HI-VALLEY CHEMICAL
LABORATORY PRODUCTS
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(801) 295-9591 Fax (801) 295-9448
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Hydrofluoric Acid 48%

1 PRODUCT AND COMPANY IDENTIFICATION

Product Identifier: Hydrofluoric Acid 48%
SDS Number: R-090
Product Code: 777627
Supplier Details: High Valley Products, Inc.
1134 West 850 North
Centerville, Utah 84014
Emergency: PERS: 800-633-8253
Phone: 801-295-9591
Email: sales@hvchemical.com
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2 HAZARDS IDENTIFICATION

Classification of the Substance or Mixture

GHS Classification in Accordance with 29 CFR 1910 (OSHA HCS):

Health, Acute toxicity, 2 Oral
Health, Acute toxicity, 1 Dermal
Health, Skin corrosion/irritation, 1 A
Health, Serious Eye Damage/Eye Irritation, 1
Health, Acute toxicity, 2 Inhalation

GHS Label Elements, Including Precautionary Statements

GHS Signal Word: DANGER

GHS Hazard Pictograms:

GHS Hazard Statements:

H300 - Fatal if swallowed
H310 - Fatal in contact with skin
H314 - Causes severe skin burns and eye damage
H318 - Causes serious eye damage
H330 - Fatal if inhaled

GHS Precautionary Statements:

P260 - Do not breathe dust/fume/gas/mist/vapors/spray.
P264 - Wash skin thoroughly after handling.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P284 - Wear respiratory protection.
P302+350 - IF ON SKIN: Gently wash with soap and water.
P305+351+338 - IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
P310 - Immediately call a POISON CENTER or doctor/physician.

3 COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients:

Cas#	%	Chemical Name
7664-39-3	48%	Hydrofluoric acid

4 FIRST AID MEASURES

Inhalation: If inhaled, remove to fresh air and call a physician for instructions. In case of difficulty breathing, use oxygen assistance. Get medical attenion if condition is critical.

Skin Contact: Remove contaminated clothing immediately. Wash with soap and water. Consult a physician.

Eye Contact: Immediately flush eyes with large amounts of water for at least 15 minutes, lifting eyelids occasionally to facilitate irrigation.

Ingestion: DO NOT INDUCE VOMITING. Give large quantities of water. Never give anything by mouth to an unconscious person. Get medical attention immediately.

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Hydrofluoric (HF) acid burns require immediate and specialized first aid and medical treatment. Symptoms may be delayed up to 24 hours depending on the concentration of HF. After decontamination with water, further damage can occur due to penetration/absorption of the fluoride ion. Treatment should be directed toward binding the fluoride ion as well as the effects of exposure. Skin exposures can be treated with a 2.5% calcium gluconate gel repeated until burning ceases. More serious skin exposures may require subcutaneous calcium gluconate except for digital areas unless the physician is experienced in this technique, due to the potential for tissue injury from increased pressure. Absorption can readily occur through the subungual areas and should be considered when undergoing decontamination. Prevention of absorption of the fluoride ion in cases of ingestion can be obtained by giving milk, chewable calcium carbonate tablets or Milk of Magnesia to conscious victims. Conditions such as hypocalcemia, hypomagnesemia and cardiac arrhythmias should be monitored for, since they can occur after exposure.Move out of dangerous area.

5 FIRE FIGHTING MEASURES

Extinguishing media
Suitable extinguishing media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special hazards arising from the substance or mixture
No data available

Advice for firefighters
Wear self-contained breathing apparatus for firefighting if necessary.

Further information
No data

6 ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:
Wear respiratory protection. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.

Environmental precautions:
Do not let product enter drains.

Methods and materials for containment and cleaning up:
Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

7 HANDLING AND STORAGE

Handling Precautions: Avoid contact with eyes, skin, or clothing.
Avoid breathing vapors or mist.

Storage Requirements: Keep container tightly closed in a dry and well ventilated area.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Personal Protective Equipment:

Hydrofluoric acid (7664-39-3) [48%]

Personal protective equipment

Respiratory protection: Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection: Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching gloves outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. Full contact Material: Chloroprene Minimum layer thickness: 0.6 mm Break through time: > 480 min Material tested:Camapren (KCL 722 / Aldrich Z677493, Size M) Splash contact Material: Nature latex/chloroprene Break through time: 180 min Material tested:Lapren (KCL 706 / Aldrich Z677558, Size M) data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374 If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Eye protection: Tightly fitting safety goggles. Faceshield (8-inch minimum). Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin and body protection: Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Hygiene measures: Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

Exposure Guidlines

Hydrofluoric acid (7664-39-3) [48%]

Components with workplace control parameters

STEL	6 ppm	USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
TWA	0.5 ppm	USA. ACGIH Threshold Limit Values (TLV)

Fluorosis Upper Respiratory Tract, Lower Respiratory Tract, skin & eye irritation Substances for which there is a Biological Exposure Index or Indices (see BEI section)

C	2 ppm	USA. ACGIH Threshold Limit Values (TLV)

Fluorosis Upper Respiratory Tract, Lower Respiratory Tract, skin & eye irritation Substances for which there is a Biological Exposure Index or Indices (see BEI section)

TWA	3 ppm	USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
TWA	3 ppm	USA. Occupational Exposure Limits (OSHA) - Table Z2 Z37.28- 1969
TWA	2.5 mg/m3	USA. Occupational Exposure Limits (OSHA) - Table Z- 1 Limits for Air Contaminants
TWA	2.5 mg/m3	USA. Occupational Exposure Limits (OSHA) - Table Z- 1 Limits for Air Contaminants

CAS number varies with compound

TWA 3 ppm USA. NIOSH Recommended Exposure Limits
2.5 mg/m3

C 6 ppm USA. NIOSH Recommended Exposure Limits
5 mg/m3
15 minute ceiling value
See Table Z-2

9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Colorless.
Physical State:	Liquid
Odor:	Pungent, acidic
Odor Threshold:	No data available
Solubility:	No data available
Spec Grav./Density:	1.18
Viscosity:	No data available
Boiling Point:	No data available
Freezing/Melting Pt.:	No data available
Flash Point:	No data available
Partition Coefficient:	No data available
Vapor Pressure:	No data available
Vapor Density:	No data available
pH:	No data available
Evap. Rate:	No data available
Auto-Ignition Temp:	No data available
Decomp Temp:	No data available
UFL/LFL:	No data available

10 STABILITY AND REACTIVITY

Reactivity:	No data available
Chemical Stability:	Stable under recommended storage conditions.
Conditions to Avoid:	No data available
Materials to Avoid:	No data available.
Hazardous Decomposition:	formed under fire conditions. Hydrogen fluoride

11 TOXICOLOGICAL INFORMATION

Hydrofluoric acid (7664-39-3) [48%]

Information on toxicological effects

Acute toxicity:
Oral LD50 no data available
Inhalation LC50
Dermal LD50
Other information on acute toxicity

Skin corrosion/irritation: no data available

Serious eye damage/eye irritation: Eyes: no data available

Respiratory or skin sensitisation: no data available

Germ cell mutagenicity: no data available

Carcinogenicity:

IARC: 3 - Group 3: Not classifiable as to its carcinogenicity to humans (Hydrofluoric acid)
ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity: no data available

Teratogenicity: no data available

Specific target organ toxicity - single exposure (Globally Harmonized System):
no data available

Specific target organ toxicity - repeated exposure (Globally Harmonized System):
no data available

Aspiration hazard: no data available

Potential health effects: Inhalation Toxic if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract. Ingestion May be fatal if swallowed. Skin May be fatal if absorbed through skin. Causes skin burns. Eyes Causes eye burns. Causes severe eye burns.

Signs and Symptoms of Exposure: Fluoride ion can reduce serum calcium levels possibly causing fatal hypocalcemia., Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., necrosis of the skin, Material can cause severe burns and blistering which may not be immediately painful or visible. The full extent of tissue damage may not exhibit itself for 12-24 hours after exposure.

Synergistic effects: no data available

Additional Information:

RTECS: Not available

12 ECOLOGICAL INFORMATION

Hydrofluoric acid (7664-39-3) [48%]

Information on ecological effects

Toxicity: no data available

Persistence and degradability: no data available

Bioaccumulative potential: no data available

Mobility in soil: no data available

PBT and vPvB assessment: no data available

Other adverse effects: no data available

13 DISPOSAL CONSIDERATIONS

Dispose of in accordance with local regulations.

14 TRANSPORT INFORMATION

UN1790, Hydrofluoric acid, with not more than 60 percent strength, 8,(6.1), PGII

15 REGULATORY INFORMATION

Component (CAS#) [%] - CODES

RQ(100LBS), Hydrofluoric acid (7664-39-3) [n/a%] CERCLA, CSWHS, EHS302, EPCRAWPC, HAP, MASS, NJEHS, NJHS, OSHAPSM, OSHAWAC, PA, SARA313, TOXICRCRA, TSCA, TXAIR, TXHWL

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Regulatory CODE Descriptions
-----------------------------------------------------------------
RQ = Reportable Quantity
CERCLA = Superfund clean up substance
CSWHS = Clean Water Act Hazardous substances
EHS302 = Extremely Hazardous Substance
EPCRAWPC = EPCRA Water Priority Chemicals
HAP = Hazardous Air Pollutants
MASS = MA Massachusetts Hazardous Substances List
NJEHS = NJ Extraordinarily Hazardous Substances
NJHS = NJ Right-to-Know Hazardous Substances
OSHAPSM = OSHA Chemicals Requiring process safety management
OSHAWAC = OSHA Workplace Air Contaminants
PA = PA Right-To-Know List of Hazardous Substances
SARA313 = SARA 313 Title III Toxic Chemicals
TOXICRCRA = RCRA Toxic Hazardous Wastes (U-List)
TSCA = Toxic Substances Control Act
TXAIR = TX Air Contaminants with Health Effects Screening Level
TXHWL = TX Hazardous Waste List
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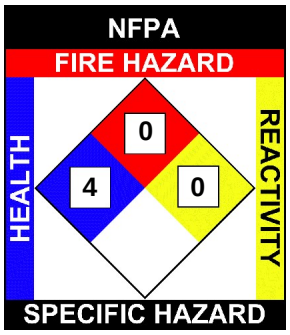
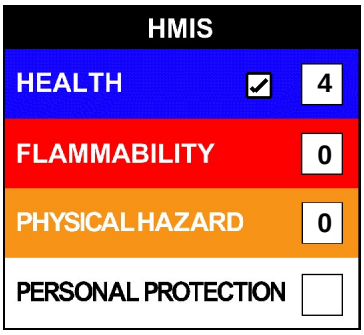
16 OTHER INFORMATION

NFPA: Health = 4, Fire = 0, Reactivity = 0, Specific Hazard = n/a
HMIS III: Health = 4(Chronic), Fire = 0, Physical Hazard = 0





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