SAFETY DATA SHEET

HYDROCHLORIC ACID (HCl 32%)

SDS No. 004-11

1. CHEMICAL AND SUPPLIER IDENTIFICATION

CAS number: 7647-01-0 UN number: 1789 Common name of the substance: Hydrochloric acid Trade name: Hydrochloric acid Other name (not scientific name):	Name and address of manufacturer: VEDAN VIETNAM ENTERPRISE CORP., LTD. National Road 51, Hamlet 1A, Phuoc Thai village, Long Thanh District, Dong Nai Province, Vietnam Tel: (+84)251-3825111, Fax: (+84)251-3825138 Free Hotline: (+84)1800.599.902
Use purpose: Used in industrial and food	Contact address in case of emergency: VEDAN VIETNAM ENTERPRISE CORP., LTD. Tel: (+84)251-3825111, Free Hotline: (+84)1800.599.902

2. COMPOSITION/INFORMATION ON INGREDIENTS

Common name of the substance	CAS number	Chemical formula	Content (% by weight)
Hydrochloric acid	7647-01-0	HCl	32% ± 1%

3. HAZARDS IDENTIFICATION

a) Classification according to GHS (Regulation (EC) No 1272/2008)

- Corrosive to metals: Category 1
- Skin corrosive: Category 1B
- Eye damage: Category 1
- Specific target organ toxicity - single exposure: Category 3

b) Label elements according to GHS (Regulation (EC) No 1272/2008)

- Pictogram:

- Name of pictogram: Corrosion Exclamation mark

- Signal word Danger Warning

- Hazard Statement:
  - H290: May be corrosive to metals
  - H314: Causes severe skin burns and eye damage.

- H318: Causes serious eye damage
- H335: May cause respiratory irritation

- Precautionary Statement

❖ Prevention

- P234: Keep only in original packaging
- P260: Do not breathe dust/fume/ gas/mist/vapours/spray.
- P264: Wash hands thoroughly after handling.
- P280: Wear protective gloves/ protective clothing/eye protection/face protection/ hearing protection/…
- P271**:** Use only outdoors or in a well-ventilated area.

❖ Response

- P301 + P330 + P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
- P303 + P361 + P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
- P363: Wash contaminated clothing before reuse.
- P304 + P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.
- P310: Immediately call a POISON CENTER/doctor/…
- P321: Specific treatment (see supplemental first aid instruction on this label.
- P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P390: Absorb spillage to prevent material damage.
- P312**:** Call a POISON CENTER or doctor/physician if you feel unwell.

❖ Storage

- P405: Store locked up
- P406: Store in a corrosive resistant/... container with a resistant inner liner.
- P403 + P233: Store in a well-ventilated place. Keep container tightly closed.

❖ Disposal

- P501: Dispose of contents/container to the waste disposal site in accordance with local/regional/national/international regulations.

c) Other hazards: No information

4. FIRST-AID MEASURES

a) Measures relevant to the route of exposure:

- Accident in case of eye exposure (splashed, touched on the eyes): Rinse out with plenty of water for at least 10 minutes with the eyelid held wide open. Immediately summon eye specialist.

- Accident in case of skin exposure (touched on skin): Wash off with plenty of water. Dab with polyethylene glycol 400. Immediately remove contaminated clothing.
- Accident in case of respiration exposure (breathing hazardous chemicals under form of vapor, gas): Fresh air. Take to doctor.
- Accident in case of ingestion exposure (eating, drinking, swallowing chemicals): Make victim drink plenty of water (if necessary several litres), avoid vomiting (risk of perforation!). Take to doctor and ask doctor to wash the stomach.

b) Most important symptoms/effects, acute and delayed:

- Accident in case of eye exposure (splashed, touched on the eyes): burns, Risk of blindness!
- Accident in case of skin exposure (touched on skin): Burns.
- Accident in case of respiration exposure: Irritation symptoms in the respiratory tract.
- Accident in case of ingestion exposure (eating, drinking, swallowing chemicals):Damage of: mouth, oesophagus and gastrointestinal tract. Risk of perforation in the oesophagus and stomach. After a latency period: cardiovascular failure.

c) Indication of immediate medical attention and special treatment needed

- No data available.

5. FIRE-FIGHTING MEASURES

a) Suitable extinguishing media:

Using all available means for extinguishing a fire.

b) Toxic substances emitted from fires:

Ambient fire may liberate hazardous vapours. Hydrogen may form upon contact with light metals (danger of explosion!).

c) Special protective equipment and precautions for fire fighting:

Suitable extinguishing media: In adaption to materials stored in the immediate neighbourhood.Do not stay in dangerous zone without suitable chemical protection clothing and self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

a) Personal protective equipment and emergency procedures:

Comply with all relevant local and international regulations. Avoid contact with spilled or released material. Isolate hazardous areas and do not allow those who are not assigned or not protected in this area. Stand in area to a wind driven and avoid the low areas. Prevent leakage if possible and do not cause hazard. Remove all sources of ignition in the surrounding area. Use absorbable materials (product absorption or fire fighting water level) to avoid environmental contamination. Prevent from spreading or entering drains, ditches or rivers by using sand, soil, or other appropriate barriers. Try to disperse the vapor or direct its flow to a safe location. Inform the local authorities if the spill is not controlled.

b) Environmental precautions:

Leakage can cause pollution. Precautions should be taken to prevent from spreading or entering drains.

c) Methods and materials for containment and cleaning up:

The remaining corrosive substance is absorbed by soil, sand / other inert material. Then collect them in suitable containers for disposal. At the same time, ventilation is equipped to control the evaporation and dispersion of chemicals in the work area.

7. HANDLING AND STORAGE

a) Measures and requirements for safe handling (e.g., ventilation, only using in closed systems, using explosion-proof electrical equipment, internal transport, etc.):

Must have adequate and appropriate personal protective equipment

b) Measures and requirements for safe storage (e.g., temperature, arrangement, limits to sources of explosion and avoidance of storing some chemicals together, etc.):

- Acid must be stored at dry and cool place.
- Do not store in the same place with oxidizing agent or flammable substances.
- Do not stack this product during storage.
- Do not store in metal containers.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

a) Control parameters (e.g., occupational exposure limit values or biological limit values):

No information

b) Appropriate engineering controls:

Protective equipment should be selected specifically for the working place, depending on concentration and quantity of the hazardous substances handled. The resistance of the protective equipment to chemicals should be ascertained with the respective supplier.

c) Individual protection measures and personal protective equipment:

- Means of individual protection as working:
  - Eye protection: Use safety goggles.
  - Respiratory protection: Mask, gauze mask
  - Body protection: Suitable protective clothing.
  - Hand protection: Chemical-Resistant Gloves.
  - Foot protection: Chemical resistant shoes or boots.
- Immediately change contaminated clothing. Apply skin-protective barrier cream. Wash hands and face after working with substance.

9. PHYSICAL AND CHEMICAL PROPERTIES

a) Physical state: Liquid

b) Boil point (^{o}C): No information

c) Color: colourless to yellowish

d) Melting point (^{o}C): No information

đ) Particular odour: pungent

e) Flash point (^{o}C) by determination method: No information

g) Vapor pressure (mm Hg) at standard temperature, pressure: No information

h) Self-ignition temperature (^{o}C): No information

i) Specific gravity (15.6^{o}C): 1.158 – 1.168

k) Above limit of concentration of fire, explosion (% of mixture with air): No information

l) Solubility in water: Solubility in water (20 °C)

m) Below limit of concentration of fire, explosion (% of mixture with air): No information

n) pH value at (20 °C) < 1

o) Vapor percentage: No information

p) Density (kg/m^3): No information

q) Other property (if any): No information

10. CHEMICAL STABILITY AND REACTIVITY

a) Possibility of reactions

Reacts with incompatible materials.

b) Stability (heat resistance, sensitivity to the effects of friction, shock, etc.)

Stable under normal conditions of use and preservation.

c) Dangerous reactions (corrosion, fire, explosion…)
When heated to decomposition temperature will liberate Cl_2 gas and H_2 gas; this can be danger of explosion.

d) Conditions to avoid (Ex: electrostatic, vibration, shaking ...)

Heat source.

e) Incompatible materials: Aluminium, amines, carbides, hydrides, fluorine, alkali metals, metals, potassium permanganate, strong alkalis, salts of oxyhalogenic acids, conc. sulfuric acid, aldehydes, sulfides, lithium silicide, vinylmethyl ether, semimetallic oxides, semimetallic hydrogen compounds.

f) Decomposition reaction and products of the decomposition reaction:
When heated to decomposition temperature will liberate Cl_2 gas and H_2 gas; this can be danger of explosion.

11. TOXICOLOGICAL INFORMATION

- Accident in case of eye exposure (splashed, touched on the eyes): burns, Risk of blindness!
- Accident in case of skin exposure (touched on skin):Burns.
- Accident in case of respiration exposure: Irritation symptoms in the respiratory tract.
- Accident in case of ingestion exposure (eating, drinking, swallowing chemicals):Damage of: mouth, oesophagus and gastrointestinal tract. Risk of perforation in the oesophagus and stomach. After a latency period: cardiovascular failure.
- Further data: The product should be handled with the care usual when dealing with chemicals.

12. ECOLOGICAL INFORMATION

a) Ecotoxicity (aquatic and terrestrial):

Kind of creature	Result
Fish and plankton	Harmful effect due to pH shift.

b) Persistence and degradability: No information.

c) Bioaccumulative potential: No information.

d) Mobility in soil: No information.

đ) Other adverse effects: No information.

13. DISPOSAL CONSIDERATIONS

a) Information providing destruction (information of law):
Product:

- There are no uniform EC Regulations for the disposal of chemicals or residues. Chemical residues generally count as special waste. The disposal of the latter is regulated in the EC member countries through corresponding laws and regulations.
- Expired or deteriorated chemicals must be disposed of, and their destruction must comply with current regulations.

Packaging:

Disposal in compliance with official regulations. Handle contaminated packaging in the same way as the substance itself. If not officially specified differently, non-contaminated packaging may be treated like household waste or recycled.

b) Dangerous classification of waste: No information.

c) Disposal measures (including contaminated products and packing material)**:** Contact the authorities to handle.

d) Product of the process of destruction, treatment measures: No information.

14. TRANSPORT INFORMATION

a) UN number: 1789

b) Type, group of dangerous goods: 8

c) Packing standard:

When transport by car or by train, every container shall be protected with a suitable cage and under the container bottom shall be chocked with a soft chock.

d) Special warnings for user attention and compliance during shipping:

- Do not transport it with oxidant, especially chlorate and nitric acid.
- Do not transport dangerous chemicals with people, livestock and other goods
- The on – road transport means owners do not stop or park vehicles in public places.

15. REGULATORY INFORMATION

Shall comply with:

- Chemical Law No. 06/2007 / QH12 dated 21 November 2007.
- Decree No. 113/2017/ND-CP specifying and providing guidelines for implementation of certain articles of the law on chemicals.
- Circular No. 32/2017 / TT-BCT dated December 28, 2017 specifying and guiding the implementation of certain articles of the law on chemicals No. 06/2007 / QH12 and Decree No. 113/2017 / ND-CP.
- Decree 42/2020/ND-CP of April 08, 2020 on list of dangerous goods, transport of dangerous goods by land motor vehicles and transport of dangerous goods by inland waterways.
- Circular No. 09/2016 / TT-BKHCN dated June 9, 2016 of the Ministry of Science and Technology stipulates the order and procedures for granting transport permission of dangerous goods, which are

oxidizing substances and organic oxides (Class 5) and corrosive substances (Class 8) by road motor vehicles, railway and inland water transport.

- Labeling contents under the guidance of government's Decree No. 43/2017/NĐ-CP dated april 14, 2017 on goods labels and Decree No. 111/2021/NĐ-CP amendments to some articles of government's Decree No 43/2017/ND-CP dated april 14, 2017 on goods labels.
- 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.
- And other relevant legal documents.

16. OTHER NECESSARY INFORMATION

Date of compiling slip (dd/mm/yyyy): 28/02/2006

Latest date of modification, addition (dd/mm/yyyy): 14/02/2025

Name of compiling organization or individual:VEDAN VIETNAM ENTERPRISE CORP., LTD.

Note for reader:

The information in the chemical safety slip is compiled based on valid and latest knowledge and on dangerous chemicals and should be used to implement measures to prevent the risk, accidents.

Dangerous chemicals in this slip may have other hazardous properties depending on the circumstances of use and exposure.