

FISHER SCIENTIFIC -- HYDROCHLORIC ACID 37% SOLUTION CAT NO: A144C212 --  
6810-01-181-2358

===== Product Identification =====

Product ID:HYDROCHLORIC ACID 37% SOLUTION CAT NO: A144C212

MSDS Date:12/12/1997

FSC:6810

NIIN:01-181-2358

Status Code:A

MSDS Number: CJNMH

=== Responsible Party ===

Company Name:FISHER SCIENTIFIC

Address:1 REAGENT LANE

City:FAIRLAWN

State:NJ

ZIP:07410

Country:US

Info Phone N

um:201-796-7100

Emergency Phone Num:201.796.7100

Chemtrec Ind/Phone:(800)424-9300

CAGE:1B464

=== Contractor Identification ===

Company Name:DAIGGER A AND CO INC

Address:620 LAKEVIEW PKY

Box:City:ALSIP

State:IL

ZIP:60803

Country:US

Phone:847-816-5060

CAGE:15747

Company Name:DAIGGER A AND CO.; DAIGGER SCIENTIFIC DIV.

Address:7255 GABE CT

Box:City:MANASSAS

State:VA

ZIP:22110

Country:US

Phone:703-330-6400

Contract Num:SP0400-99-A-B530-0014

CAGE:1V571

Company Name:FISHER SCIENTIFIC CO. CHEMICAL MFG

DIV  
Address:1 REAGENT LANE  
Box:City:FAIRLAWN  
State:NJ  
ZIP:07410-2802  
Country:US  
Phone:201-796-7100  
CAGE:1B464

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Composition/Information on Ingredients  
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Ingred Name:HYDROGEN CHLORIDE  
CAS:7647-01-0  
RTECS #:MW4025000  
Minumum % Wt:36.  
Maxumum % Wt:38.  
OSHA PEL:C7 MG/M3;C5 PPM  
ACGIH STEL:C7.5 MG/M3;C5 PPM  
EPA Rpt Qty:5000 LBS  
DOT Rpt Qty:5000 LBS

Ingred Name:WATER  
CAS:7732-18-5  
RTECS #:ZC0110000  
Minumum % Wt:62.  
Maxumum % Wt:64.

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Hazards Identifica  
tion  
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LD50 LC50 Mixture:LC50=3124 PPM/IH (HCL GAS)  
Reports of Carcinogenicity:NTP:UNKNOWN IARC:YES  
Health Hazards Acute and Chronic:EYES; MAY CAUSE IRREVERSABLE EYE  
INJURY. VAPOR OR MIST MAY CAUSE IRRITATION & SEVERE BURNS. LIQUID  
CONTACT CAUSES SEVERE BURNS. MAY CAUSE SENSITIZATION;  
CONJUNCTIVITIS. SKIN: MAY BE ABSORBED THROUGH S KIN IN HARMFUL  
AMOUNTS. LIQUID CONTACT CAUSES SEVERE BURNS & ULCERATION. MAY CAUSE  
PHOTOSENSITIZATION. INGESTED: MAY CAUSE  
CIRCULATORY SYSTEM FAILURE.  
CAUSES SEVERE GI TRACT BURNS. MAY CAUSE CORROSION & PERMANENT  
DAMAGE TO ESOPHAGUS & GI TRACT. INHALATION: CAUSES SEVERE  
IRRITATION OF UPPER RESPIRATORY TRACT; PULMONARY EDEMA & SEVERE  
RESPIRATORY DISTURBANCES. CHRONIC: DERMATITIS, EROSION OF TEETH,  
CONJUNCTIVITS, PHOTSENSITIZATION.  
Explanation of Carcinogenicity:HYDROGEN CHLORIDE IS LISTED AS AN IARC  
GROUP 3 CARCINOGEN.  
Effects of Overexposure:EYES-IRRITATION, SEVERE BURNS, PAIN.  
SKIN-S

EVERE BURNS, ULCERATION. INGESTED-ABDOMINAL PAIN, VOMITING,  
POSSIBLE DEATH. INHALATION-COUGHING, BURNS, BREATHING DIFFICULTY,  
COMMA POSSIBLE.

Medical Cond Aggravated by Exposure:NONE SPECIFIED BY MANUFACTURER.

===== First Aid Measures =====

First Aid:EYES-FLUSH WITH PLENTY OF WATER FOR 15 MINUTES, LIFTING LIDS.  
GET IMMEDIATE MEDICAL AID. DO NOT ALLOW VICTIM TO RUB EYES OR KEEP  
EYES CLOSED. SKIN-GET MEDICAL AID. RINSE AREA WITH LOTS OF WATER

FOR AT LEAST 15 MINUTES. REMOVE CONTAMINATED CLOTHES & SHOES.  
INGESTED-DO NOT INDUCE VOMITING. IF VICTIME IS CONSCIOUS & ALERT,  
GIVE 2-4 CUPFULS OF MILK OR WATER. GET IMMEDIATE MEDICAL AID.  
INHALED-REMOVE F ROM EXPOSURE TO FRESH AIR IMMEDIATELY. GIVE  
ARTIFICIAL RESPIRATION IF NOT BREATHING. GIVE OXYGEN IF BREATHING  
DIFFICULT. NOTE TO PHYSICIAN: TREAT SYMPTOMATICALLY & SUPPORTIVELY.

===== Fire Fighting Measures =====

Extinguishing Medi

a:SUSTANCE IS NONFLAMMABLE: USE AGENT MOST  
APPROPRIATE TO EXTINGUISH SURROUNDING FIRE.

Fire Fighting Procedures:WEAR SELF-CONTAINED BREATHING APPARATUS IN  
PRESSURE-DEMAND & FULL PROTECTIVE GEAR. USE WATER SPRAY TO KEEP  
FIRE EXPOSED CONTAINERS COOL.

Unusual Fire/Explosion Hazard:NON-FLAMMABLE BUT REACTS WITH MOST METALS  
TO FORM FLAMMABLE HYDROGEN GAS.

===== Accidental Release Measures =====

Spill Release Procedures:LARGE SPILLS AMY BE NEUTRALIZED WIT  
H DILUTE

ALKALINE SOLUTIONS OF SODA LIME OR ASH. ANSORB SPILL USING AN  
ABSORBENT, NON-COMBUSTIBLE MATERIAL SUCH AS EARTH, SAND OR  
VERMICULITE.

Neutralizing Agent:SODA ASH, LIME.

===== Handling and Storage =====

Handling and Storage Precautions:USE WITH ADEQUATE VENTILATION. STORE  
IN A COOL, DRY, WELL-VENTILATED AREA AWAY FROM INCOMPATIBLE  
SUBSTANCES. WASH THOROUGHLY AFTER HANDLING. REMOVE CONTAMINATED  
CLOTHES & WASH BEFORE REUSE. DO NO

T GET ON SKIN OR IN EYES. DO NOT  
INGEST OR INHALE.

Other Precautions:NONE SPECIFIED BY MANUFACTURER.

===== Exposure Controls/Personal Protection =====

Respiratory Protection:FOLLOW THE OSHA RESPIRATOR REGULATIONS FOUND IN  
29CFR 1910.134 OR EUROPEAN STANDARD EN 149. ALWAYS USE A NOISH OR  
EUROPEAN STANDARD EN 149 APPROVED RESPIRATOR WHEN NECESSARY.

Ventilation:USE ADEQUATE GENERAL OR LOCAL EXHAUST VENTILATION TO KEEP  
AIRBORNE CONCENTRATIONS BELOW THE PERMISSIB  
LE EXPOSURE LIMITS.

Protective Gloves:WEAR APPROPRIATE PROTECTIVE GLOVES TO PREVENT SKIN  
EXPOSURE.

Eye Protection:WEAR APPROPRIATE PROTECTIVE EYEGLASSES OR CHEMICAL  
SAFETY GOGGLES.

Other Protective Equipment:WEAR APPROPRIATE PROTECTIVE CLOTHING TO  
PREVENT SKIN EXPOSURE.

Work Hygienic Practices:WASH THOROUGHLY AFTER HANDLING.

Supplemental Safety and Health  
NONE SPECIFIED BY MANUFACTURER.

===== Physical/Chemical Properties =====

HCC:C1

Boiling Pt.=110.C, 2  
30.F

Melt/Freeze Pt:=-73.9C, -101.F

Vapor Pres:160 MM HG

Vapor Density:1.257

Spec Gravity:1.18-1.19 (WATER=1)

Evaporation Rate & Reference:2.0 (BUTYL ACETATE=1)

Solubility in Water:823G/L WATER AT 32F

Appearance and Odor:CLEAR,COLORLESS, STRONG ODOR-PUNGENT ODOR

===== Stability and Reactivity Data =====

Stability Indicator/Materials to Avoid:YES

ACETATE, ACETIC ANHYDRIDE, ALCOHOLS AND HYDROGEN CYANIDE,  
2-AMINOSETHANOL, AMMONIUM HYDROXIDE, CALCIUM CARBIDE, CALC

IUM

PHOSPHIDE, CESIUM ACETYLENE CARBIDE, CESIUM CARBIDE, CHLOROSULFONIC ACID.

Stability Condition to Avoid: STABLE UNDER NORMAL TEMPERATURES & PRESSURES. AVOID INCOMPATIBLES & LIGHT.

Hazardous Decomposition Products: HYDROGEN CHLORIDE, HYDROGEN GAS.

Conditions to Avoid Polymerization: SUBSTANCE POLYMERIZES ON CONTACT WITH ALDEHYDES OR EPOXIES.

===== Toxicological Information =====

Toxicological Information: MOUSE, INHALATION LC50: 1108 PPM/1HR;  
INHA

LATION, RAT LC50: 3124 PPM/1HR; ORAL, RABBIT LD50: 900 MG/KG.

EPIDEMIOLOGY: NONE AVAILABLE. TERATOGENICITY: EMBRYO OR FETUS-INHL-RAT TC-LO=450 MG/M3/1HR. SPECIFIC DEVELOPMENTAL ABNORMALITIES: HOMEOSTASIS, INHL-RAT TCLO=450 MG/M3/1HR.

REPRODUCTIVE EFFECTS: NO INFORMATION AVAILABLE. NEUROTOXICITY: NO INFORMATION FOUND. MUTAGENICITY: NO INFORMATION AVAILABLE. OTHER STUDIES: NONE.

===== Ecological Information =====

Ecological: ECOTOXICITY

: TROUT LC100=10MG/L/24HR; SHRIMP LC50=100-300

PPM; STARFISH LC50=100-300 MG/L/48HR; SHORE CRAB LC50=240 MG/L/48H;

CHRONIC PLANT TOXICITY=100 PPM. ENVIRONMENTAL FATE: SUBSTANCE WILL NEUTRALIZE SOIL CARBONATE-BASED COMPONENTS. PHYSICAL/CHEMICAL: NO INFORMATION AVAILABLE. OTHER-NONE.

===== Disposal Considerations =====

Waste Disposal Methods: DISPOSE OF IN A MANNER CONSISTENT WITH FEDERAL, STATE & LOCAL REGULATIONS. RCRA-D SERIES MAXIMUM CONCENTRATION OF

CONTAMINANTS: NONE LISTED. RCRA-D SERIES CHRONIC TOXICITY REFERENCE LEVELS: NONE LISTED. RCRA-F SERIES: NONE LISTED. RCRA-P SERIES: NONE LISTED. RCRA-U SERIES: NONE LISTED.

===== MSDS Transport Information =====

Transport Information: US DOT: SHIPPING NAME-HYDROCHLORIC ACID, HAZARD CLASS: 8, UN NUMBER: UN1789, PACKING GROUP: II. IMO/IATA: NO INFORMATION FOUND. RID/AOR: NO INFORMATION FOUND. CANADIAN TDG: SHIPPING NAME: HYDROCHLOR

IC ACID, HAZARD CLASS: 8 (9,2) UN NUMBER:  
1789.

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Regulatory Information  
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SARA Title III Information:SECTION 302 (RQ): CAS# 7647-01-0, FINAL RQ = 5000 LBS (2270 KG). SECTION 302 (TPQ): CAS# 7647-01-0: TPQ= 5000. SARA CODES: CAS# 7647-01-0: ACUTE. SECTION 313: THIS MATERIAL CONTAINS HYDROGEN CHLORIDE (CAS# 7647-01-0, 36-38%) WHICH IS SUBJECT TO THE REPORTING REQUIREMENTS OF SECTION 313 OF SARA TITLE II AND 40 CFR 373.

Federal R

egulatory Information:CLEAN AIR ACT: CAS# 7647-01-0 IS LISTED AS A HAZARDOUS AIR POLLUTANT (HAP). THIS MATERIAL DOES NOT CONTAIN ANY CLASS 1 OZONE DEPLETORS. THIS MATERIAL DOES NOT CONTAIN ANY CLASS 2 OZONE DEPLETORS. CLEA N WATER ACT: CAS# 7647-01-0 IS LISTED AS A HAZARDOUS SUBSTANCE UNDER THE CWA. NONE OF THE CHEMICALS IN THIS PRODUCT ARE LISTED AS PRIORITY POLLUTANTS UNDER THE CWA. NONE OF THE CHEMICALS IN THIS PRODU CT ARE LISTED AS TOXIC POLLUTANTS UNDER THE CWA.

OSHA: CAS# 7647-01-0 IS CONSIDERED HIGHLY HAZARDOUS BY OSHA. TSCA: CAS#'S 7647-01-0 & 7732-18-5 ARE LISTED ON THE TSCA INVENTORY.

State Regulatory Information:

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Other Information  
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