



Safety Data Sheet (SDS)

Product: Aluminum Cleaner

1. Identification

Section	Details
Product Identifier	Aluminum Cleaner
Synonyms	Metal Brightener; Acid Aluminum Brightener; Aluminum Wash
Recommended Use	Acidic cleaner/brightener for aluminum. Professional truck and equipment wash.
Restrictions on Use	For industrial/professional use only. Not for consumer use without training.
Manufacturer / Supplier	Skyrex Inc.
Address	427 Whitehead Ave. (Suite 2), South River, New Jersey, 08882
Telephone	908-245-1152
Emergency Phone	CHEMTEL 1-800-255-3924
SDS ID / Product Code	Aluminum Cleaner, ALCL/ 011
Issue / Revision Date	September 19, 2025
Version	2

2. Hazard Identification

Section	Details
Classification (GHS/OSHA HazCom 2012)	Skin Corrosion Category 1A; Serious Eye Damage Category 1; Corrosive to Metals Category 1; Acute Toxicity — Oral Category 3; Dermal Category 3; Inhalation (mist) Category 2; Specific Target Organ Toxicity — Repeated Exposure Category 1

	(bones/teeth from fluoride).
Signal Word	DANGER
Pictograms	GHS05 (Corrosion); GHS06 (Skull & Crossbones); GHS08 (Health hazard). 
Hazard Statements	H314: Causes severe skin burns and eye damage. H290: May be corrosive to metals. H301: Toxic if swallowed. H311: Toxic in contact with skin. H331: Toxic if inhaled. H372: Causes damage to bones and teeth through prolonged or repeated exposure
Precautionary — Prevention	P260: Do not breathe mist/vapors/spray. P271: Use only outdoors or in a well-ventilated area. P264: Wash thoroughly after handling. P270: Do not eat, drink or smoke when using this product. P280: Wear protective gloves/protective clothing/eye protection/face protection. P234: Keep only in original container
Precautionary — Response	P301+P330+P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. P303+P361+P353: IF ON SKIN (or hair): Remove immediately all contaminated clothing. Rinse skin/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. P390: Absorb spillage to prevent material damage.

Precautionary — Storage	P405: Store locked up. P406: Store in a corrosion-resistant container with a resistant inner liner.
Precautionary — Disposal	P501: Dispose of contents/container in accordance with local/regional/national regulations.
Other Hazards	Contains hydrofluoric acid (HF). HF exposures may cause delayed-onset tissue damage and systemic toxicity (hypocalcemia, hypomagnesemia). Mixing with bleach (hypochlorites) releases toxic chlorine gas. Contact with cyanides releases hydrogen cyanide. Contact with aluminum, zinc, or galvanized metals may generate hydrogen gas.
OSHA Regulatory	This product is considered hazardous under OSHA regulations

3. Composition / Information on Ingredients

Note: Exact percentages are withheld as a trade secret; ranges meet HazCom 2012/GHS. The final product has no added color; no fragrance.

Component	CAS No.	% (w/w) range	GHS Classification	Notes
Sulfuric acid	7664-93-9	7–12%	Skin Corr. 1A; Eye Dam. 1; Met. Corr. 1	From ~5 gal conc. H ₂ SO ₄ in 55-gal batch
Hydrofluoric acid (as HF in solution)	7664-39-3	1–3% (as HF)	Acute Tox. 2–3 (oral/dermal/inhal.); Skin Corr. 1A; Eye Dam. 1; STOT RE 1	From ~2.5 gal of ~49% HF solution
Alkyl polyglucoside (Glucoterge surfactant blend)	Mixture	1–3%	Eye Dam. 1; Skin Irrit. 2; Aquatic Chronic 3	Non-ionic surfactants
Water	7732-18-5	Balance	Not classified	Diluent

4. First-Aid Measures

General Advice	Immediate medical attention is required after any significant exposure. Ensure responders wear appropriate PPE.
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If Inhaled	Move to fresh air. Administer oxygen if breathing is difficult. Seek immediate medical attention. Medical: nebulized 2.5% calcium gluconate solution may be considered for HF exposure under physician direction.
If on Skin	Remove contaminated clothing and shoes. Rinse with running water for at least 15 minutes. Immediately apply 2.5% calcium gluconate gel to affected area and massage continuously until pain diminishes; seek urgent medical care.
If in Eyes	Rinse cautiously with water for at least 15–20 minutes, lifting upper and lower eyelids. Remove contacts if easy. Seek immediate ophthalmologic care. Medical: ophthalmic calcium gluconate may be considered under physician guidance.
If Swallowed	Rinse mouth. Do NOT induce vomiting. Give small amounts of water. If conscious, a calcium-containing antacid or milk may help bind fluoride. Seek immediate medical attention.
Most Important Symptoms/Effects	Severe burns; deep tissue injury may be delayed with HF; systemic hypocalcemia/hypomagnesemia; arrhythmias; respiratory irritation/edema.
Notes to Physician	Treat symptomatically. Monitor serum calcium, magnesium, potassium; treat hypocalcemia (IV calcium gluconate). Consider ECG monitoring.

5. Fire-Fighting Measures

Section	Details
Suitable Extinguishing Media	Use media appropriate to surrounding fire (water fog, CO2, dry chemical, foam).
Unsuitable Extinguishing Media	Direct high-pressure water jets may spread material.
Specific Hazards	Product is non-combustible, but reacts with many metals producing flammable hydrogen gas. Heating may release toxic fumes including HF and sulfur oxides
Protective Equipment for Firefighters	Wear self-contained breathing apparatus (SCBA) and full protective gear
Special Procedures	Prevent runoff from entering drains/waterways.

6. Accidental Release Measures

Section	Details
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Personal Precautions	Evacuate unprotected personnel. Wear acid-resistant gloves, goggles/face shield, apron/boots; provide ventilation. Avoid breathing mists.
Environmental Precautions	Prevent entry into storm drains or surface waters. Notify authorities if release cannot be contained.
Containment & Cleanup	Stop leak if safe. Dike. Neutralize cautiously with calcium carbonate/lime (preferred for HF) or soda ash; avoid excessive heat. Absorb with inert media (vermiculite). Collect in compatible acid-resistant containers (HDPE). Wash the area with water after neutralization.

7. Handling and Storage

Section	Details
Safe Handling	Use only with adequate ventilation. Avoid contact with skin/eyes. Do not breathe mists. Never add water to acid; when diluting, add acid slowly to water with stirring. Keep away from bases, cyanides, hypochlorites, and reactive metals. Keep containers closed. Use proper PPE. Provide eyewash and a safety shower.
Storage	Store in original, corrosion-resistant HDPE container with vented cap in a cool, dry, well-ventilated area. Keep locked up. Segregate from bases/oxidizers, cyanides, and metals. Protect from freezing and heat.
Specific End Use(s)	Acidic metal brightener/ cleaner for aluminum; professional/industrial use.

8. Exposure Controls / Personal Protection

Section	Details
Exposure Limits / Control Parameters	Hydrofluoric acid (as F): OSHA PEL ceiling 3 ppm; ACGIH TLV TWA 0.5 ppm, STEL 2 ppm. Sulfuric acid: OSHA PEL TWA 1 mg/m ³ ; ACGIH TLV TWA 0.2 mg/m ³ (thoracic).
Engineering Controls	Use local exhaust for mixing/spraying operations. Provide eyewash and safety shower within 10 seconds travel distance. Enclose transfer/mixing where feasible.
Eye/Face Protection	Chemical splash goggles AND face shield (ANSI Z87.1).
Skin/Hand Protection	Acid-resistant gloves (nitrile, neoprene, PVC) and protective clothing/apron; boots as needed.
Respiratory Protection	If ventilation is inadequate or mists are generated, use a NIOSH-approved full-face respirator with acid gas cartridge and particulate filter.
Hygiene Measures	Wash hands after handling and before breaks. Remove contaminated clothing and launder before reuse.

9.Physical and Chemical Properties

Property	Value
Appearance	Clear colorless liquid
Odor	acidic
pH	< 1 (concentrate)
Melting/Freezing Point	Not determined (expected near 0°C)
Boiling Point/Range	> 100°C (water-based)
Flash Point	Not applicable (non-flammable aqueous mixture)
Evaporation Rate	Similar to water
Flammability	Not flammable
Explosive Limits	Not applicable
Vapor Pressure	Similar to water at ambient temperature
Vapor Density (air=1)	Not determined (water vapor $\approx$ 0.6)
Relative Density / Specific Gravity	$\approx$ 1.05 – 1.15 @ 20–25 °C
Solubility	Completely miscible in water
Partition Coefficient n-octanol/water	Not applicable (inorganic acid)
Auto-ignition Temperature	Not applicable
Decomposition Temperature	Not determined
Viscosity	Low; $\sim$ 1–5 mPa·s @ 25°C
VOC Content	0 g/L (water-based)

10.Stability and Reactivity

Section	Details
Reactivity	Strong inorganic acid. Reacts vigorously with bases (exothermic). Corrosive to many metals with hydrogen gas evolution.
Chemical Stability	Stable under normal conditions.
Possibility of Hazardous Reactions	Mixing with bleach/hypochlorites releases chlorine gas. Mixing with cyanides releases

	hydrogen cyanide.
Conditions to Avoid	Contact with bases, bleach/hypochlorites, cyanides, sulfides; contact with reactive metals; excessive heat; mixing with incompatible chemicals.
Incompatible Materials	Bases/alkalis; oxidizers (esp. hypochlorites); reactive metals; cyanides; sulfides—may release toxic gases. Excessive heat; contact with incompatible materials; contamination.
Hazardous Decomposition Products	.Hydrogen fluoride (HF), sulfur oxides, hydrogen gas under certain conditions.

11. Toxicological Information

Section	Details
Likely Routes of Exposure	Skin/eye contact; inhalation of mists; ingestion.
Acute Toxicity	Toxic via oral, dermal, and inhalation routes due to HF; corrosivity predominates
Skin Corrosion/Irritation	Causes severe skin burns; HF may penetrate tissue with delayed pain
Serious Eye Damage/Irritation	Causes serious eye damage; risk of corneal injury and permanent vision loss.
Respiratory or Skin Sensitization	Not expected to be a sensitizer.
Germ Cell Mutagenicity	Not expected to be mutagenic.
Carcinogenicity	Not classified as a carcinogen under OSHA HazCom 2012. Product is liquid avoid creating mists/aerosols
Reproductive Toxicity	Not expected to cause reproductive or developmental toxicity.
STOT — Single Exposure	Corrosive effects; respiratory irritation/edema possible with mists.
STOT — Repeated Exposure	Prolonged/repeated skin contact may cause dermatitis; dental erosion may occur with chronic exposure to strong acids.
Aspiration Hazard	Not expected to present an aspiration hazard.
LD 50/ LC50	Sulfuric acid (CAS 7664-93-9): LD ₅₀ (oral, rat) 2,140 mg/kg; LC ₅₀ (inhal., rat) 510 mg/m ³ /2 h. Hydrofluoric acid (CAS 7664-39-3): LC ₅₀ (inhal., rat) 0.58 mg/L/4 h (also reported 0.79 mg/L/1 h; ~1276–1278 ppm/1 h). Oral/dermal LD ₅₀ not well defined—treat as highly toxic (GHS Acute Tox. Cat. 2–3). APG surfactant: LD ₅₀ (oral, rat) > 5,000 mg/kg; LD ₅₀ (dermal, rabbit) > 2,000 mg/kg

12. Ecological Information

Section	Details
Ecotoxicity	Acidic discharges can be harmful to aquatic life by lowering pH. Avoid release to the environment.
Persistence/Degradability	Inorganic acids and salts are persistent; surfactants are expected to be readily biodegradable.
Bioaccumulation	Not expected for mixture.
Mobility in Soil	Water-soluble and mobile; phosphates may bind to soils/sediments.
Other Adverse Effects	Avoid uncontrolled releases; neutralize and precipitate fluoride where permitted.

13. Disposal Considerations

Section	Details
Waste Treatment Methods	Dispose in accordance with federal, state and local regulations. Neutralize cautiously to pH 6–9 (preferably with lime/calcium compounds to form CaF_2), collect solids, and dispose via licensed handler. Large volumes: collect in compatible containers for disposal by a licensed contractor.
RCRA Classification (40 CFR 261)	Waste with $\text{pH} \leq 2$ may be classified as **corrosive (D002)**. Generator is responsible for the final waste determination.
Contaminated Packaging	Empty containers may contain residue—do not reuse. Triple-rinse with water; add rinsate to process or manage as waste. Recycle clean HDPE where available.

14. Transport Information

Section	Details
UN Number	UN1760
Proper Shipping Name	Corrosive Liquid, N.O.S.(Hydrofluoric acid & Sulfuric acid Mixture), 8, PG II.
Transport Hazard Class(es)	Class 8 (Corrosive)
Packing Group	PG II

DOT (49 CFR)	Corrosive Liquid, N.O.S.(Hydrofluoric acid & Sulfuric acid Mixture), 8, PG II. Not a marine pollutant.
IATA/ICAO (Air)	Corrosive Liquid, N.O.S.(Hydrofluoric acid & Sulfuric acid Mixture), 8, PG II. Follow quantity/packaging limits.
IMDG (Sea)	Corrosive Liquid, N.O.S.(Hydrofluoric acid & Sulfuric acid Mixture), 8, PG II.; EmS: F-A, S-B. Not a marine pollutant.
Labels/Markings	Corrosive (Class 8). Use corrosion-resistant packaging and secure closures. Add hydrofluoric acid solution on shipping paper.
Special Precautions for User	Keep upright; segregate from bases and reactive metals; vent carefully when opening.
Transport in Bulk (MARPOL/IBC Code)	Not intended for bulk transport under MARPOL Annex II/IBC Code.

15. Regulatory Information

Section	Details
OSHA HazCom 2012	Hazardous chemical: Skin Corr. 1A; Eye Dam. 1; Acute Tox.; Met. Corr. 1; STOT RE 1.
TSCA	All intentional components are on the TSCA Inventory or exempt.
SARA 311/312	Immediate (acute) health hazard: YES; Delayed (chronic) health hazard: YES; Reactivity: YES.
SARA 302/304/CERCLA Reportable Quantity	Hydrofluoric acid is an Extremely Hazardous Substance (EHS); emergency planning/reporting may apply based on inventory thresholds.
SARA 313 (TRI)	No reportable constituents at or above de minimis unless site-specific thresholds are exceeded.
State Right-to-Know	Hydrofluoric acid and sulfuric acid appear on NJ/PA/MA RTK lists; workplace labeling may apply.
California Proposition 65	Sulfuric acid mist is listed; this product is not intended to generate mists under normal use.
Other Regulatory Notes	Not a pesticide; not regulated by FIFRA.

16. Other Information

Section	Details
Prepared By	Skyrex Inc. Compliance Team — Tel: 908-245-1152
Emergency Phone	Chemtel 1-800-255-3924 (24-hr)
Issue / Revision Date	September 19, 2025
Revision Number	2

Key Sources of Data	Supplier SDS for sulfuric acid, hydrofluoric acid, and APG surfactants; OSHA HazCom 2012; ACGIH/OSHA/NIOSH exposure limits; DOT/IATA/IMDG; EPA SARA/CERCLA guidance.
HMIS (estimate)	Health 3 Flammability 0 Physical Hazard 1 PPE: H (goggles/face shield, gloves, acid-resistant apron/boots)
NFPA 704	Health 3 Flammability 0 Instability 1 Special: —
Disclaimer	Information is believed accurate as of the revision date and provided without warranty. Users are responsible for determining suitability and for compliance with applicable laws.
Training Advice	Ensure employees read SDS/labels before use; maintain HF-specific first-aid materials (e.g., 2.5% calcium gluconate gel) on-site; provide eyewash/safety shower within 10 seconds travel distance; train on corrosive/HF handling and spill response

HEALTH	3
FLAMMABILITY	0
REACTIVITY	1
PERSONAL PROTECTION	H