

MATERIAL SAFETY DATA SHEET

OSHA-Meets 29 CFR 1910.1200 Standards Whiting Systems, Inc. Automated Vehicle Wash Systems Industrial Power Wash Systems Est. 1974	<table style="width: 100%; border-collapse: collapse;"> <tr> <th colspan="4" style="text-align: center;">HMIS HAZARD RATINGS</th> </tr> <tr> <td style="width: 25%;">HEALTH</td> <td style="width: 10%; text-align: center;">3</td> <td style="width: 25%;">0 = INSIGNIFICANT</td> <td style="width: 40%;">3 = HIGH</td> </tr> <tr> <td>FLAMMABILITY</td> <td style="text-align: center;">0</td> <td>1 = SLIGHT</td> <td>4 = EXTREME</td> </tr> <tr> <td>REACTIVITY</td> <td style="text-align: center;">1</td> <td colspan="2">2 = MODERATE</td> </tr> <tr> <th colspan="4" style="text-align: center;">TRANSPORTATION INFORMATION</th> </tr> <tr> <td>PROPER SHIPPING NAME</td> <td colspan="3">Hydrofluoric acid, solution (< 60 %)</td> </tr> <tr> <td>HAZARD CLASS/PKG GRP</td> <td>8 (6.1) / II</td> <td>REF:</td> <td>49 CFR 173.202, .243</td> </tr> <tr> <td>IDENTIFICATION NUMBER</td> <td>UN 1790</td> <td>LABEL:</td> <td>CORROSIVE, POISON</td> </tr> </table>	HMIS HAZARD RATINGS				HEALTH	3	0 = INSIGNIFICANT	3 = HIGH	FLAMMABILITY	0	1 = SLIGHT	4 = EXTREME	REACTIVITY	1	2 = MODERATE		TRANSPORTATION INFORMATION				PROPER SHIPPING NAME	Hydrofluoric acid, solution (< 60 %)			HAZARD CLASS/PKG GRP	8 (6.1) / II	REF:	49 CFR 173.202, .243	IDENTIFICATION NUMBER	UN 1790	LABEL:	CORROSIVE, POISON
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SECTION 1 - PRODUCT / COMPANY IDENTIFICATION

IDENTITY (AS USED ON LABEL AND LIST) SmartWash® Step 1	Page 1 of 2
MANUFACTURER'S NAME Whiting Systems, Inc.	EMERGENCY TELEPHONE NUMBER INFOTRAC (800) 535-5053
ADDRESS 9000 Highway 5 North	TELEPHONE NUMBER FOR INFORMATION (800) 542-9031
CITY, STATE, ZIP CODE Alexander, AR 72002	DATE PREPARED: November 22, 2004 SUPERSEDES: February 26, 1999

SECTION 2 - HAZARDOUS INGREDIENTS / IDENTITY INFORMATION

HAZARDOUS COMPONENTS <small>SPECIFIC CHEMICAL IDENTITY; COMMON NAME(S)</small>	CAS #	% <small>(OPTIONAL)</small>	OSHA PEL		ACGIH TWA		SARA	RQ
			PPM	MG/M3	PPM	MG/M3	TITLE III	LBS
Hydrofluoric acid (a,b,c,d,e)	7664-39-3	3 - 7	3		3C		Yes	100

- (a) A "Yes" in the SARA TITLE III column in section 2 indicates a toxic chemical subject to annual reporting requirements of Section 313 of the Emergency Planning and Community Right-To-Know act of 1986 and of 40 CFR 372.
- (b) A "C" in the OSHA PEL or ACGIH TWA column indicates ceiling limits, the concentration that should not be exceeded during any part of the working exposure.
- (c) The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) has notification requirements for releases or spills to the environment of the Reportable Quantity (RQ for this mixture = 2500 lbs) or greater amounts, according to 40 CFR 302.
- (d) Indicates an Extremely Hazardous Substance, if your facility has a designated amount of this substance, Threshold Planning Quantity (TPQ) in inventory, the regulations of 40 CFR 355 and 370 apply, including submission of Tier I / Tier II forms every March 1.
- (e) OSHA proposed a regulation (29 CFR 1910.119) to monitor and control safety at certain types of industrial facilities. Compliance is triggered by specified quantities of specific chemicals. Minimum threshold quantity for this Highly Hazardous Chemical is 1000 lbs.
- (f) Indicates an employee's skin exposure shall be prevented or reduced to the extent necessary in the circumstances through the use of gloves, coveralls, goggles, or other appropriate equipment.

SECTION 3 - HEALTH HAZARD DATA

ROUTES OF ENTRY - SIGNS AND SYMPTOMS OF EXPOSURE	EMERGENCY AND FIRST AID PROCEDURES
INHALATION: HF vapors can seriously damage the lungs. Delayed reactions up to and including fatal pulmonary edema may not be apparent for hours after the initial exposure. Airborne concentrations of 10-15 ppm will irritate the eyes, skin, and respiratory tract; 30 ppm is considered "Immediately Dangerous to Life and Health" (IDLH) and may have irreversible health effects; above 50 ppm, even brief exposure may be fatal.	Remove affected person to fresh air; get immediate medical attention with emphasis on hydrofluoric acid exposure. If breathing is difficult, supply oxygen. If breathing has stopped, begin artificial respiration.
SKIN: Corrosive and extremely irritating; may produce severe chemical burns which are slow in healing. Subcutaneous tissue may be affected, becoming blanched and bloodless. In 20% - 50% HF concentrations, burns can be delayed 1 to 8 hours. Concentrations of less than 20% HF may cause delayed painful erythema up to 24 hours after contact. Latent skin burns and necrosis with slow healing can occur even at concentrations of 2% HF. Delayed burns begin with itching sensation and proceed to burning and pain.	Remove contaminated clothing while flushing affected area with drenching shower for 5 minutes. Launder contaminated clothing before reuse; seek immediate medical attention with emphasis on hydrofluoric acid exposure. Apply 2½% Calcium Gluconate ointment to contacted area.
EYES: Corrosive; Causes immediately severe burns of the eye and eyelids. If not quickly removed by thorough irrigation with water, there may be prolonged or permanent visual impairment or total loss of sight.	Remove contact lenses. Immediately flush eyes for 5 minutes in clear running water while holding eyelids open; seek immediate medical attention with emphasis on hydrofluoric acid exposure. Irrigate open eyelids with 500 to 1,000 cc's of 1% Calcium Gluconate in saline solution.
INGESTION: Corrosive. Swallowing hydrofluoric acid causes severe burns of the mucous membrane of the mouth, throat, esophagus and the stomach.	Drink high amounts of calcium based antacid in water followed by milk or milk of magnesia; DO NOT induce vomiting; never give anything by mouth to an unconscious person; seek immediate medical attention with emphasis on hydrofluoric acid exposure.

CARCINOGENICITY	NPT?	No	IARC MONOGRAPHS?	No	OSHA REGULATED?	No
MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: Preexisting skin, eye, or respiratory disorders may become aggravated through prolonged exposure.						

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SECTION 4 - FIRE FIGHTING MEASURES			
FLASH POINT Non-flammable	NFPA RATING None	FLAMMABLE LIMITS LEL: Not applicable UEL: Not applicable	
EXTINGUISHING MEDIA: Carbon dioxide, water fog, dry chemical, chemical foam. Do not use solid stream of water.			
SPECIAL FIRE FIGHTING PROCEDURES: Firefighters should be equipped with NIOSH approved fully enclosed self-contained breathing apparatus with plastic window in the hood. Keep containers cool with water spray to prevent container rupture due to steam buildup; CAUTION - material is corrosive.			
UNUSUAL FIRE AND EXPLOSION HAZARDS: Contact with B:C extinguisher powder may produce large amounts of carbon dioxide. Material can generate explosive hydrogen gas on contact with certain metals.			
SECTION 5 - ACCIDENTAL RELEASE MEASURES			
STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Caution - Corrosive. Confine and absorb into approved absorbent; place material into approved containers for disposal; for spills in excess of allowable limits (RQ) notify the National Response Center (800) 424 - 8802; refer to CERCLA 40 CFR 302 for detailed instructions; refer to SARA Title III, Section 313, 40 CFR 372 for reporting requirements. Do not discharge into lakes, ponds, streams or public waters.			
SECTION 6 - HANDLING AND STORAGE			
PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: This product will attack glass, concrete and certain metals. Keep container closed when not in use; protect containers from abuse; protect from extreme temperatures. CAUTION - material is corrosive. Keep this and other chemicals out of reach of children. Refer to 40 CFR 355 & 370 for regulations pertaining to items classified as Threshold Planning Quantities as shown in Section 2, Hazardous Ingredients.			
SECTION 7- EXPOSURE CONTROLS / PERSONAL PROTECTION			
RESPIRATORY PROTECTION (SPECIFY TYPE): None required while threshold limits (Section 2) are kept below maximum allowable concentrations; if TWA exceeds limits, NIOSH approved respirator must be worn. A chemical cartridge respirator with acid cartridge is recommended. If concentration exceeds capacity of cartridge respirator, a self – contained breathing apparatus is advised. Refer to 29 CFR 1910.134 or European Standard EN 149 for complete regulations.			
VENTILATION	LOCAL EXHAUST: Required MECHANICAL (GENERAL): Yes	SPECIAL: To maintain minimum TWA and STEL levels. OTHER: Engineering and work controls as required.	
PROTECTIVE GLOVES: Required. Saranex, Barricade, Chemrel, Responder, and Butyl rubber are recommended. Do not use Nitrile Rubber, Polyvinyl Alcohol or side shields.			
OTHER PROTECTIVE CLOTHING OR EQUIPMENT: Chemical resistant butyl rubber apron, or other approved chemical resistant equipment should be worn to prevent skin contact. Do not use Nitrile Rubber, Polyvinyl Alcohol or Polyvinyl Chloride.			
WORK / HYGIENIC PRACTICES: Practice safe workplace habits. Safety showers and safety eyebath nearby.			
SECTION 8 - PHYSICAL / CHEMICAL PROPERTIES			
BOLING POINT: 212° F	SPECIFIC GRAVITY (WATER = 1) 1.026	pH < 1.0	SOLUBILITY IN WATER Complete
VAPOR PRESSURE (MM Hg) 17 mm Hg @ 20 ° C	VAPOR DENSITY (AIR = 1) > 1	EVAPORATION RATE (WATER = 1) < 1	% VOLATILE (BY WEIGHT) 87%
APPEARANCE AND ODOR Colorless liquid, acid acid odor			
SECTION 9 - STABILITY AND REACTIVITY			
STABILITY: UNSTABLE:	STABLE: XXX	CONDITIONS TO AVOID: Extreme temperatures.	
INCOMPATIBILITY (MATERIALS TO AVOID): Strong oxidizers, strong alkalies, most metals, cyanides, sulfides, glass and ceramics.			
HAZARDOUS DECOMPOSITION OR BYPRODUCTS: Decomposition will not occur if handled and stored properly. In case of a fire, oxides of carbon, hydrocarbon fumes, fluorine and smoke may be produced.			
HAZARDOUS POLYMERIZATION MAY OCCUR:		CONDITIONS TO AVOID: None. Non-hazardous endothermic polymerization may occur in both the liquid and gas phases.	
WILL NOT OCCUR: XXX			
SECTION 10 - DISPOSAL CONSIDERATIONS			
WASTE DISPOSAL METHOD: Dispose of in accordance with Local, State, and Federal Regulations. Do not flush to sanitary sewer or waterway. Refer to "40 CFR Protection of Environment Parts 260 - 299" for complete waste disposal regulations for corrosive materials containing Hydrofluoric Acid. Consult your local, state, or Federal Environmental Protection Agency before disposing of any chemicals.			
The information provided in this Material Safety Data Sheet has been obtained from sources believed to be reliable. Whiting Systems, Inc. provides no warranties, either expressed or implied and assumes no responsibility for the accuracy or completeness of the data contained herein. This information is offered for your information, consideration and investigation. You should satisfy yourself that you have all current data relevant to your particular use. Whiting Systems, Inc. knows of no medical condition, other than those noted on this material safety data sheet, which are generally recognized as being aggravated by exposure to this product.			