SAFETY DATA SHEET
10%
HYDROCHLORIC ACID

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. PRODUCT IDENTIFIER

Product name:	Hydrochloric Acid
Product No.:	HYDRO
CAS-No.:	7647-01-0
EC No.:	231-595-7
REACH No.:	01-2119484862-27
Synonym:	Muriatic acid, Spirits of salt, Hydronium chloride, Chlorhydric acid
Chemical Formula:	HCl

1.2. RELEVANT IDENTIFIED USES OF THE SUBSTANCE OR MIXTURE AND USES ADVISED AGAINST

Recommended use: Production of Vinyl chloride for PVC plastic;
In titrations to determine concentration of bases;
pH control and neutralisation;
Pickling of steel;
Rust removal;
Production of inorganic salts;
Regeneration of ion exchange resins;
Acid cleaners (toilet descalers etc).

1.3. DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET

HD Chemicals LTD
UNIT 9 Scott Business Park
PL2 2PB Plymouth UK

Contact Person responsible for SDS: Mr Peter Konefal, e-mail: contact@hdchemicals.co.uk

SECTION 2: HAZARDS IDENTIFICATION

2.1. CLASSIFICATION OF THE SUBSTANCE OR MIXTURE

Classification 67/548/EEC: C; R34

Xi; R36/37/38

Classification – EC 1272/2008: Skin Corrosion/irritation; Category 2 (H315)

Serious Eye Damage/Irritation; Category 2A (H319)

Specific target organ toxicity, single exposure; Respiratory tract irritation; Category 3 (H335)

2.2. LABEL ELEMENTS

SIGNAL WORDS

Warning

RISK PHRASES

R34	Causes burns
R36/37/38	Irritating to eyes, respiratory system and skin

HAZARD PHRASES

H315	Causes skin irritation
H319	Causes serious eye irritation
H335	May cause respiratory irritation

PROTECTION PHRASES

P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

SAFETY PHRASES

S2	Keep out of reach of children

S23	Do not breathe spray mist
S24/25	Avoid contact with eyes and skin
S26	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice
S28	After contact with skin, wash immediately with plenty of water
S36/37/39	Wear suitable protective clothing, gloves and eye face protection

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

67/548/EEC/1999/45/EC

Composition information – main constituents						
Substance name	**Mol. Formula**	**REACH**	**Typical conc. (%w/w)**	**EINECS No.**	**CAS-No.**	**Classification**
Hydrochloric Acid	HCl	01-2119484862-27	10%	231-595-7	7647-01-0	C; R34, Xi; R36/37/38

EC 1272/2008

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Hydrochloric Acid	HCl	01-2119484862-27	10%	231-595-7	7647-01-0	H315, H319, H335

SECTION 4: FIRST AID MEASURES

4.1. DESCRIPTION OF FIRST AID MEASURES

First-aid measures general: Consult a physician when you fell unwell. Show this safety data sheet to the doctor in attendance.

Inhalation: Move the exposed person to fresh air at once. If there is difficulty in breathing, give oxygen. If breathing stops or shows signs of failing, give artificial respiration. Obtain medical attention urgently.

Ingestion: Rinse mouth thoroughly and drink plenty of water. Get medical attention if any discomfort continues. Do not induce vomiting.

Skin contact: Remove all contaminated clothing. Wash immediately with plenty of water. If irritation persists seek medical advice.

Eye contact: Rinse immediately with plenty of water, lifting the eyelids and seek medical advice.

4.2. MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED

Inhalation: May cause coughing, choking and respiratory difficulties.

Ingestion: May cause burning of the throat and possible damage to internal organs.

Skin contact: Irritation leading to burns. Possible dermatitis.

Eye contact: Risk of serious damage to eyes.

4.3. INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED

Treat symptomatically.

SECTION 5: FIREFIGHTING MEASURES

5.1. EXTINGUISHING MEDIA

Suitable extinguishing media: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Use water spray, carbon dioxide (CO_2), dry chemical or alcohol foam.

Unsuitable extinguishing media: Water jet.

5.2. SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE

The product is non-flammable, but in a fire or if heated, a pressure increase will occur and the container may burst. Thermal decomposition can lead to release of irritating and toxic gases and vapours. Decomposition products may include the following materials: hydrogen chloride gas, carbon oxides.

5.3. ADVICE FOR FIRE-FIGHTERS

Wear full chemical protective clothing must be worn in case of fire and self-contained positive pressure breathing apparatus. Fight a fire from a reasonable distance.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

Wear suitable protective equipment (splash goggles, protective suit, boots, gloves and self-contained breathing apparatus) to prevent any contamination of skin, eyes and personal clothing. Ensure adequate ventilation of the working area. Avoid contact with skin and eyes. Avoid breathing vapours, mist or gas. Avoid formation of dust. Keep unprotected persons away. Evacuate personnel to a safe area.

For personal protection see section 8.1.

6.2. ENVIRONMENTAL PRECAUTIONS

Avoid release to the environment. Do not allow to enter sewers/ surface or ground water. Do not allow to enter into soil/subsoil. Prevent further leakage or spillage if safe to do so. Use appropriate container to avoid environmental contamination.

6.3. METHODS AND MATERIAL FOR CONTAINMENT AND CLEANING UP

Contain and absorb with sand or earth into appropriate sealable container for disposal. Wash away to drain with plenty of water.

SECTION 7: HANDLING AND STORAGE

7.1. PRECAUTIONS FOR SAFE HANDLING

Handle in accordance with good industrial hygiene and safety practice. Avoid formation of dust. Do not inhale dust/smoke/mist. Ensure adequate ventilation of the working area. Wear personal protective equipment. Avoid contact with eyes and skin. Do not eat or drink during the process, washing hands afterwards with suitable cleaning products. Remove contaminated clothing and shoes. Wash clothing before re-using. Avoid the formation or spread of mists in the air.

7.2. CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES

Keep in a cool, dry, well ventilated area. Keep in original tightly closed containers. Keep away from direct sunlight and other heat sources. Keep away from food and beverages. Protect from freezing and physical damage. Store away from incompatible materials.

7.3. SPECIFIC END USE(S)

See section 1.2.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. CONTROL PARAMETERS/EXPOSURE GUIDELINES

Occupational Exposure Limit Values (Hydrochloric Acid):

CAS NO	Exposure limit	Value	Name of Agent
7647-01-0	TWA – 8 Hrs	2 mg/m^3	acid
7647-01-0	STEL – 15 Min	8 mg/m^3	acid

Engineering controls: Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location. Wash hands before breaks and at the end of the working day. Keep away from direct sunlight and other heat sources. Keep away from food and beverages. Protect from freezing and physical damage. Store away from incompatible materials.


EYE PROTECTION


FACE SHIELD


RESPIRATOR


PROTECTION WEAR


HAND PROTECTION

Protective equipment: Use protective tightly fitting safety goggle (European standard - EN 166), gloves (European standard - EN 374) and long sleeved clothing to prevent skin, body and eyes exposure.

Respiratory equipment: Not required under normal conditions of use, but when necessary use a full-face particle respirator type N100 (US) or type P3 (EN 143).

Skin and body protection: Wear appropriate protective gloves and clothing to prevent skin exposure. The glove material has to be impermeable and resistant to the product.

Protective gloves should be replaced at first signs of wear. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact. Protective gloves made of rubber or PVC are recommend.

Eye/Face protection: Wear appropriate tightly fitting protective eye glasses, chemical splash goggles as described by EN166 or visor. Ensure eye bath is to hand.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Liquid
Colour:	Clear / light yellow
Odour:	Pungent
Initial boiling point (°C):	No data available
Melting point (°C):	-30°C
Freezing point:	No data available
Relative density:	1.2 g/cm^3
Specific gravity / density:	Not available
Vapour density:	Not available
Vapour pressure:	Not available
Flash point (°C):	Not available
Molecular mass:	36.46 g/mol
Auto-ignition temperature:	Not applicable
Oxidizing properties:	Not available
Decomposition temperature:	Not available
Molecular formula:	HCl

SECTION 10: STABILITY AND REACTIVITY

10.1. REACTIVITY

Hydrochloric Acid is stable under normal conditions of use, storage and transport.

10.2. CHEMICAL STABILITY

This product is stable under room temperature, normal conditions and under recommended usage and storage.

10.3. POSSIBILITY OF HAZARDOUS REACTIONS

When heated can decompose. May liberate toxic gases. See section 10.5.

10.4. CONDITIONS TO AVOID

Keep away from direct sunlight and other heat sources. Keep away from food and beverages. Protect from freezing and physical damage. Store away from incompatible materials.

10.5. INCOMPATIBLE MATERIALS

May liberate toxic gases. Materials to avoid: bases, amines, alkali metals, metals, permanganates, e.g. potassium permanganate, fluorine, metal acetylides, hexalithium disilicide.

10.6. HAZARDOUS DECOMPOSITION

The product is non-flammable, but in a fire or if heated, a pressure increase will occur and the container may burst. Thermal decomposition can lead to release of irritating and toxic gases and vapours. Decomposition products may include the following materials: hydrogen chloride gas, carbon oxides.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. INFORMATION ON TOXICOLOGICAL EFFECTS

TOXIC DOSE	**LD50 Oral – Rat – 238 – 277 mg/kg**
	LD50 Dermal – Rabbit – > 5010 mg/kg
Inhalation:	May cause coughing, choking and respiratory difficulties.
Ingestion:	May cause burning of the throat and possible damage to internal organs.
Skin contact:	Irritation leading to burns. Possible dermatitis.
Eye contact:	Risk of serious damage to eyes.

SECTION 12: ECOLOGICAL INFORMATION

12.1. TOXICITY

Aquatic Toxicity:

Toxicity to freshwater fish:	LC50: 282 mg/l, 96h (Mosquito fish)
Toxicity to water flea:	EC50: < 56 mg/l, 72h (Daphnia magna)

12.2. Persistence and degradability

The methods for determining the biological degradability are not applicable to inorganic substances.

12.3. Bioaccumulative potential

Not determined.

12.4. Mobility

Hydrochloric Acid is high mobility in soils.

12.5. Results of PBT and vPvB assessment

No data available.

12.6. Other adverse effects

May be harmful to aquatic organisms due to the shift of the pH. Do not empty into drains. Harmful effect due to pH shift. Discharge into the environment must be avoided.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste disposal recommendations: Disposal of hydrochloric acid should be in accordance with local and national legislation. Processing, use or contamination of this product may change the waste management options. No mixing with other waste. Dispose of any hazardous waste in accordance with waste disposal or water authority regulations. Should not be released into the environment. Containers can be recycled after thorough rinsing. Dispose of container and unused contents in accordance with applicable member state and local requirements.

Uncleaned packaging: Disposal must be made according to official regulations.

SECTION 14: TRANSPORT INFORMATION

IMDG

UN number	1789
UN proper shipping name	Hydrochloric Acid
Transport hazard class(es)	8
Packing group	II

ADR/RID

UN number	1789

UN proper shipping name	Hydrochloric Acid
Transport hazard class(es)	8
Packing group	II

IATA

UN number	1789
UN proper shipping name	Hydrochloric Acid
Transport hazard class(es)	8
Packing group	II

SECTION 15: REGULATORY INFORMATION

15.1. SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS/LEGISLATION SPECIFIC FOR THE SUBSTANCE OR MIXTURE

Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended).

Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended).

15.2 CHEMICAL SAFETY ASSESSMENT

No Chemical Safety Assessment has been carried out for this substance.

SECTION 16: OTHER INFORMATION

General information

The information contained in this safety data sheet is provided in accordance with the requirements of the regulations. The product should not be used for purposes other than those shown in section 1 without first referring to the supplier and obtaining written handling instruction. As the specific conditions of use of the product are outside the suppliers control, the user is responsible for ensuring that the requirements of relevant legislation are complied with.

Revision Comments

This information is provided in a revised format to that previously produced.

Revision Date: 01/10/2018

Revision: 01

Safety Data Sheet Status Approved.

Date printed 01/10/2018

Signature Initials P.K.

DISCLAIMER:

If this product is re-distributed and re-formulated for sale, details of its hazards and recommended methods for safe handling must be passed to customers. Customers are urged to ensure that the product is entirely suitable for their own purpose. It is the customer's responsibility to ensure that a suitable and sufficient assessment of the risks created by a work activity using this product is undertaken before this product is used.

NOTE:

The information contained in this Safety Data Sheet does not constitute the users own assessment of workplace risk as required by other Health & Safety Legislation (e.g. the Health and Safety at Work Act,1974;the control of Substances Hazardous to Health Regulations,1988). The data given here is based on current knowledge and experience. The purpose of this data sheet is to describe the products in terms of their safety requirements. The data does not signify any warranty with regard to the product's properties.