ITTEHAD CHEMICALS LIMITED

Doc. # HCl-TDS-02	Rev. # 00	Effective Date: 01.01.2026

TITLE: TECHNICAL DATA SHEET (TDS) FOR HYDROCHLORIC ACID

SECTION ①: PRODUCT INFORMATION

Name	CAS #	Chemical Formula	Molar Mass	Boiling Point	Melting Point	Hazard Pictogram
Hydrogen Chloride Water (33.0 – 35.0 %)	7647-01-0	HCl	36.46 g/mol	83.0°C (31% HCl)	-46.2°C (31% HCl)	

SECTION ②: SPECIFICATIONS

Appearance	HCl %	Density at 25°C g/cc	Iron (Fe) ppm	Free Chlorine ppm	SO_4^{-2} %
Slight Yellowish Clear Liquid	Min. 33.0	1.164 – 1.174	Max. 3.0	Max. 50.0	Max. 0.02

SECTION ③: APPLICATIONS

- Hydrochloric acid is used in textiles, steel and galvanizing industry, metal pickling, pharmaceuticals, synthetic rubber, metal chlorides manufacturing and PVC industry.
- It is used for the extraction of glue from bones for gelatin production.
- It is used for boilers cleaning and chemical water treatment not related to drinkable water supply.
- It is used in the production of dyestuffs, drugs and paints.
- It is used in sugar industry for the production of glucose from starch.
- It is also used as a laboratory reagent.

SECTION ④: HAZARD CLASSIFICATION

According to ADR and RID hydrochloric acid is classified in class 8 (corrosive) on the basis of its main hazardous properties. Hydrochloric acid UN: 1789, PG-II (Refrigerated Liquid) & UN: 2186, PG-II (Solution), Risk Phrases: R34 (Causes burns) & R37 (Irritating to respiratory system).
All further measures to be taken related to transportation can be determined in the knowledge of its hazard classification.

SECTION ⑤: HANDLING AND SAFETY MEASURES

Hydrochloric acid solution is stable at room temperature if kept sealed and away from bases, metals and metal oxides. The solution may develop a yellowish color with time due to traces of iron, chlorine or organic matter.

- It can cause severe and painful burns on contact with body or if taken internally.
- Severe inhalation contact may cause eye, nose, and respiratory tract irritation and swelling and pulmonary edema in humans.
- Acute oral exposure may cause corrosion of the mucous membranes, esophagus, and stomach and dermal contact may produce severe burns, ulceration, and scarring in humans.
- Use care when diluting hydrochloric solution. In addition, use proper personal protective equipment like face shield or splash goggles, protective suit, gloves, gum boots and approved/certified respirator.
- To extend the storage life of hydrochloric acid solution, store it in a cool, dry, well ventilated storage area with acid resistant floor and good drainage.

SECTION ⑥: PACKING AND TRANSPORT INFORMATION

Hydrochloric acid liquid (33.0 – 35.0 %) is delivered in rubber-lined steel tankers (Capacity: 10 – 30 MT) and HDPE carboys which are appropriate from the aspect of corrosion protection.

For more information about the material please visit website: www.ittehadchemicals.com/ and for MSDS visit: https://ittehadchemicals.com/wp-content/uploads/2022/02/MSDS-Hydrochloric-acid-.pdf