

Evaporation Rate (BU A/C=1): <1
H2O Solubility: COMPLETE
Viscosity: NON-VISCOUS

SECTION IV - FIRE AND EXPLOSION HAZARD

Flash Point: NON-FLAM / T.C.C.
Flammable Limits: N/A LEL: N/A UEL:N/A

Extinguishing Media:
Foam: X Alcohol Foam: X CO2: X
Dry Chemical: X Water Spray: X Other:

Special Fire Fighting Procedures:
FIREFIGHTERS SHOULD WEAR A SELF-CONTAINED BREATHING APPARATUS AND FULL PROTECTIVE GEAR. EXTINGUISHING MEDIA SHOULD BE CHOSEN BASED ON THE NATURE OF THE SURROUNDING FIRE.

Unusual Fire and Explosion Hazards:
PROLONGED CONTACT WITH REACTIVE METALS, SUCH AS ALUMINUM, ZINC, MAGNESIUM AND COPPER, CAN CAUSE THE FORMATION OF FLAMMABLE HYDROGEN GAS WHICH CAN FORM AN EXPLOSIVE MIXTURE WITH AIR. USE WATER SPRAY TO COOL FIRE EXPOSED CONTAINERS TO PREVENT BURSTING.

Aerosol Level (NFPA 30B): N/A
NFPA 704 Hazard Rating:
(0=Insignificant 1=Slight 2=Moderate 3=High 4=Extreme)
Health: 3 Flammability: 0 Instability: 0 Special:

SECTION V - HEALTH HAZARD DATA

Threshold Limit Value:
5 PPM AS CEILING LIMIT FOR HYDROCHLORIC ACID. 1.

Effects of Overexposure:
-Acute (Short Term Exposure)
EYE CONTACT: CORROSIVE. CAUSES BURNS, CORNEAL DAMAGE AND POSSIBLE BLINDNESS.
SKIN CONTACT: CORROSIVE. CAUSES BURNS AND POSSIBLE DEEP ULCERATIONS OR SCARRING.
INHALATION: CAUSES IRRITATION OF THE RESPIRATORY TRACT, CHOKING, COUGHING, BREATHING DIFFICULTIES AND A BURNING SENSATION. HIGHER CONCENTRATIONS OF 1000 TO 2000 PPM MAY BE FATAL. INGESTION: CAUSES BURNS TO THE MOUTH, THROAT, AND ESOPHAGUS; NAUSEA, VOMITING, DIARRHEA AND PAIN.

-Chronic (Long Term Exposure)
CHRONIC EXPOSURE MAY CAUSE EROSION OF TEETH. REPEATED INHALATION OF MIST OR VAPORS MAY CAUSE LARYNGITIS, BRONCHITIS, GLOTTAL EDEMA, PULMONARY EDEMA AND DEATH. MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE ARE PRE-EXISTING RESPIRATORY AND SKIN CONDITIONS SUCH AS ASTHMA, EMPHYSEMA, AND DERMATITIS. TARGET ORGANS: LUNGS.

Primary Routes of Entry: Inhalation: X Ingestion: Absorption:

Emergency and First Aid Procedures:
-Inhalation:

REMOVE FROM THE AREA TO FRESH AIR. IF NOT BREATHING, CLEAR THE AIRWAY AND START MOUTH TO MOUTH ARTIFICIAL RESPIRATION. GET IMMEDIATE MEDICAL ATTENTION.

-Eye Contact:

IMMEDIATELY RINSE THE EYES WITH WATER. REMOVE ANY CONTACT LENSES AND CONTINUE FLUSHING FOR AT LEAST 15 MINUTES. HOLD THE EYELIDS APART TO ENSURE RINSING OF THE ENTIRE SURFACE OF THE EYES AND LIDS WITH WATER. GET IMMEDIATE MEDICAL ATTENTION.

-Skin Contact:

WASH AFFECTED AREAS WITH LARGE AMOUNTS OF SOAP AND WATER FOR 15 MINUTES. REMOVE CONTAMINATED CLOTHING AND SHOES. GET IMMEDIATE MEDICAL ATTENTION. WASH CLOTHING AND CLEAN SHOES BEFORE REUSE.

-Ingestion:

GIVE 3 TO 4 GLASSES OF WATER, BUT DO NOT INDUCE VOMITING. IF VOMITING OCCURS, GIVE FLUIDS AGAIN. GET IMMEDIATE MEDICAL ATTENTION. DO NOT GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS OR CONVULSING PERSON.

-Notes to Physician:

THERE IS NO SPECIFIC ANTIDOTE. TREAT THE PATIENT SYMPTOMATICALLY.

SECTION VI - TOXICITY INFORMATION

Product Contains Chemicals Listed as Carcinogen or Potential Carcinogen By:

IARC: No	NTP: No	OSHA: No	ACGIH: No
OTHER: No			

HYDROCHLORIC ACID:

ORL-RAT LD50: 900 MG/KG	3.
IHL-RAT LD50: 3124 PPM/1H	3.
IHL-HMN LCLO: 1300 PPM/30M	3.
EYE-RBT: 5 MG/30S MLD	3.

EXPOSURES OF 100 PPM FOR 6 HRS A DAY FOR 50 DAYS CAUSED ONLY SLIGHT UNREST AND IRRITATION TO THE TYES AND NOSE OF RABBITS, GUINEA PIGS AND PIGEONS. THE HEMOGLOBIN CONTENT OF THE BLOOD WAS ALSO SLIGHTLY DIMINISHED. MONKEYS RECEIVING 20 EXPOSURES OF 33 PPM FOR 6 HRS DID NOT DISPLAY ANY ADVERSE EFFECTS. HIGHER EXPOSURES HAVE CAUSED WEIGHT LOSS WHICH PARALLELED THE SEVERITY OF EXPOSURE. BABOONS EXPOSED TO 500, 5000 OR 10,000 PPM FOR 15 MINUTES DID NOT HAVE SIGNIFICANT ALTERATIONS IN ANY PULMONARY FUNCTION PARAMETERS 3 DAYS OR 3 MONTHS AFTER EXPOSURE. IN HUMANS, LONG TERM OVER-EXPOSURES HAVE BEEN ASSOCIATED WITH EROSION OF TEETH. 4.

NO STANDARD CARCINOGENICITY STUDIES FOR HYDROGEN CHLORIDE WERE IDENTIFIED. TWO STUDIES ON RATS WERE CONDUCTED TO DETERMINE IF HYDROGEN CHLORIDE INCREASED THE FORMATION OF NASAL TUMORS OR INCREASED THE CARCINOGENIC POTENTIAL OF FORMALDEHYDE. IN BOTH STUDIES, THE RATS WERE EXPOSED TO 10 PPM HYDROGEN CHLORIDE, 6 HRS PER DAY, 5 DAYS A WEEK. ONE STUDY LASTED 84 WEEKS WHILE THE OTHER LASTED THE ANIMAL' LIFETIME. HYDROGEN CHLORIDE DID NOT CAUSE AN INCREASE IN NASAL TUMORS AND DID NOT INCREASE THE CARCINOGENICITY OF FORMALDEHYDE. HYDROGEN CHLORIDE IS NOT LISTED ON THE IARC, NTP OR OSHA CARCINOGEN LISTS. 4.

SECTION VII - REACTIVITY DATA

Stability: Stable: X Unstable:

Conditions to Avoid: CONTACT WITH BASES CAN CAUSE VIOLENT REACTION GENERATING LARGE AMOUNTS OF HEAT. REACTIONS WITH METALS CAN RELEASE HYDROGEN GAS.

Incompatibility (Materials to Avoid):

BASES, ALKALI AND ACTIVE METALS, MERCURIC SULFATE, PERCHLORIC ACID, CARBIDES OF CALCIUM, CESIUM, RUBIDIUM, ACETYLIDES OF CESIUM AND RUBIDIUM, AMINES, CYANIDES, FORMALDEHYDE AND SULFIDES.

Hazardous Decomposition Products:

FLAMMABLE HYDROGEN GAS, CORROSIVE HYDROGEN CHLORIDE, AND CHLORINE GAS.

Hazardous Polymerization:

May Occur: Will Not Occur: X

Conditions to Avoid: N/A

SECTION VIII - SPILL OR LEAK PROCEDURES

Steps to be Taken if Material is Released or Spilled:

WEAR APPROPRIATE PROTECTIVE CLOTHING. USE CARE AS SPILLS MAY BE SLIPPERY. VENTILATE THE AREA. DIKE AND CONTAIN SPILL. ABSORB WITH AN INERT MATERIAL AND TRANSFER ALL MATERIAL INTO A PROPERLY LABELED CONTAINER FOR DISPOSAL. PREVENT PRODUCT FROM CONTAMINATING SOIL OR FROM ENTERING SEWAGE AND DRAINAGE SYSTEMS AND BODIES OF WATER. FLUSH AREA WITH WATER.

Waste Disposal Method(s):

DISPOSE OF IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL REGULATIONS.

Neutralizing Agent:

USE SODIUM BICARBONATE OR SODA ASH. ADD CAUTIOUSLY WHILE MIXING. WEAR APPROPRIATE PROTECTIVE EQUIPMENT.

SECTION IX - SPECIAL PROTECTION INFORMATION

Required Ventilation:

LOCAL VENTILATION IS RECOMMENDED TO CONTROL EXPOSURE FROM OPERATIONS THAT CAN GENERATE MISTS OR VAPORS.

Respiratory Protection:

A NIOSH/MSHA APPROVED RESPIRATOR IN POORLY VENTILATED AREAS AND/OR FOR EXPOSURE ABOVE THE ACGIH TLV OR OSHA PEL OR WHERE MISTING EXISTS.

Glove Protection:

NEOPRENE OR NITRILE RUBBER GLOVES SHOULD BE WORN.

Eye Protection:

CHEMICAL GOGGLES AND A FACE SHIELD SHOULD BE WORN.

Other Protection:

SAFETY SHOWER AND EYE WASH SHOULD BE AVAILABLE IF NECESSARY. WEAR PROTECTIVE CLOTHING WHEN HANDLING.

SECTION X - STORAGE AND HANDLING INFORMATION

Storage Temperature: Indoors: X Outdoors: Heated:
Refrigerated:

Minimum Temperature: 35°F Maximum Temperature: 120°F

Precautions to be taken in Handling and Storing:

ALWAYS STORE MATERIAL IN ITS ORIGINAL CONTAINER. KEEP CONTAINER TIGHTLY CLOSED WHEN NOT IN USE. DO NOT STORE NEAR ALKALI MATERIALS OR CHLORINE COMPOUNDS. DO NOT STORE IN DIRECT SUNLIGHT TO AVOID PRESSURE BUILD UP. EMPTY CONTAINERS MAY CONTAIN PRODUCT RESIDUES WHICH MAY EXHIBIT THE HAZARDS OF THE PRODUCT.

Other Precautions:

KEEP OUT OF REACH OF CHILDREN. READ THE ENTIRE LABEL BEFORE USING THE PRODUCT. FOLLOW THE LABEL DIRECTIONS.

SECTION XI - REGULATORY INFORMATION

Chemical Name	CAS Number	Upper % Limit
HYDROCHLORIC ACID	7647-01-0	35

Those Ingredients listed above are subject to the reporting requirements of 313 of Title III and of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR part 372.

CALIFORNIA PROPOSITION 65

WARNING: This product contains the following chemical(s) know to the State of California to cause (1)Cancer or (2)Birth Defects or other reproductive harm. THIS PRODUCT CONTAINS NONE.

SECTION XII - REFERENCES

1. THRESHOLD LIMIT VALUES FOR CHEMICAL SUBSTANCES AND PHYSICAL AGENTS AND BIOLOGICAL EXPOSURE INDICES, ACGIH, 2001.
2. OSHA PEL.
3. REGISTRY OF TOXIC EFFECTS OF CHEMICAL SUBSTANCES, CCINFODisc, 2001.
4. VENDOR'S MSDS.

ALL COMPONENTS IN THIS PRODUCT CAN BE FOUND IN THE CURRENT TSCA INVENTORY.

---- IRR:IRRITANT, FLAM/FLAMM:FLAMMABLE, COMB:COMBUSTIBLE, CORR:CORROSIVE
CARC:CARCINOGENIC, TOX:TOXIC, N/A:NOT APPLICABLE, N/E:NOT ESTABLISHED,
COC:CLEVELAND OPEN CUP, PMCC:PENSKY-MARTIN CLOSED CUP, TCC:TAGLIABUE CLOSED CUP,
LEL:LOWER EXPLOSION LIMIT, UEL:UPPER EXPLOSION LIMIT, NFPA:NATIONAL FIRE
PROTECTION ASSOCIATION, IARC:INTERNATIONAL AGENCY FOR THE RESEARCH ON CANCER,
NTP:NATIONAL TOXICOLOGY PROGRAM, OSHA:OCCUPATIONAL SAFETY & HEALTH
ADMINISTRATION, ACGIH:AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIAL HYGIENISTS,
TLV:THRESHOLD LIMIT VALUE, PEL:PERMISSIBLE EXPOSURE LIMIT, STEL:SHORT-TERM
EXPOSURE LIMIT, MLD:MILD, MOD:MODERATE, SEV:SEVERE, MUT:MUTAGENIC,
ASPHYX:ASPHYXIANT, PNO: PARTICULATES NOT OTHERWISE CLASSIFIED, SDT:STANDARD
DRAIZE TEST, ORL: ORAL, HMN: HUMAN, IHL:INHALATION

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