



DUDA ENERGY LLC

Safety Data Sheet HYDROCHLORIC ACID 20 BE

SECTION 1: Identification

1.1 Product identifier

Product name	HYDROCHLORIC ACID 20 BE
Product number	Not available
Brand	Not available
Substance name	HYDROCHLORIC ACID (<37%)
EC no.	231-595-7
CAS no.	7647-01-0

1.2 Other means of identification

None

1.3 Recommended use of the chemical and restrictions on use

This compound is used in the manufacture of pharmaceutical hydrochlorides, vinyl chloride from acetylene, alkyl chlorides from olefins, and arsenious chloride from arsenious oxide. It is also used in the chlorination of rubber, as a gaseous flux for babbitting operations, and in organic reactions involving isomerization, polymerization, alkylation and nitration. It is used in the manufacture of chlorine.

1.4 Supplier's details

Name	Duda Energy LLC
Address	1112 Brooks St. Decatur, AL 35601 USA
Telephone	256.340.4866
Fax	Not available
email	Not available

1.5 Emergency phone number(s)

800.255.3924 (Chemtel)

SECTION 2: Hazard identification

2.1 Classification of the substance or mixture

GHS classification in accordance with: UN GHS rev. 5

- Acute toxicity, oral (chapter 3.1), Cat. 4
- Skin corrosion/irritation (chapter 3.2), Cat. 1B
- Eye damage/irritation (chapter 3.3), Cat. 1
- Specific target organ toxicity, single exposure (chapter 3.8), Cat. 3

2.2 GHS label elements, including precautionary statements**Pictogram****Signal word****Danger****Hazard statement(s)**

H302	Harmful if swallowed
H314	Causes severe skin burns and eye damage
H318	Causes serious eye damage
H335	May cause respiratory irritation

Precautionary statement(s)

P264	Wash ... thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301+P312	IF SWALLOWED: Call a POISON CENTER/doctor/.../if you feel unwell,
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
P330	Rinse mouth.
P501	Dispose of contents/container to ...

2.3 Other hazards which do not result in classification

Not available

SECTION 3: Composition/information on ingredients**3.2 Mixtures**

Substance name	HYDROCHLORIC ACID (<37%)
EC no.	231-595-7
CAS no.	7647-01-0
Formula	HCl
Molecular weight	36.46
Other names / synonyms	UN 1789; SPIRITS OF SALT; MURIATIC ACID; HYDROCHLORIC ACID (<37%)

Hazardous components**1. HYDROGEN CHLORIDE (gas)**

Concentration	33 %
EC no.	231-595-7
CAS no.	7647-01-0
Index no.	017-002-00-2

- Press. Gas
- Acute toxicity (chapter 3.1), Cat. 3
- Skin corrosion/irritation (chapter 3.2), Cat. 1A

H314	Causes severe skin burns and eye damage
H331	Toxic if inhaled

SECTION 4: First-aid measures

4.1 Description of necessary first-aid measures

General advice	Limit risk of exposure to material when providing first aid.
If inhaled	IMMEDIATELY leave the contaminated area; take deep breaths of fresh air. IMMEDIATELY call a physician and be prepared to transport the victim to a hospital even if no symptoms (such as wheezing, coughing, shortness of breath, or burning in the mouth, throat, or chest) develop. Provide proper respiratory protection to rescuers entering an unknown atmosphere. Whenever possible, Self-Contained Breathing Apparatus (SCBA) should be used; if not available, use a level of protection greater than or equal to that advised under Respirator Recommendation.
In case of skin contact	CAUTION: Exposure of skin to compressed gases may result in freezing of the skin. Treatment for frostbite may be necessary. Remove the victim from the source of contamination. IMMEDIATELY wash affected areas gently with COLD water (and soap, if necessary) while removing and isolating all contaminated clothing. Dry carefully with clean, soft towels. If symptoms such as inflammation or irritation develop, IMMEDIATELY call a physician or go to a hospital for treatment.
In case of eye contact	First check the victim for contact lenses and remove if present. Flush victim's eyes with water or normal saline solution for 20 to 30 minutes while simultaneously calling a hospital or poison control center. Do not put any ointments, oils, or medication in the victim's eyes without specific instructions from a physician. IMMEDIATELY transport the victim after flushing eyes to a hospital even if no symptoms (such as redness or irritation) develop.

If swallowed

DO NOT INDUCE VOMITING. When a concentrated acid is ingested, it may be dangerous to administer water or antacids due to the release of heat of dilution or neutralization in the stomach. Therefore, if the victim is conscious and not convulsing, give several glasses of ice water or cold water to dilute the acid. IMMEDIATELY call a hospital or poison control center and transport the victim to a hospital. If the victim is convulsing or unconscious, do not give anything by mouth, assure that the victim's airway is open and lay the victim on his/her side with the head lower than the body. DO NOT INDUCE VOMITING. IMMEDIATELY transport the victim to a hospital.

Personal protective equipment for first-aid responders

Respirator and chemical resistant garb may be required if risk of exposure to material is present.

4.2 Most important symptoms/effects, acute and delayed

Symptoms of exposure to this compound include corrosion and extreme destruction of tissue of the mucous membranes and upper respiratory tract, eyes and skin. Inhalation may be fatal as a result of spasm, inflammation and edema of the larynx and bronchi, chemical pneumonitis and pulmonary edema. Concentrated solutions can cause severe burns of the skin and eyes. It may cause permanent visual damage, dermatitis and photosensitization. Inhalation may cause cough, choking and inflammation and ulceration of the respiratory tract. Inhalation may also cause necrosis of the tracheal and bronchial epithelium, atelectasis, emphysema and damage to pulmonary blood vessels. Ingestion of solutions may cause corrosion of the mucous membranes, esophagus and stomach, dysphagia, nausea, vomiting, intense thirst and diarrhea. It may also cause epigastric pain and gastric hemorrhage. Circulatory collapse may occur. Other symptoms include irritation and redness of the eyes, irritation of the respiratory tract, total corneal opacification and opacities of the lens (rare). Exposure may cause clammy skin, weak and rapid pulse, shallow respiration, scanty urine and glottic edema. Lung injury may occur. Exposure may also cause erosion of teeth, and bleeding of the nose and gums. Severe breathing difficulties also occur.

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

Provide general supportive measures and treat symptomatically.

In case of chemical burns: flush with water immediately and remove clothing which does not adhere to the affected area. Call an ambulance, and continue flushing during transport to the hospital. Keep victim warm and under observation. Symptoms may be delayed.

SECTION 5: Fire-fighting measures

5.1 Suitable extinguishing media

Water fog, foam, dry chemical powder, carbon dioxide.

5.2 Specific hazards arising from the chemical

During fire, hazardous gases may be formed.

5.3 Special protective actions for fire-fighters

Self-contained breathing apparatus is required and full protective clothing.

Further information

None

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Corrosive to skin, produces toxic fumes - chemical resistant gloves and face shield, respirator required.

6.2 Environmental precautions

Prevent soil and water pollution. Prevent spreading in sewers. Avoid discharge into drains, water courses, or onto the ground.

6.3 Methods and materials for containment and cleaning up

This chemical should be used in a fume hood. If a leak occurs, the main valve of the gas cylinder should be turned off and all personnel evacuated. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly ventilated.

Reference to other sections

None

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Provide adequate ventilation. Do not breathe mist or vapor. Do not get in eyes, on skin, or on clothing. Avoid prolonged exposure. Do not taste or swallow. When using, do not eat, drink, or smoke. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Observe good industrial hygiene practices.

7.2 Conditions for safe storage, including any incompatibilities

Store locked up. Store in original tightly closed container. Store away from incompatible materials.

Specific end use(s)

None other than already defined

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

1. Hydrogen chloride (CAS: 7647-01-0)

REL (Inhalation): (C) 5 ppm (NIOSH)
OSHA Annotated Table Z-1, www.osha.gov

2. Hydrogen chloride (CAS: 7647-01-0)

PEL (Inhalation): (C) 5 ppm (Cal/OSHA)
OSHA Annotated Table Z-1, www.osha.gov

3. Hydrogen chloride (CAS: 7647-01-0)

PEL (Inhalation): (C) 7 mg/m³ (OSHA)
OSHA Annotated Table Z-1, www.osha.gov

4. Hydrogen chloride (CAS: 7647-01-0)

PEL (Inhalation): (C) 5 ppm (OSHA)

OSHA Annotated Table Z-1, www.osha.gov

8.2 Appropriate engineering controls

Good general ventilation should be used. Exhaust ventilation when possible to limit airborne levels from rising. Eyewash and emergency shower stations must be available.

8.3 Individual protection measures, such as personal protective equipment (PPE)

Eye/face protection

Goggles, Full-face respirator

Skin protection

If Tyvek protective clothing is not worn during the handling of this chemical, wear disposable Tyvek sleeves taped to your gloves.

Body protection

Corrosion-resistant suit.

Respiratory protection

When working with this chemical, wear a full face positive pressure supplied-air respirator. If that is not available, wear a full face chemical cartridge respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA, (specific for organic vapors, HCl, acid gas, SO₂ and a high efficiency particulate filter).

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

Environmental exposure controls

Not available

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Appearance/form (physical state, color, etc.)	Liquid
Odor	Pungent, suffocating
Odor threshold	Not available
pH	Not available
Melting point/freezing point	-114.22 °C/-38.33 °C
Initial boiling point and boiling range	41.71°C estimated
Flash point	Not available
Evaporation rate	Not available
Flammability (solid, gas)	Non-flammable
Upper/lower flammability limits	Not available
Upper/lower explosive limits	Not available
Vapor pressure	0.00001 hPa estimated
Vapor density	Not available
Relative density	Not available
Solubility(ies)	Not available
Partition coefficient: n-octanol/water	Not available
Auto-ignition temperature	Not available
Decomposition temperature	Not available

Viscosity
Explosive properties
Oxidizing properties

Not available
Not explosive.
Not oxidizing.

Other safety information
Density: 9.60 lbs/gal

SECTION 10: Stability and reactivity

10.1 Reactivity

This product is stable and non-reactive under normal conditions of use, storage, and transport.

10.2 Chemical stability

Material is stable under normal conditions.

10.3 Possibility of hazardous reactions

Hazardous polymerization does not occur.

10.4 Conditions to avoid

Contact with incompatible materials.

10.5 Incompatible materials

Amines.

10.6 Hazardous decomposition products

No hazardous decomposition products are known.

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity

Harmful if swallowed!

HYDROCHLORIC ACID (<37%):

LD50 Percutaneous - Mouse - 1449 mg/kg - 96 h

LC50 Inhalation - Mouse - 1108 ppm - 1 h

LC50 Inhalation - Rat - 3124 ppm - 1 h

LD50 Oral - Rabbit - 900mg/kg

Skin corrosion/irritation

Causes severe skin burns and eye damage.

Serious eye damage/irritation

Causes serious eye damage.

Respiratory or skin sensitization

Not a respiratory sensitizer.

Not expected to cause skin sensitization.

Germ cell mutagenicity

No data available to indicate product or any component present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity

This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

Reproductive toxicity

This product is not expected to cause reproductive or developmental effects.

Summary of evaluation of the CMR properties

Not available.

STOT-single exposure

Not available.

STOT-repeated exposure

Not available.

Aspiration hazard

Not an aspiration hazard.

Additional information

Prolonged inhalation may be harmful.

SECTION 12: Ecological information

Toxicity

HYDROCHLORIC ACID (<37%)

LC50 - *Gambusia affinis* (mosquito fish) - 282 mg/l - 96 h

Persistence and degradability

No data available

Bioaccumulative potential

Low potential for bioaccumulation.

Mobility in soil

May be harmful to plant growth, blooming, and fruit formation.

Results of PBT and vPvB assessment

No data available

Other adverse effects

No data available.

SECTION 13: Disposal considerations

Disposal of the product

Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.

Disposal of contaminated packaging

Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

Waste treatment

Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues; this material and its container must be disposed of in a safe manner.

Sewage disposal

Dispose in accordance with all applicable regulations.

Other disposal recommendations

None.

SECTION 14: Transport information**DOT (US)**

UN Number: UN1789

Class: 8

Packing Group: II

Proper Shipping Name: HYDROCHLORIC ACID

SECTION 15: Regulatory information**15.1 Safety, health and environmental regulations specific for the product in question****Pennsylvania Right To Know Components**

Chemical name: Hydrochloric acid

CAS number: 7647-01-0

New Jersey Right To Know Components

Common name: HYDROGEN CHLORIDE

CAS number: 7647-01-0

Massachusetts Right To Know Components

Chemical name: Hydrochloric acid

CAS number: 7647-01-0

15.2 Chemical Safety Assessment

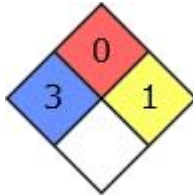
Not available

HMIS Rating

HYDROCHLORIC ACID (<37%)
HEALTH
3
FLAMMABILITY
0

PHYSICAL HAZARD 1
PERSONAL PROTECTION

NFPA Rating



SECTION 16: Other information

16.1 Further information/disclaimer

The information provided in this Safety Data Sheet is correct to the best of Duda Energy LLC's knowledge, information, and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal, and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. This Safety Data Sheet only contains information relating to safety and does not replace any product information or product specification. Please note, the content may be changed, corrected, or deleted at any time without notice and may not always necessarily reflect the most current data. Duda Energy LLC will assume no responsibility for any trouble or failure caused by the errors in the information provided, nor any damage associated with the usage of the information.

16.2 Preparation information

Version: 2
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