Univar USA Inc.
17425 NE Union Hill Road
Redmond, WA 98052
(425) 889-3400

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

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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-
1.18
BULK DENSITY: 8.75-9.83 lbs/
gal
WATER SOLUBILITY:
100%
PH: 2 (0.2%
solution)
VOLATILITY: 9-36 % by
volume
ODOR THRESHOLD: 0.3 ppm (causes olfactory
fatigue)
EVAPORATION RATE: <1.00 (butyl
acetate=1)
COEFFICIENT OF WATER/OIL DISTRIBUTION: Not
available

10. STABILITY AND
REACTIVITY

REACTIVITY: 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 (HC1) (ALL
GRADES):
TOXICITY DATA: Hydrochloric Acid: 900 mg/kg oral-rabbit LD50; 1108
ppm/1
hour(s) inhalation-rat; 3124 ppm/l 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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END OF MSDS