



1. PRODUCT NAME AND COMPANY IDENTIFICATION

Product Name: **BARC**  
  
Product Number:  
Brand: Front 9 Restoration  
Company: Front 9 Restoration  
20616 N Cave Creek Rd. Ste. 112-D  
Phoenix, AZ 85024  
  
Telephone: 1-855-803-1133  
Fax:  
Emergency Phone # 1-800-633-8235 (PERS)

Product Identifier

Product Form : Clear Liquid  
Substance Name : Ammonium Hydrogen Difluoride, Phosphoric Acid, Water, Trade secret ingredients (<10%)  
CAS No. : 1341-49-7 , 7664-38-2, 7664-39-3, 7732-18-5, CBI(Trade secret)  
Formula : Proprietary mixture.  
Classification of the substance or mixture Corrosive to metals, Category 1 Acute toxicity, Category 2, Oral Acute toxicity, Category 2, Inhalation Acute toxicity, Category 1, Dermal Skin corrosion, Category 1A Serious eye damage, Category 1

Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture: Concrete cleaner and rust remover

2. HAZARD IDENTIFICATION

Corrosive  
GHS-US labeling  
Hazard Pictogram



Signal word (GHS-US) : **Danger**

Hazard Statement(s)  
H301 + H331 : Toxic if swallowed or inhaled  
H290 : May be corrosive to metals

Precautionary statement(s)  
H318 : Causes serious eye damage.  
P234 : Keep only in original container  
P260 : Do not breathe mist, spray, vapors  
P264 : Wash exposed skin thoroughly after handling  
P280 : Wear eye protection, face protection, protective clothing, protective gloves  
P310 + P330 + P331 : IF SWALLOWED: Rinse mouth. Do NOT induce vomiting  
P303 + P316 + P353 : IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower  
P304 + P340 : IF INHALED: Remove person to fresh air and keep comfortable for breathing  
P305 + P351 + P338 : IF IN EYES: Rinse cautiously with water for several minutes.  
Remove contact lenses, if present and easy to do. Continue rinsing  
IF exposed or if you feel unwell: Call a POISON CENTER or doctor/physician  
P363 : Wash contaminated clothing before reuse  
P370 + P378 : In case of fire: Use carbon dioxide (CO2), powder, alcohol-resistant foam for extinction  
P390 : Absorb spillage to prevent material damage

P405 : Store locked up  
P406 : Store in corrosive resistant container with a resistant inner liner  
P501 : Dispose of contents/container to comply with local, state and federal regulations

**Other Hazards**

Other hazards not contributing to the classification H402: Harmful to aquatic life

**Unknown acute toxicity (GHS US)**

No data available

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

Substance type Multi-constituent

Name	Product Identifier	%	GHS-US Classification
Ammonium Hydrogen Difluoride	(CAS No) 1341-49-7	1-5%	Ox. Liq. 3, H272 Met. Corr. 1, H290 Skin Corr. 1A, H314 Eye Dam. 1, H318
Phosphoric Acid	7664-38-2	7-10%	Ox. Liq. 3, H272 Met. Corr. 1, H290 Skin Corr. 1A, H314 Eye Dam. 1, H318
Water	7732-18-5	50-60%	N/A
Trade secret	Confidential. Trade Secret.	<25%	N/A

Full text of H-phrases: see section 16

**Mixture**

Not applicable

**4.FIRST AID MEASURES**

**Description of first aid measures**

Check the vital functions. Unconscious: maintain adequate airway and respiration. Respiratory arrest: artificial respiration or oxygen. Cardiac arrest: perform resuscitation. Victim conscious with labored breathing: half-seated. Victim in shock: on his back with legs slightly raised. Vomiting: prevent asphyxia/aspiration pneumonia. Prevent cooling by covering the victim (no warming up).

**First aid measures after inhalation**

Remove the victim into fresh air. Respiratory problems: consult a doctor/medical service.

**First aid measures after skin contact**

Wash immediately with lots of water (15 minutes)/shower. Remove clothing while washing. Do not remove clothing if it sticks to the skin. Cover wounds with sterile bandage. Consult a doctor/medical service. If burned surface > 10%: take victim to hospital.

**First aid measures after eye contact**

Rinse immediately with plenty of water for 15 minutes. Do not apply neutralizing agents. Cover eyes aseptically. Take victim to an ophthalmologist.

**First aid measures after ingestion**

Rinse mouth with water. Immediately after ingestion: give lots of water to drink. Give milk to drink. Do not induce vomiting. Do not give activated charcoal. Do not give chemical antidote. Immediately consult a doctor/medical service. Call Poison Information Center. Take the container/vomit to the doctor/hospital. Ingestion of large quantities: immediately to hospital.

**Most important symptoms and effects, both acute and delayed**

Symptoms/injuries after inhalation : Irritation of the respiratory tract. Dry/sore throat. Corrosion of the upper respiratory tract. Coughing. FOLLOWING SYMPTOMS MAY APPEAR LATER: Respiratory difficulties. Possible inflammation of the respiratory tract. Risk of lung edema. Blue/grey discoloration of the skin.

Symptoms/injuries after skin contact	: Yellow skin. May stain the skin. Caustic burns/corrosion of the skin. Slow-healing wounds.
Symptoms/injuries after eye contact	: Corrosion of the eye tissue. Permanent eye damage.
Symptoms/injuries after ingestion	: Nausea. Vomiting. Abdominal pain. Burns to the gastric/intestinal mucosa. Possible esophageal perforation. Shock.
Chronic symptoms	: ON CONTINUOUS/REPEATED EXPOSURE/CONTACT: Affection/discoloration of the teeth. Risk of pneumonia

**Indication of any immediate medical attention and special treatment needed**

Obtain medical assistance.

**5. FIRE-FIGHTING MEASURES**

**Suitable extinguishing media** : EXTINGUISHING MEDIA FOR SURROUNDING FIRES: All extinguishing media allowed.  
**Unsuitable extinguishing media** : No unsuitable extinguishing media known

**Special hazards arising from the substance or mixture**

**Fire Hazard** : DIRECT FIRE HAZARD. Noncombustible. INDIRECT FIRE HAZARD. Promotes combustion. Reactions involving a fire hazard: see "Reactivity Hazard".

**Explosion Hazard** : INDIRECT EXPLOSION HAZARD. Reactions with explosion hazards: see "Reactivity Hazard".

**Reactivity** : Concentrated solution reacts exothermically with water (moisture). Decomposes on exposure to temperature rise: release of toxic and corrosive gases/vapors (nitrous vapors). Violent to explosive reaction with many compounds e.g.: with (strong) reducers, with (some) bases, with organic material and with combustible materials with risk of spontaneous ignition. Reacts violently with (some) metals. Decomposes slowly on exposure to light: release of toxic and corrosive gases/vapors (nitrous vapors). Violent to explosive reaction with (some) metal powders: release of highly flammable gases/vapors (hydrogen).

**Advice for Firefighters**

Firefighting Instructions : Cool tanks/drums with water spray/remove them into safety. Do not move the load if exposed to heat. Dilute toxic gases with water spray. Take account of toxic fire-fighting water. Use water moderately and if possible collect or contain it.

**6. ACCIDENTAL RELEASE MEASURES**

**For non-emergency personnel**

Protective equipment : Gas-tight suit. Corrosion-proof suit.  
 Emergency procedures : Keep upwind. Mark the danger area. Consider evacuation. Seal off low-lying areas. Close doors and windows of adjacent premises. Corrosion-proof appliances. Keep containers closed. Wash contaminated clothes.

**Emergency responders**

Protective equipment : Equip cleanup crew with proper protection. Avoid breathing mist, Vapors, spray.  
 Emergency procedures : Stop leak if safe to do so. Ventilate area.

**Environmental precautions**

Prevent soil and water pollution. Prevent spreading in sewers.

**Methods and Materials for containment and cleaning up**

For containment : Contain released substance, pump into suitable containers. Consult "Material-handling" to select material of containers. Plug the leak, cut off the supply. Dam up the liquid spill. Try to reduce evaporation. Dilute toxic gases/vapors with water spray. Take account of toxic/corrosive precipitation water. Hazardous reaction: measure explosive gas-air mixture. Reaction: dilute combustible gas/vapor with water curtain.  
 Methods for cleaning up : Take up liquid spill into inert absorbent material, e.g.: sand, earth, vermiculite or powdered limestone. Do not take up in combustible material such as: saw dust. Scoop absorbed substance into closing containers. See "Material-handling" for suitable container materials. Carefully collect the spill/leftovers. Spill must not return in its original container. Damaged/cooled tanks must be emptied. Clean contaminated surfaces with an excess of water. Take collected spill to manufacturer/competent authority. Wash clothing and equipment after handling.

**Reference to other sections**

No additional information available

**7. HANDLING AND STORAGE**

**Precautions for safe handling** : Comply with the legal requirements. Remove contaminated clothing immediately. Clean contaminated clothing.

Keep the substance free from contamination. Use corrosion-proof equipment. Thoroughly clean/dry the installation before use. Do not discharge the waste into the drain. Never dilute by pouring water to the acid. Always add the acid to the water. Keep away from naked flames/heat. Observe very strict hygiene - avoid contact. Keep container tightly closed. Measure the concentration in the air regularly. Carry operations in the open/under local exhaust/ventilation or with respiratory protection.

**Hygiene measures** : Do not eat, drink or smoke when using this product. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Wash contaminated clothing before reuse.

**Conditions for safe storage**

Heat and ignition sources : KEEP SUBSTANCE AWAY FROM: heat sources.  
 Prohibitions on mixed storage : KEEP SUBSTANCE AWAY FROM: combustible materials. reducing agents. (strong) bases. cellulosic materials. organic materials. metal powders. water/moisture  
 Storage area : Store in a cool area. Keep out of direct sunlight. Store in a dry area. Store in a dark area. Ventilation at floor level. Fireproof storeroom. Keep locked up. Provide for a tub to collect spills. Aboveground. Keep only in the original container. Store only in a limited quantity. Meet the legal requirements.  
 Special rules on packaging : SPECIAL REQUIREMENTS: hermetical. dry. clean. opaque. correctly labelled. meet the legal requirements. Secure fragile packaging in solid containers.  
 Packaging materials : SUITABLE MATERIAL: stainless steel. aluminum. iron. glass. MATERIAL TO AVOID: synthetic material.  
 Specific end use(s) : No additional information available

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

**Control parameters**

F - 9 BARC (Estimated from constituent sources)		
USA ACGIH	ACGIH TWA (ppm)	2 ppm
USA ACGIH	ACGIH STEL (ppm)	4 ppm
USA OSHA	OSHA PEL (TWA) (mg/m3)	3 mg/m3
USA OSHA	OSHA PEL (TWA) (ppm)	6 ppm

**Exposure controls**

Appropriate engineering controls : Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Provide adequate general and local exhaust ventilation.

Personal protective equipment : Protective goggles. Protective clothing. Face shield. Gloves. Combined gas/dust mask with filter type NO/P2.



**Materials for protective clothing** : GIVE LESS RESISTANCE: polyethylene/ethylenevinylalcohol. GIVE POOR RESISTANCE: chloroprene rubber. nitrile rubber. polyethylene. PVA. natural fibres.

**Hand Protection** : Gloves.

**Eye Protection** : Protective goggles.

**Skin and body protection** : Head/neck protection. Corrosion-proof clothing.

**Respirator protection** : Gas mask with filter type B. Gas mask with filter type E. Gas mask with filter type NO. High vapor/gas concentration: self-contained respirator.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

**Appearance**

Physical State : Liquid

Appearance : Liquid

Molecular mass : Not Available

Color : Colorless-water white. On exposure to light may turn yellow.

Odor	: Irritating/pungent odor. Asphyxiating odor
pH	: 3.3-3.8
pH solution	: 6%
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: 83 - 122 °C
Flash point	: Not applicable
Self Ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapor pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative Density	: 1.66-1.7
Relative density of saturated gas/air mixture	: No data available
Density	: 1660 – 1700 kg/m3
Water Solubility	: Water: Complete
Viscosity, dynamic	: 2.3 mPa.s at 15 °C (59 °F)
<b>Other information</b>	
Saturation concentration	: 10 g/m3
VOC content	: Not applicable
Other properties	: Gas/vapor heavier than air at 20°C. Hygroscopic. Producing fumes/mist. Physical properties depending on the concentration. Substance has acid reaction.

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## 10. STABILITY AND REACTIVITY

### Reactivity

Concentrated solution reacts exothermically with water (moisture). Decomposes on exposure to temperature rise: release of toxic and corrosive gases/vapors (nitrous vapors), ammonia, hydrogen fluoride, and nitrogen oxides. Violent to explosive reaction with many compounds e.g.: with (strong) reducers, with (some) bases, with organic material and with combustible materials with risk of spontaneous ignition. Reacts violently with (some) metals. Decomposes slowly on exposure to light: release of toxic and corrosive gases/vapors (nitrous vapors). Violent to explosive reaction with (some) metal powders: release of highly flammable gases/vapors (hydrogen).

### Chemical Stability

Unstable on exposure to light. Hygroscopic.

### Possibility of hazardous reactions

May react violently with reducing agents.

### Conditions to avoid

Direct sunlight. Incompatible materials.

### Incompatible materials

Strong bases. Strong reducing agents. Organic compounds. Cyanides. Combustible materials. Aldehydes. Ammonia. Metals. Alcohols.

**Hazardous decomposition products**

Nitrogen oxides. oxygen.

**11. TOXICOLOGICAL INFORMATION****Information of toxicological effects**

<b>Acute Toxicity</b>	: Not classified
<b>Skin corrosion/irritation</b>	: Causes severe skin burns and eye damage. pH: 3-4
<b>Serious eye damage/eye irritation</b>	: Causes serious eye damage. pH: 3-4
<b>Respiratory or skin sensitization</b>	: Toxic on skin
<b>Germ cell mutagenicity</b>	: Not classified
<b>Carcinogenicity</b>	: Not classified (Based on available data, the classification criteria are not met)
<b>Reproductive toxicity</b>	: Not classified
<b>Specific target organ toxicity (single exposure)</b>	: Not classified
<b>Specific target organ toxicity (repeated exposure)</b>	: Not classified
<b>Aspiration hazard</b>	: Not classified
<b>Symptoms/injuries after inhalation</b>	: Irritation of the respiratory tract. Dry/sore throat. Corrosion of the upper respiratory tract. Coughing. FOLLOWING SYMPTOMS MAY APPEAR LATER: Respiratory difficulties. Possible inflammation of the respiratory tract. Risk of lung edema. Blue/grey discoloration of the skin.
<b>Symptoms/injuries after skin contact</b>	: White/Yellow skin. May stain the skin. Caustic burns/corrosion of the skin. Slow-healing wounds
<b>Symptoms/injuries after eye contact</b>	: Corrosion of the eye tissue. Permanent eye damage.
<b>Symptoms/injuries after ingestion</b>	: Nausea. Vomiting. Abdominal pain. Burns to the gastric/intestinal mucosa. Possible esophageal perforation. Shock.
<b>Chronic symptoms</b>	: ON CONTINUOUS/REPEATED EXPOSURE/CONTACT: Affection/discoloration of the teeth. Risk of pneumonia

**12. ECOLOGICAL INFORMATION****Toxicity**

Ecology - general	: Classification concerning the environment: not applicable.
Ecology - water	: Mild water pollutant (surface water). Harmful to fishes. Harmful to invertebrates (Daphnia). May cause eutrophication. pH shift.

<b>Ammonium Hydrogen Difluoride, ingredients (&lt;10%)</b>	
<b>Phosphoric Acid, Water, Trade secret ingredients (&lt;10%)</b>	
LC50 fishes 1	25 - 36 mg/l (96 h; Lepomis macrochirus; PURE SUBSTANCE)
EC50 Daphnia 1	180 mg/l (48 h; Daphnia magna; PURE SUBSTANCE)
LC50 fish 2	72 ppm (Gambusia affinis; PURE SUBSTANCE)
Threshold limit algae 1	> 19 mg/l (Algae; PURE SUBSTANCE)

**Persistence and degradability**

<b>Ammonium Hydrogen Difluoride, ingredients (&lt;10%)</b>	
<b>Phosphoric Acid, Water, Trade secret ingredients (&lt;10%)</b>	
Persistence and degradability	Biodegradability: not applicable. No (test)data on mobility of the components of the mixture available.
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
BOD (% of ThOD)	Not applicable

**Bioaccumulative potential**

<b>Ammonium Hydrogen Difluoride, ingredients (&lt;10%)</b>	
<b>Phosphoric Acid, Water, Trade secret</b>	

ingredients (<10%)	
BCF fish 1	<= 1 (Pisces)
Log Pow	-2.3 (OECD 107: Partition Coefficient (n-octanol/water): Shake Flask Method)
Bioaccumulative potential	Bioaccumulation: not applicable.

**Mobility in soil**

No additional information available

**Other adverse effects**

No additional information available

**13. DISPOSAL CONSIDERATIONS**

**Water treatment methods**

Waste disposal recommendations : Remove waste in accordance with local and/or national regulations. Recycle/reuse. Remove for physico-chemical/biological treatment. Remove to an authorized dump (Class I). Treat using the best available techniques before discharge into drains or the aquatic environment.

**Additional information**

: LWCA (the Netherlands): KGA category 01. Hazardous waste according to Directive 2008/98/EC.

**14. TRANSPORT INFORMATION**

**In accordance with ADR / RID / ADNR / IMDG / ICAO / IATA**

**UN-Number:**

UN-No. (DOT) : 1760  
 DOT NA no. : UN1760

**UN proper shipping name**

DOT Proper shipping name: : Corrosive Liquid, n.o.s.  
 Department of Transportation (DOT) Hazard : 8 - Class 8 - Corrosive material 49 CFR 173.136 Classes  
 Hazard labels (DOT)



Packing group (DOT) : III - Low Danger

**DOT Special Provisions (49 CFR 172.102)**

: B2 - MC 300, MC 301, MC 302, MC 303, MC 305, and MC 306 and DOT 406 cargo tanks are not authorized.  
 : B47 - Each tank may have a reclosing pressure relief device having a start-to-discharge pressure setting of 310 kPa (45 psig).  
 : IP15 - For UN1760 rigid plastic IBCs and composite IBCs with a rigid plastic inner receptacle are authorized for two years from the date of IBC manufacture.  
 : T8 - 4 178.274(d)(2) Normal..... Prohibited  
 : TP2 - a. The maximum degree of filling must not exceed the degree of filling determined by the following: (image) Where: tr is the maximum mean bulk temperature during transport, tf is the temperature in degrees celsius of the liquid during filling, and is the mean coefficient of cubical expansion of the liquid between the mean temperature of the liquid during filling (tf) and the maximum mean bulk temperature during transportation (tr) both in degrees celsius. b. For liquids transported under ambient conditions may be calculated using the formula: (image) Where: d15 and d50 are the densities (in units of mass per unit volume) of the liquid at 15 C (59 F) and 50 C (122 F), respectively.

**DOT Packaging Exceptions (49 CFR 173.xxx) : Can ship Limited Quantity per 49 CFR 173.156**

**DOT Packaging Non Bulk (49 CFR 173.xxx)** : 158  
**DOT Packaging Bulk (49 CFR 173.xxx)** : 242

**Additional Information**

Other Information : No supplementary information available.

State during transport (ADR-RID) : As liquid.

**Overland transport**

Packing group (ADR) : III

Class (ADR) : 8- Corrosive liquid  
 Hazard identification number (Kemler No.) : 88  
 Classification code (ADR) : C1  
 Danger labels (ADR) : 8- Corrosive liquid



Orange plates PLACARD IDENTIFIER: 88/1760

**Transport by sea**

DOT Vessel Stowage Location : D - The material must be stowed "on deck only" on a cargo vessel and on a passenger vessel carrying a number of passengers limited to not more than the larger of 25 passengers or one passenger per each 3 m of overall vessel length, but the material is prohibited on passenger vessels in which the limiting number of passengers is exceeded.

DOT Vessel Stowage Other : 66 - Stow "separated from" flammable solids, 74 - Stow "separated from" oxidizers, 89 - - Stow "separated from" radioactive materials

EmS-No. (1) : F-A

EmS-No. (2) : S-B

**Air transport**

DOT Quantity Limitations Passenger aircraft/rail

: Forbidden (49 CFR 173.27)

DOT Quantity Limitations Cargo aircraft only (49 : 30 L CFR 175.75)

Subsidiary risks (IATA)

**15. REGULATORY INFORMATION**

<b>Ammonium Bifluoride, Phosphoric acid, Proprietary ingredients</b>	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Listed on SARA Section 313 (Specific toxic chemical listings)	
<b>Ammonium Bifluoride, Phosphoric acid, Proprietary ingredients</b>	
RQ (Reportable quantity, section 304 of EPA's List of Lists) :	1000 lb
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard

**International regulations**

**Canada**

<b>Ammonium Bifluoride, Phosphoric acid, Proprietary ingredients</b>	
Listed on the Canadian DSL (Domestic Substances List) inventory.	
WHMIS Classification	Class E - Corrosive Material

**EU-Regulations**

No additional information available

**Classification according to Regulation (EC) NO. 1272/2008 [CLP]**

Corr. 1A H314

Full text of H-phrases: see section 16

**Classification according to Directive 67/548/EEC or 1999/45/EC**

C; R35

Full text of R-phrases: see section 16

**National Regulations**

<b>Ammonium Bifluoride, Phosphoric acid, Proprietary ingredients</b>
Listed on the Canadian Ingredient Disclosure List

**US State Regulations**

<b>Ammonium Bifluoride, Phosphoric acid, Proprietary ingredients</b>	
State or local regulations	U.S. - Pennsylvania - RTK (Right to Know) List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Massachusetts - Right To Know List

## 16. OTHER INFORMATION

Full text of H-phrases: see section 16:

Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Met. Corr. 1	Corrosive to metals, Category 1
Skin Corr. 1A	Skin corrosion/irritation, Category 1A
H272	May intensify fire.
H290	May be corrosive to metals
H314	Causes severe skin burns and eye damage
H318	Causes serious eye damage

NFPA health hazard : 4 - Moderate  
 NFPA fire hazard : 0 - Materials that will not burn.  
 NFPA reactivity : 0 - Normally stable, even under fire exposure conditions,  
 and are not reactive with water  
 NFPA specific hazard : COR - This denotes chemically reactive corrosive chemical.



### HMIS III Rating

Health : 2 Moderate – Can cause serious or permanent injury  
 Flammability : 0 Minimal Hazard  
 Physical : 0 Minimal Hazard  
 Personal Protection : H

SDS US (GHS HazCom 2012)

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