|
| 14.1 UN number | UN1789 |
| 14.2 UN proper shipping name | HYDROCHLORIC ACID |
| 14.3 Transport hazard class(es) | 8 (IMDG Page No.: 8102) |
| 14.4 Packing group | II |
| 14.5 Marine pollutant | No |
| 14.6 Special precautions for user | Not relevant |
| 14.7 Transport in bulk | Not relevant |

**Transport of dangerous goods by air (IATA/ICAO):**

| | |
|---|---|
| 14.1 UN number | UN1789 |
| 14.2 UN proper shipping name | HYDROCHLORIC ACID |
| 14.3 Transport hazard class(es) | 8 |
| 14.4 Packing group | II |
| 14.5 Environmental hazard | No |
| 14.6 Special precautions for user | Not relevant |
| 14.7 Transport in bulk | Not relevant |

## SECTION 15: REGULATORY INFORMATION

**15.1 Safety, health and environmental regulations specific for the product in question:**

It is recommended to use the information included in this safety data sheet as data used in a risk evaluation of local circumstances, in order to establish the necessary risk prevention measures for the manipulation, use, storage and disposal of this product.

**Other legislation:**

Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989
The Factories Act, 1948 (Act No. 63 of 1948), as amended by the Factories (Amendment) Act, 1987 (Act 20 of 1987)
IS 6164 – 1971 Code of Safety for Hydrochloric Acid
ITC Classification: 28061000

## SECTION 16: OTHER INFORMATION

**Legislation related to safety data sheets:**

This safety data sheet has been designed in accordance with Annex 4 – Guidance on the preparation of Safety Data Sheets of the Globally Harmonized System of Classification and Labelling of Chemicals (GHS).

**Texts of the legislative phrases mentioned in sections 2 and 3:**

H314: Causes severe skin burns and eye damage.
H335: May cause respiratory irritation.

*The phrases indicated do not refer to the product itself; they are present merely for informative purposes and refer to the individual components which appear in section 3.*

**Advice related to training:**

Minimal training is recommended to prevent industrial risks for staff using this product, in order to facilitate their comprehension and interpretation of this safety data sheet, as well as the label on the product.

**Principal bibliographical sources:**

Original manufacturer's Material Safety Data Sheet (Grasim Industries Limited); IS 6164–1971; CHEMINFO of the Canadian Centre for Occupational Health and Safety; well-established public GHS classification data for CAS 7647-01-0.

**Abbreviations and acronyms:**

ADR: European agreement concerning the international carriage of dangerous goods by road | IMDG: International maritime dangerous goods code | IATA: International Air Transport Association | ICAO: International Civil Aviation Organisation | LD50: Lethal Dose 50 | TLV: Threshold Limit Value | ACGIH: American Conference of Governmental Industrial Hygienists



**END OF SAFETY DATA SHEET**