



F9 BARC

Safety Data Sheet

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. 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)
Product code : BARC
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

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

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

1.3. Details of the supplier of the safety data sheet

Manufactured by Sunland Chemical & Research Inc.
5447 San Fernando Road W
Los Angeles, CA 90039 - USA
T (818) 244-9600 F (818) 246-0478
customerservice@sunlandchemical.com
<http://www.sunlandchemical.com>

1.4. Emergency telephone number

Emergency number : PERS: 1-800-633-8253

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GHS-US classification

Corr. 1 H290 Skin
Corr. 1A H314 Eye
Dam. 1 H318

2.2. Label elements

GHS-US labelling

Hazard pictograms (GHS-US)



Signal word (GHS-US)

: **DANGER**

Hazard statements (GHS-US)

: H301 + H331 – Toxic if swallowed or inhaled.
H290 - May be corrosive to metals
H314 - Causes severe skin burns and eye damage

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Precautionary statements (GHS-US) : H318 – Causes serious eye damage.
 H310 – Fatal in contact with skin.
 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
 P301+P330+P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting
 P303+P361+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 P310 - Immediately call a POISON CENTER/doctor/...
 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

2.3. Other hazards

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

2.4. Unknown acute toxicity (GHS US)

No data available

SECTION 3: Composition/information on ingredients

3.1. Substances

Substance type : Multi-constituent

Name	Product identifier	%	GHS-US classification
Ammonium Hydrogen Difluoride	(CAS No) 1341-49-7	7-10%	Ox. Liq. 3, H272 Met. Corr. 1, H290 Skin Corr. 1A, H314 Eye Dam. 1, H318
Phosphoric Acid	7664-93-9	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.	<10%	N/A

Full text of H-phrases: see section 16

3.2. Mixture

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : 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). Keep watching the victim. Give psychological aid. Keep the victim calm, avoid physical strain. Depending on the victim's condition: doctor/hospital.

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.

4.2. 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.

4.3. Indication of any immediate medical attention and special treatment needed

Obtain medical assistance.

SECTION 5: Firefighting measures

5.1. Extinguishing media

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

5.2. 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).

5.3. 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.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. 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.

6.1.2. For 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.

6.2. Environmental precautions

Prevent soil and water pollution. Prevent spreading in sewers.

6.3. Methods and material 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.

6.4. Reference to other sections

No additional information available

SECTION 7: Handling and storage

7.1. Precautions for safe handling

- 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.

7.2. Conditions for safe storage, including any incompatibilities

- 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.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. 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/m ³)	3 mg/m ³
USA OSHA	OSHA PEL (TWA) (ppm)	6 ppm

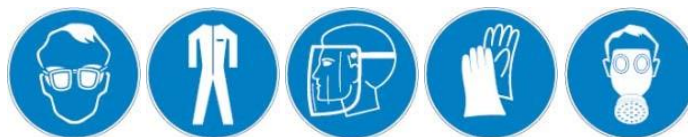
8.2. Exposure controls

- 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.

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Personal protective equipment

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



Materials for protective clothing

Hand protection

Eye protection

Skin and body protection

Respiratory protection

: GIVE LESS RESISTANCE: polyethylene/ethylenevinylalcohol. GIVE POOR RESISTANCE: chloroprene rubber. nitrile rubber. polyethylene. PVA. natural fibres.
: Gloves.
: Protective goggles.
: Head/neck protection. Corrosion-proof clothing.
: 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.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

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.
Odor threshold	: 0.29 - 0.98 ppm 0.75 - 2.5 mg/m ³
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	: Not applicable
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapour 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/m ³
Solubility	: Water: Complete

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Log Pow	: No data available
Log Kow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available

Explosive properties : No data available

Oxidising properties : May intensify fire.

Explosive limits : No data available

9.2. Other information

Saturation concentration	: 10 g/m ³
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.

SECTION 10: Stability and reactivity

10.1. 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).

10.2. Chemical stability

Unstable on exposure to light. Hygroscopic.

10.3. Possibility of hazardous reactions

May react violently with reducing agents.

10.4. Conditions to avoid

Direct sunlight. Incompatible materials.

10.5. Incompatible materials

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

10.6. Hazardous decomposition products

Nitrogen oxides. oxygen.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity	: Not classified
Skin corrosion/irritation	: Causes severe skin burns and eye damage. pH: 3-4
Serious eye damage/irritation	: Causes serious eye damage. pH: 3-4
Respiratory or skin sensitization:	: Toxic on skin.
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified (Based on available data, the classification criteria are not met)
Reproductive toxicity	: Not classified
Specific target organ toxicity (single exposure)	: Not classified
Specific target organ toxicity (repeated exposure)	: Not classified

Aspiration hazard	:	: Not classified
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	:	: White/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.

SECTION 12: Ecological information

12.1. 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.

Nitric acid, 70% w/w (7697-37-2)	
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)

12.2. Persistence and degradability

Nitric acid, 70% w/w (7697-37-2)	
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

12.3. Bioaccumulative potential

Nitric acid, 70% w/w (7697-37-2)	
BCF fish 1	<= 1 (Pisces)
Log Pow	-2.3 (OECD 107: Partition Coefficient (n-octanol/water): Shake Flask Method)
Bioaccumulative potential	Bioaccumulation: not applicable.

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

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

SECTION 14: Transport information

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

14.1. UN number

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

14.2. 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) : 8 - Corrosive substances



Packing group (DOT) : II - Medium Danger

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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 ORM-D Consumer Commodity or Limited Quantity per 49 CFR 173.156**
 DOT Packaging Non Bulk (49 CFR 173.xxx) : 158
 DOT Packaging Bulk (49 CFR 173.xxx) : 242

14.3. Additional information

Other information : No supplementary information available.

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

Overland transport

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



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) :

SECTION 15: Regulatory information

15.1. US Federal regulations

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

15.2. International regulations

CANADA

Ammonium Bifluoride, Phosphoric acid, Proprietary ingredients	
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

15.2.2. National regulations

Ammonium Bifluoride, Phosphoric acid, Proprietary ingredients	
Listed on the Canadian Ingredient Disclosure List	

15.3. US State regulations

Ammonium Bifluoride, Phosphoric acid, Proprietary ingredients	
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

SECTION 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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