



UNIVAR

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For Emergency Assistance involving chemicals call - CHEMTREC (800) 424-9300

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The Version Date and Number for this MSDS is : 08/30/2006 - #008

PRODUCT NAME: HYDROCHLORIC ACID (HCL) (ALL GRADES)

MSDS NUMBER:
OZ34514

DATE ISSUED:
01/26/2006

SUPERSEDES:
07/01/2005

ISSUED BY:
008820

MATERIAL SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Distributed
by:
Univar USA
Inc.
17425 NE Union Hill
Road
Redmond, WA

98052
425-889-
3400

SUBSTANCE: HYDROCHLORIC ACID (HCL) (ALL GRADES)

TRADE

NAMES:

Hydrochloric Acid (HCL) 10%, 14%, 20%, 28%, 20 Be, 22 Be, Technical

SYNONYMS:

Muriatic Acid; HCL Solution; Aqueous hydrogen chloride

PRODUCT USE: process chemical, metal cleaning, water purification, petroleum industry

2. HAZARDS

IDENTIFICATION

NFPA RATINGS (SCALE 0-4): HEALTH=3 FIRE=0 REACTIVITY=1

HMIS RATINGS (SCALE 0-4): HEALTH=3 FLAMMABILITY=0 REACTIVITY=1

EMERGENCY

OVERVIEW:

COLOR:

colorless

PHYSICAL FORM:

liquid

ODOR: pungent

odor

SIGNAL WORD:

DANGER

MAJOR HEALTH HAZARDS: CAUSES BURNS TO THE RESPIRATORY TRACT, SKIN, EYES AND

GASTROINTESTINAL TRACT. CAUSES PERMANENT EYE DAMAGE. MAY BE HARMFUL OR FATAL

IF

SWALLOWED.

PHYSICAL HAZARDS: May spatter or generate heat when mixed with water. Contact

with metals may evolve flammable hydrogen gas.

PRECAUTIONARY STATEMENTS: Do not breathe vapor or mist. Do not get in eyes, on skin, or on clothing. Do not taste or swallow. Wash thoroughly after handling. Use only with adequate ventilation.

POTENTIAL HEALTH

EFFECTS:

INHALATION:

SHORT TERM EXPOSURE: burns, cough, pulmonary edema

LONG TERM EXPOSURE: erosion of teeth

SKIN

CONTACT:

SHORT TERM EXPOSURE: burns, ulceration

LONG TERM EXPOSURE: dermatitis

EYE

CONTACT:

SHORT TERM EXPOSURE: burns, eye damage, blindness

LONG TERM EXPOSURE: to our knowledge, no effects are known

INGESTION:

SHORT TERM EXPOSURE: burns

LONG TERM EXPOSURE: ingestion of harmful amounts is unlikely

CARCINOGEN

STATUS:

OSHA:

No

NTP:

No

IARC:

No

3. COMPOSITION INFORMATION ON INGREDIENTS

COMPONENT:

WATER

CAS NUMBER: 7732-18-
5
PERCENTAGE: 63-
91

COMPONENT: HYDROGEN
CHLORIDE
CAS NUMBER: 7647-01-
0
PERCENTAGE: 9-
36

4. FIRST AID MEASURES

INHALATION: If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. If breathing is difficult, oxygen should be administered by qualified personnel. If respiration or pulse has stopped, have a trained person administer Basic Life Support (Cardio-Pulmonary Resuscitation/Automatic External Defibrillator) and CALL FOR EMERGENCY SERVICES IMMEDIATELY.

SKIN CONTACT: Immediately flush contaminated areas with water. Remove contaminated clothing, jewelry, and shoes immediately. Wash contaminated areas with soap and water. Thoroughly clean and dry contaminated clothing and shoes before reuse. Discard footwear which cannot be decontaminated. GET MEDICAL ATTENTION IMMEDIATELY.

EYE CONTACT: Immediately flush eyes with a directed stream of water for at least 15 minutes, forcibly holding eyelids apart to ensure complete irrigation of all eye and lid tissues. Washing eyes within several seconds is essential to achieve maximum effectiveness. GET MEDICAL ATTENTION

IMMEDIATELY.

INGESTION: Never give anything by mouth to an unconscious or convulsive person. If swallowed, do not induce vomiting. Give large amounts of water. If vomiting occurs spontaneously, keep airway clear. Give more water when vomiting stops. GET MEDICAL ATTENTION IMMEDIATELY.

NOTE TO PHYSICIAN: The absence of visible signs or symptoms of burns does NOT reliably exclude the presence of actual tissue damage. Probable mucosal damage may contraindicate the use of gastric lavage.

5. FIRE FIGHTING MEASURES

FIRE AND EXPLOSION HAZARDS: May release toxic gases.

EXTINGUISHING MEDIA: Use extinguishing agents appropriate for surrounding fire.

FIRE FIGHTING: Keep unnecessary people away, isolate hazard area and deny entry. Wear NIOSH approved positive-pressure self-contained breathing apparatus. Move container from fire area if it can be done without risk. Avoid inhalation of material or combustion by-products. Stay upwind and keep out of low areas. Cool containers with water.

SENSITIVITY TO MECHANICAL IMPACT: Not sensitive

SENSITIVITY TO STATIC DISCHARGE: Not sensitive

FLASH POINT: not flammable

HAZARDOUS COMBUSTION

PRODUCTS:

Thermal decomposition products or combustion: hydrogen chloride

6. ACCIDENTAL RELEASE

MEASURES

OCCUPATIONAL

RELEASE:

Evacuation of surrounding area may be necessary for large spills.

Wear

appropriate personal protective equipment recommended in Section 8 of the

MSDS. Completely contain spilled material with dikes, sandbags, etc. Shut off

ventilation system if needed. Reprocess or reuse if possible. Neutralize with

soda ash or dilute caustic soda. Collect with appropriate absorbent and place

into suitable container. Liquid material may be removed with a vacuum truck.

Keep out of water supplies and sewers. This material is acidic and may lower

the pH of the surface waters with low buffering capacity. Releases should be

reported, if required, to appropriate agencies. Notify Local Emergency

Planning Committee and State Emergency Response Commission for release

greater than or equal to RQ (U.S. SARA Section 304). If release occurs in the

U.S. and is reportable under CERCLA Section 103, notify the National Response

Center at (800)424-8802 (USA) or (202)426-2675 (USA).

7. HANDLE AND

STORAGE

STORAGE: Store and handle in accordance with all current regulations and

standards. Store in rubber-lined steel, acid-resistant plastic or glass

containers. Keep container tightly closed and properly labeled. Store in a

cool, dry place. Store in a well-ventilated area. Do not store in aluminum container or use aluminum fittings or transfer lines. Dike and vent storage tanks. Keep separated from incompatible substances (see Section 10 of the MSDS).

HANDLING: Avoid breathing vapor or mist. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. When mixing, slowly add to water to minimize heat generation and spattering.

8. EXPOSURE CONTROLS, PERSONAL PROTECTION

EXPOSURE

LIMITS:

HYDROGEN CHLORIDE,

ANHYDROUS:

HYDROGEN CHLORIDE (HYDROCHLORIC ACID):

5 ppm (7 mg/m³) OSHA

ceiling

2 ppm ACGIH

ceiling

VENTILATION: Use closed systems when possible. Provide local exhaust ventilation where vapor or mist may be generated. Ensure compliance with applicable exposure limits.

EYE PROTECTION: Wear safety glasses with side shields. Wear chemical safety goggles with a faceshield or chemical splash hood. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

CLOTHING: Wear chemical resistant clothing and rubber boots when potential for contact with the material exists. Always place pants legs over boots.

GLOVES: Wear appropriate chemical resistant gloves.

PROTECTIVE MATERIAL TYPES: neoprene, nitrile, polyvinyl chloride (PVC), rubber, Kappler(R) CPF3, Tychem (R)

IMMEDIATELY DANGEROUS TO LIFE OR HEALTH: 50 ppm

RESPIRATOR: Where vapor concentration exceeds or is likely to exceed applicable exposure limits, a NIOSH approved respirator with acid gas canister is required. When an air-purifying respirator is not adequate or for spills and/or emergencies of unknown concentrations, a NIOSH approved self-contained breathing apparatus or airline respirator with full-face piece is required. A respiratory protection program that meets 29 CFR 1910.134 must be followed whenever workplace conditions warrant use of a respirator.

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE:

liquid

APPEARANCE:

clear

COLOR:

colorless

ODOR: pungent

odor

MOLECULAR WEIGHT:

36.46

MOLECULAR FORMULA:

HCL

BOILING POINT: 140-221 F (60.0-105

C)

FREEZING POINT: -29 to 5 F (-34 to -15

C)

VAPOR PRESSURE: 14.6-80 mmHg @), 20

C

VAPOR DENSITY (air=1): 1.3 20

C

SPECIFIC GRAVITY (water=1): 1.05-
1.18BULK DENSITY: 8.75-9.83 lbs/
galWATER SOLUBILITY:
100%PH: 2 (0.2%
solution)VOLATILITY: 9-36 % by
volumeODOR THRESHOLD: 0.3 ppm (causes olfactory
fatigue)EVAPORATION RATE: <1.00 (butyl
acetate=1)COEFFICIENT OF WATER/OIL DISTRIBUTION: Not
available10. STABILITY AND
REACTIVITYREACTIVITY: Stable at normal temperatures and
pressure.

CONDITIONS TO AVOID: Avoid heat, flames, sparks and other sources of ignition. Contact with water may produce a strong exothermic reaction with spattering. Contact with metals may evolve flammable hydrogen gas. Hydrogen chloride may react with cyanide, forming lethal concentrations of hydrocyanic acid.

INCOMPATIBILITIES: metals, alkalis (such as sodium hydroxide), mercuric sulfate, perchloric acid, carbides of calcium, cesium, rubidium, acetylides of cesium and rubidium, phosphides of calcium and uranium, lithium silicide

HAZARDOUS

DECOMPOSITION:

Thermal decomposition products or combustion: hydrogen
chloride

POLYMERIZATION: Will not polymerize.

11. TOXICOLOGICAL INFORMATION

HYDROCHLORIC ACID (HCl) (ALL GRADES):

TOXICITY DATA: Hydrochloric Acid: 900 mg/kg oral-rabbit LD50; 1108 ppm/1 hour(s) inhalation-rat; 3124 ppm/1 hour(s) inhalation-rat LC50. Rinsed Draize Test: 5 mg/30 second(s) rabbit-eye mild. Standard Draize Test: 4% / 24 hour(s) skin-human mild. Inhalation will cause severe irritation and possible burns with coughing and choking. If inhaled deeply, edema and hemorrhage of the lungs may occur. Levels of 10-35 ppm may cause irritation of throat and 50-100 ppm is unbearable for 1 hour. Inflammation, destruction of nasal passages and breathing difficulties may occur with higher concentrations and may be delayed in onset. 1000-2000 ppm may be fatal. Prolonged exposure may cause discoloration and/or erosion of teeth. Contact with eyes causes immediate severe irritation with possible burns, permanent visual impairment, or total loss of sight. Contact with fumes or liquid may produce corrosive burns. Dermal exposure also results in irritation, pain, dermatitis, and ulceration. Ingestion may cause immediate burns of the mouth, esophagus, and stomach. Ingestion may cause intense pain, nausea, vomiting, bleeding, circulating collapse, shock and death.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: respiratory system (including asthma and other breathing disorders)

12. ECOLOGICAL INFORMATION

ECOTOXICITY

DATA:

FISH TOXICITY: Hydrochloric Acid: 178 mg/L LC50 Goldfish (1 to 2 hour survival time); 100-330 mg/L LC50 Shrimp. 3.6 mg/L 48 hour(s) (static) LC50 Bluegill This material is believed to be toxic to aquatic life.

FATE AND

TRANSPORT:

BIODEGRADATION: This material is inorganic and not subject to biodegradation.

PERSISTENCE: This material is believed not to persist in the environment.

This material is believed to exist in the disassociated state in the environment. SOIL: Hydrogen chloride will sink into the soil. The acid will dissolve some soil material (in particular, anything with a carbonate base) and will be somewhat neutralized. The remaining portion is thought to transport downward to the water table. WATER: Dissociates almost completely and will be neutralized by natural alkalinity and carbon dioxide.

BIOCONCENTRATION: This material is believed not to bioaccumulate.

13. DISPOSAL CONSIDERATIONS

Reuse or reprocess if possible. Dispose in accordance with all applicable regulations. Subject to disposal regulations: U.S. EPA 40 CFR 262. Hazardous Waste Number(s): D002.

14. TRANSPORT INFORMATION

U.S. DOT 49 CFR

172.101:

PROPER SHIPPING NAME: Hydrochloric acid
solution

ID NUMBER:

UN1789

HAZARD CLASS OR DIVISION:

8

PACKING GROUP: II LABELING REQUIREMENTS:

8

DOT HAZARDOUS SUBSTANCE

(S):

Hydrochloric acid 5000 lb(s) (2270 kg
(s))

CANADIAN TRANSPORTATION OF DANGEROUS
GOODS:

SHIPPING NAME: Hydrochloric acid
solution

UN NUMBER:

UN1789

CLASS:

8

PACKING GROUP/RISK GROUP:

II

15. REGULATORY INFORMATION

U.S.

REGULATIONS:

CERCLA SECTIONS 102a/103 HAZARDOUS SUBSTANCES (40 CFR
302.4):

HYDROGEN CHLORIDE (HYDROCHLORIC ACID): 5000 LBS RQ
(liquid)

CHLORINE: 10 LBS

RQ

SARA TITLE III SECTION 302 EXTREMELY HAZARDOUS SUBSTANCES (40 CFR
355.30):

HYDROGEN CHLORIDE (HYDROCHLORIC ACID): 500 LBS TPQ
(gas)

SARA TITLE III SARA SECTIONS 311/312 HAZARDOUS CATEGORIES (40 CFR
370.21):

ACUTE:

Yes

CHRONIC:

No

FIRE:

No

REACTIVE:

No

SUDDEN RELEASE:

No

SARA TITLE III SECTION 313 (40 CFR
372.65):

HYDROGEN CHLORIDE (HYDROCHLORIC ACID): aerosol form
only

This product contains a toxic chemical or chemicals subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR 372. Refer to Section 3.

OSHA PROCESS SAFETY
(29CFR1910.119):

HYDROGEN CHLORIDE (HYDROCHLORIC ACID): 5000 LBS TQ
(gas)

CHLORINE: 1500 LBS
TQ

FDA: This material has Generally Recognized as Safe (GRAS) status under specific FDA regulations. Additional information is available from the Code of Federal Register (CFR) which is accessible on the FDA's website.

STATE
REGULATIONS:

California Proposition 65: This product may contain contaminants known to the State of California to cause cancer or reproductive toxicity as listed under Proposition 65 State Drinking Water and Toxic Enforcement Act. For additional information, contact Customer Service.

NEW JERSEY WORKER AND COMMUNITY RIGHT TO
KNOW:
REPORTING
REQUIREMENT:

WATER 7732-18-5 63-

91%

HYDROGEN CHLORIDE 7647-01-0 9-

36%

RIGHT TO KNOW HAZARDOUS SUBSTANCE
LIST:

HYDROGEN CHLORIDE 7647-01-0 9-

36%

CHLORINE 7782-50-5 0-50

ppm

SPECIAL HEALTH HAZARD SUBSTANCE
LIST:

HYDROGEN CHLORIDE 7647-01-0 9-

36%

PENNSYLVANIA RIGHT TO
KNOW:

REPORTING

REQUIREMENT:

WATER 7732-18-5 63-

91%

HYDROGEN CHLORIDE 7647-01-0 9-

36%

HAZARDOUS SUBSTANCE

LIST:

HYDROGEN CHLORIDE 7647-01-0 9-

36%

ENVIRONMENTAL HAZARDOUS SUBSTANCE

LIST:

HYDROGEN CHLORIDE 7647-01-0 9-

36%

SPECIAL HAZARDOUS SUBSTANCE

LIST:

Not

regulated.

CANADIAN

REGULATIONS:

WHMIS CLASSIFICATION:

E.

NATIONAL INVENTORY

STATUS:

U.S. INVENTORY (TSCA): All the components of this substance are listed on or are exempt from the inventory.

TSCA 12(b) EXPORT NOTIFICATION: Not listed.

CANADA INVENTORY (DSL/NDSL): All components of this product are listed on the DSL.

For Additional Information:

Contact: MSDS Coordinator - Univar USA

During business hours, Pacific Time - (425) 889-3400

NOTICE

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Do not use ingredient information and/or ingredient percentages in this MSDS as a product specification. For product specification information refer to a Product Specification Sheet and/or a Certificate of Analysis. These can be obtained from your local Univar USA Sales Office.

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END OF MSDS