

SAFETY DATA SHEET

SECTION I: IDENTIFICATION

Product: AlumaFlash PRO
Description: Aluminum Whitener
Company Identification: Solutions² LLC
 1621 N. 1st St.
 Winterset, IA 50273
 Phone: 515-493-1153
 Website: www.Solutions2llc.com



Company Emergency Telephone Number: CHEMTREC 1-800-424-9300

SECTION II: HAZARD(S) IDENTIFICATION

IF CONTACT WITH SKIN (or hair): Remove all contaminated clothing immediately and rinse skin with water / shower for at least 15 minutes.

GHS CLASSIFICATION

Dermal Toxicity:	Acute Tox. 2	Dermal > 50+ <= 200 mg/kg
Inhalation Toxicity:	Acute Tox. 2	Gases > 100+ <= 500 ppm, vapors > 0.5+ <= 2 mg/l, Dusts & Mists > 0.05+ <= 0.5 mg/l
Skin Corrosion:	1A	Destruction of dermal tissue: Exposure < 3 min. Observation < 1 hour, visible necrosis in at least one animal.
Eye Corrosive:	1	Serious eye damage: Irreversible damage 21 days after exposure. Draize score: Corneal opacity >= 3, iritis > 1.5
Respiratory Sensitizer:	1	Respiratory sensitizer.
Skin Sensitizer:	1	Skin sensitizer.
Mutagen:	2	Suspected/Possible: May include heritable mutations in human germ cells. Positive evidence from tests in mammals and somatic cell tests, in vivo somatic genotoxicity supported by in vitro mutagenicity.
Carcinogen:	1B	Presumed Human Carcinogen, based on demonstrated animal carcinogenicity.
Reproductive Toxin:	2	Human or animal evidence possibly with other information.
Signal Word:	Danger	

Hazard Pictograms:



HAZARD STATEMENTS

Health Hazards: Fatal in contact with skin.
 Causes severe skin burns and eye damage.
 May cause an allergic reaction.
 Causes serious eye damage.
 Fatal if inhaled.
 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
 Suspected of causing genetic defects.

May cause cancer.
Suspected of damaging fertility or the unborn child.

PRECAUTIONARY STATEMENTS

Prevention: Obtain special instructions before use.
Do Not handle until all safety precautions have been read and understood.
Do Not breathe dust, fumes, gas, mist, vapors or spray.
Avoid breathing dust, fumes, gas, mist, vapors or spray.
Do Not get into eyes, on skin or on clothing.
Wash thoroughly after handling.
Do Not eat, drink or smoke when using this product.
Use only outdoors or in a well-ventilated area.
Contaminated work clothing should not be allowed out of the workplace.
Wear protective glove, protective clothing, eye protection and face protection.
Use personal protective equipment as required.
Wear respiratory protection.
In case of inadequate ventilation wear respiratory protection.

Response: Immediately call a POISON CENTER or doctor/physician.
Specific treatment is urgent (see label).
Specific treatment (see label).
Remove/take off immediately all contaminated clothing.
Wash contaminated clothing before reuse.
IF SWALLOWED: Rinse mouth. DO NOT induce vomiting.
IF ON SKIN: Gently wash with soap and water.
IF ON SKIN: Wash with soap and water.
IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water or shower.
IF INHALED: Move victim to fresh air and keep at rest in a position comfortable for breathing.
IF INHALED: If breathing is difficult, move victim to fresh air and keep at rest in a position comfortable for breathing.
IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
IF Exposed or Concerned: Get medical advice/attention.
If skin irritation or a rash occurs: Get medical advice/attention.
Call a POISON CENTER or doctor/physician.

Storage: Store locked up.
Store in a well ventilated place. Keep container tightly closed.

Disposal: Dispose of contents and container in accordance with local, state and federal regulations.

ACUTE TOXICITY

CHRONIC EFFECTS

SECTION III: COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name	CAS #	Weight - %
Water	7732-18-5	60-70%
Sulfuric Acid	7664-93-9	20-30%
Hydrofluoric Acid	7664-39-3	5-10%
Poly(oxy-1,2-ethanediyl), alpha-(nonyphenyl)-omega-hydroxy	9016-45-9	1-5%

Specific chemical identity and/or exact percentage of mixture has been withheld as a trade secret.

SECTION IV: FIRST AID MEASURES

Inhalation: Move exposed party to fresh air and keep at rest. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention immediately.

Eye Contact: In case of eye contact, rinse with plenty of water for at least 20 minutes and seek medical attention

immediately.

Skin Contact: Immediately flush with plenty of water for at least 20 minutes while removing contaminated clothing. Get medical attention immediately.

Ingestion: **DO NOT INDUCE VOMITING!** Never give anything by mouth to an unconscious person. If conscious, wash out mouth with water. Get medical attention immediately.

SECTION V: FIRE-FIGHTING MEASURES

Flash Point: None

Flammable Limits: Product is not flammable. However, contact with metal may release flammable hydrogen gas.

Extinguishing Media: Use an extinguishing agent suitable for the surrounding fire and other materials present.

Fire and Explosion Hazard: Use water spray to cool unopened container if necessary to prevent BLEVE (Boiling Liquid Expanding Vapor Explosion).

Hazardous Combustion Products: Under fire conditions toxic fumes should be anticipated.

Fire Fighting: See also Section 10: Stability and Reactivity.

Fire Equipment: Wear self-contained, approved breathing apparatus and full protective clothing including eye protection and boots.

SECTION VI: ACCIDENTAL RELEASE MEASURES

Spill/Leak: Follow your company's established procedures for reporting and/or responding to chemical incidents. No action should be taken involving any personal risk without suitable training and use of appropriate personal protection equipment.

See Section 8 for recommendations on the use of personal protection equipment.

Small Spill: Stop leak if it can be done without risk. Be sure to utilize appropriate personal protective equipment. Neutralize spill with sodium bicarbonate or lime. Absorb spill with noncombustible absorbent material, then place in a suitable container for disposal in accordance with Federal, state and local requirements. Clean surfaces thoroughly with water to remove residual contamination. Dispose of all waste and clean up materials in accordance with federal, state and local regulations.

Large Spills: No action should be taken involving any personal risk or without suitable training and use of appropriate personal protection equipment. Stop leak if it can be done without risk. Prevent spillage from entering drains and/or waterways. Any release to the environment may be subject to federal, state and local reporting requirements.

SECTION VII: HANDLING AND STORAGE

Handling Precautions: Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Wash thoroughly after handling. Remove contaminated clothing and protective equipment before entering eating areas. Use with adequate ventilation. Avoid formation of aerosols.

See Section 8 for recommendation on the use of appropriate personal protection equipment.

Storage: Keep container closed when not in use. Store in cool, dry and well ventilated area. Keep away from incompatible materials (see Section 10 for incompatibilities). Protect from excessive heat and/or freezing.

Regulatory: Do Not store in unlabeled containers. Adhere to precautionary warnings.

SECTION VIII: EXPOSURE CONTROLS / PERSONAL PROTECTION

Occupational Exposure Limits: None established.

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH
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Sulfuric Acid	0.2 mg/m ³ TWA (thoracic fraction)	1 mg/m ³ TWA	1 mg/m ³ TWA
Hydrofluoric Acid	2 ppm Ceiling (as F) / 0.5 ppm TWA (as F)	3 ppm TWA (as F)	3 ppm TWA; 2.5 mg/m ³ TWA; 6 ppm Ceiling (15 min); 5 mg/m ³ Ceiling (15 min)
Poly(oxy-1,2-ethanediyl), alpha-(nonylphenyl)-omega-hydroxy	Not established	Not established	Not established

Engineering Controls: Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn.

Ventilation: Use only with adequate ventilation. Good general ventilation (typically 10 air exchanges per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Administrative Controls: No action should be taken involving any personal risk or without suitable training and issuance of personal protective equipment.

PROTECTIVE GEAR

Eye Protection: Wear safety goggles if eye contact is possible (face shield recommended if splashing is possible).

Hand Protection: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products when a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body Protection: Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other Skin Protection: Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Contaminated Gear: Routinely wash work clothing and protective equipment to remove contaminants.

SECTION IX: PHYSICAL AND CHEMICAL PROPERTIES

Appearance / Color	Liquid / Clear Pink
Odor	Typical Acid
pH	1.0
Melting Point / Freezing Point	No information available
Boiling Point / Boiling Range	> 200° F
Flash Point	> 100° C / > 212° F
Evaporation Rate	No information available
Flammability (Solid, gas)	No information available
Upper Flammability Limit	No information available
Lower Flammability Limit	No information available
Vapor Pressure	No information available
Vapor Density	No information available
Specific Gravity	1.11
Solubility(ies)	No information available
Partition Coefficient	No information available
Autoignition Temperature	No information available
Decomposition Temperature	No information available
Viscosity	No information available

SECTION X: STABILITY AND REACTIVITY

Product is stable under normal conditions of storage and handling.

Compatibility: Attacks glass and other silicon-containing compounds. Reacts with silica to produce silicon tetrafluoride, a hazardous, colorless gas. On contact with metals, liberates hydrogen gas. Violent reaction with strong bases can occur. Thermal decomposition may release toxic fumes of fluorides. Hazardous polymerization will not occur.

SECTION XI: TOXICOLOGICAL INFORMATION

NUMERICAL MEASURES OF TOXICITY

Acute Toxicity Estimates (ATE):

Mixture Toxicity: **Dermal Toxicity LD50:** 87 mg/kg
 Inhalation Toxicity LD50: 2 mg/l

INFORMATION ON TOXICOLOGICAL EFFECTS

Component Acute Toxicity:

Chemical Name	Oral LD50	Dermal LD50	Inhalation LD50
Sulfuric Acid (7664-93-9)	2,140 mg/kg (Rat)		510 mg/m ³ (Rat)
Hydrofluoric Acid (7664-39-3)			1 mg/L (Rat)
Poly(oxy-1,2-ethanediy), alpha-(nonyphenyl)-omega-hydroxy (9016-45-9)	2,590 mg/kg (Rat)	1,780 µL/kg (Rabbit)	

This product has been defined as a hazardous chemical under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Target Organs: Eyes, Skin, Respiratory System.

Effects of Overexposure:

CAS Number	Description	% Weight	Carcinogen Rating
7664-93-9	Sulfuric Acid	20-30%	Sulfuric Acid: IARC: Human Carcinogen IARC: Human Carcinogen OSHA: Listed

SECTION XII: ECOLOGICAL INFORMATION

ECOTOXICITY

Chemical Name	Algae/Aquatic Plants	Fish	Microtoxicity	Crustacea
Sulfuric Acid		> 500 mg/l, 96 hours		
Hydrofluoric Acid				270 mg/l, 48 hours

Persistence and Degradability: Not available.

Bioaccumulative Potential: Not available.

Mobility in Soil: Not available.

SECTION XIII: DISPOSAL CONSIDERATIONS

If this product becomes a waste, it will likely meet the criteria of a hazardous waste as defined under 40 CFR 261 as a D002: Waste Corrosive Material (pH ≤ 2 or ≥ 12.5, or corrosive to steel), at a minimum.

Empty containers or liners may retain some product residue. This material and its container must be disposed of in a safe manner.

Dispose of in accordance with federal, state and local regulations.

SECTION XIV: TRANSPORT INFORMATION

Important Note: The data in this section is for information purposes only. Please consult the appropriate regulations to properly classify your shipment for transportation, as shipping descriptions may vary based upon mode of transport, quantities, package size, origin and/or destination. Consult your company's Hazardous Materials and Dangerous Goods expert for information specific to your situation.

For small quantities packed in combination packaging, exceptions may apply.

For emergency transportation information in the United States call CHEMTREC at 800-424-9300

DOT:

UN/ID #: 2922

Proper Shipping Name: Corrosive Liquid, Toxic, N.O.S., (Contains Hydrofluoric Acid, Sulfuric Acid Solution), CORROSIVE POISON

Hazard Class: 8

Packing Group: II

SECTION XV: REGULATORY INFORMATION

SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS/LEGISLATION SPECIFIC TO THE SUBSTANCE OR MIXTURE

State of California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): WARNING!

This product does not contain any chemicals listed by the State of California as carcinogenic or a reproductive toxin.

SARA 313: None

United States (TSCA): All components are listed or exempted.

United States Inventory (TSCA 8b): All components are listed or exempted.

SARA 313 Components: The following listed components are subject to the Supplier Notification Requirement found in 40 CFR 372.45 (c 4); a part of Title III of the Superfund Amendments and Reauthorization Act of 1986:

7664-39-3 Hydrofluoric Acid	5 - 10%
7664-93-9 Sulfuric Acid	20 - 30%

SECTION XVI: OTHER INFORMATION

Issue Date: 06/01/15

HAZARD RATINGS:

Version #: 1	NFPA: Health: 3	Flammability: 0	Instability: 1
	HMIS: Health: 3	Flammability: 0	Physical Hazards: 1

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