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HYDROCHLORIC ACID 50% (V/V) SOLUTION				

Section 1 – Chemical Product and Company Identification

1.1. Product identifier:

Hydrochloric Acid 50% (v/v) solution.

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

To be used as a sample preservative for analytical testing.

1.3. Details of the supplier of the safety data sheet:



ALS Laboratories (UK) Limited

Torrington Avenue,
Coventry, CV4 9GU

1.4. Emergency telephone number

T: +44 (0)24 7642 1213

F: +44 (0)24 7685 6575

Section 2 – Hazards Identification

2.1. Classification of the substance or mixture

Skin corrosion (Category 1B), H314

Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335

2.2. Label elements

Pictograms



Signal word: Danger

Hazard statement(s)

H314 Causes severe skin burns and eye damage.

H335 May cause respiratory irritation.

Precautionary statement(s)

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P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Supplemental Hazard Statements: none

Reduced labelling for packages where contents do not exceed 125ml is not applicable.

2.3. Other hazards - none

Section 3 – Composition, Information on Ingredients

3.2. Mixtures

Component	Hazards	Concentration
Hydrochloric acid 32-38%	H314, H335.	50%
Water	None.	50%

Section 4 – First Aid Measures

4.1. Description of first aid measures

Inhalation: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, give artificial respiration. Provide emergency airway support. If indicated, give 100% humidified supplemental oxygen. Get emergency medical attention as soon as possible.

Skin Contact: If this chemical contacts the skin, flush the contaminated skin with soap and plenty of water promptly for at least 15 minutes. If this chemical penetrates the clothing, promptly remove the clothing and flush the skin with soap and plenty of water. If irritation or pain persists, have a physician examine affected skin areas.

Eye Contact: If this chemical contacts the eyes, immediately wash the eyes with large amounts of room temperature water for at least 15 minutes, occasionally lifting the lower and upper lids. Get medical attention immediately and have the individual examined by an ophthalmologist.

Ingestion: If this chemical has been swallowed, do not attempt to make the person vomit. Do not give sodium bicarbonate in an attempt to neutralize the acid. This can result in an exothermic reaction and worsen the burn. Immediate dilution with water or milk may be beneficial. Get medical attention immediately.

4.2. Most important symptoms and effects, both acute and delayed:

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

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4.3. Indication of any immediate medical attention and special treatment needed
No data available.

Section 5 – Fire Fighting Measures

5.1. Extinguishing media: Use flooding amounts of water, dry chemical, or alcohol foam as appropriate to extinguish surrounding fire.

5.2. Special hazards arising from the substance or mixture: Adding water to hydrochloric acid solution could produce a violent exothermic reaction. Hydrochloric acid will react with most metals to form flammable hydrogen gas.

5.3. Advice for firefighters: Hydrochloric acid solution does not ignite readily. Keep unnecessary people away; isolate hazard area and deny entry. Avoid breathing vapors, stay upwind. Use acid proof full protective clothing and approved self-contained respirator.

Section 6 – Accidental Release Measures

6.1. Personal precautions, protective equipment and emergency procedures: Protect skin and eyes from spillages.

6.2. Environmental precautions: Prevent spills from entering waterways and sewers.

6.3. Methods and materials for cleaning up: Use a suitable absorbent. Use neutralizing agents if available. Collect into a container, close lid. Dispose as hazardous waste.

6.4. Reference to other sections. See suitable PPE in section 8.

Section 7 – Handling and Storage

7.1 Precautions for safe handling

Avoid inhalation of vapour or mist. Do not get into eyes, on skin, or on clothing.
For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Store in cool place. Product can react vigorously with alkalis and many organic materials. Product also reacts with most metals to form flammable hydrogen gas.

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

Section 8 – Exposure Controls, Personal Protection

8.1. Control parameters: Under EH40 (UK) STEL 5ppm, TWA 10ppm.

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8.2. Exposure controls: Eyes: Wear chemical splash goggles and/or face shield. Skin: Wear appropriate acid resistant gloves, apron, and/or clothing. Clothing: Wear appropriate clothing to prevent skin exposure.

Section 9 – Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Appearance White to yellow, clear liquid

Odor Strong, irritating odor

Odor Threshold 0.77 ppm (causes olfactory fatigue/adaptation)

Molecular Weight 36.46

Boiling Point 110° C

Melting Point Not Determined

Solubility Completely soluble in water

Specific Gravity (Water = 1.0) 1.17

Vapor Density (Air = 1.0) 0.75

Vapor Pressure 54 mm Hg at 20° C

pH <1

NOTE: The physical and chemical properties listed are for 34% Hydrochloric Acid Solution.

9.2. Other information

Section 10 – Stability and Reactivity

10.1. Reactivity: No data available.

10.2. Chemical stability: Stable under normal temperatures and pressures.

10.3. Possibility of hazardous reactions: Hazardous Polymerization: Has not been reported.

10.4. Conditions to avoid: Incompatible materials.

10.5. Incompatible materials: Alkaline materials and oxidizing agents; highly corrosive to most metals.

10.6. Hazardous decomposition products: Hydrochloric acid reacts with metals to form flammable hydrogen gas.

Section 11 – Toxicological Information

11.1. Information on toxicological effects:

Animal Toxicity

Oral: Rabbit LD50 900 mg/kg

Dermal:

Rabbit LD50 >5,010 mg/kg

Inhalation: Human LCLO 3,000 ppm (5 min)

Human LCLO 1,300 ppm (30 min)

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Rat LC50 3,124 ppm (1 hr)

Mouse LC50 1,108 ppm (1 hr)

LC50 - Air concentration that is lethal to 50% of a given species in a given period of time.

LCLO - Lowest air concentration that is lethal to a given species in a given period of time.

LDLO - Lowest lethal dose in a given species by a given route of exposure.

LD50 - Dose that is lethal to 50% of a given species by a given route of exposure.

Carcinogenicity: This product is not classified as a carcinogen by NTP, IARC, or OSHA.

Section 12 – Ecological Information

12.1. Toxicity: Material is slightly toxic to the aquatic organisms on an acute basis (LC50 between 10 and 100 ppm in most sensitive species). May cause pH shifts outside of the range of 5-10 standards units; this change may be toxic to aquatic organisms.

12.2. Persistence and degradability: Hydrogen chloride will dissociate almost completely in water. Hydrogen chloride is removed from air by wet deposition as chloride salts with an atmospheric lifetime of 1-5 days.

12.3. Bioaccumulative potential: No data available.

12.4. Mobility in soil: When hydrochloric acid is spilled to the soil, it will begin to infiltrate. The presence of water in the soil will influence the rate of chemical movement. During movement through the soil, hydrochloric acid will be neutralized to some degree.

12.5. Results of PBT and vPvB assessment: No data available.

12.6. Other adverse effects: Caution: Hydrochloric acid solutions may react violently with alkalis. Do not allow drainage into sewers, streams or storm conduits. Spills on areas other than pavement, such as dirt or sand may be handled by removing the affected soils and placing in approved containers.

Section 13 – Disposal Considerations

13.1. Waste treatment methods

Reuse or reprocess if possible. Do not dump into any sewers, on the ground, or into any body of water. Any disposal practice must be in compliance with regulations (contact environmental agency for specific rules). Waste characterisation and compliance with applicable laws are the responsibility of the waste generator.

Section 14 – Transport Information

14.1. UN number: 1789.

14.2. UN proper shipping name: Hydrochloric acid, solution.

14.3. Transport hazard class(es): 8.

14.4. Packing group: II.

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14.5. Environmental hazards: No.

14.6. Special precautions for user: As per section 7.

Section 15 – Regulatory Information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture:

CDG (Carriage of Dangerous Goods) Regulations

CLP (Chemicals, Labelling and Packaging) Regulations.

CoSHH (Control of Substances Hazardous to Health) regulations

Hazardous Waste Regulations

PPE Regulations

Workplace Exposure Limits EH40

15.2. Chemical safety assessment: For this product a chemical safety assessment was not carried out.

Section 16 – Other Information

16.1 Other information

Written by Paul Talbot.

16.2. Date of the latest revision of the SDS

See document header.