

Safety Data Sheet

acc. to OSHA HCS (29 CFR 1910.1200)


Printing date: 10/11/2016

Revision: 10/11/2016

1 Identification

- **Product identifier**
- **Trade name:** Aluminum Brightener
- **Article number:** No other identifiers
- **Recommended use and restriction on use**
- **Recommended use:** Acidic cleaner.
- **Restrictions on use:** No relevant information available.
- **Details of the supplier of the Safety Data Sheet**
- **Manufacturer/Supplier:**
Fleetwing Corporation
742 S. Combee Road
Lakeland, FL 33801
(863) 665-7557
- **Emergency telephone number:**
ChemTel Inc.
(800)255-3924, +1 (813)248-0585

2 Hazard(s) identification

- **Classification of the substance or mixture**
Acute Tox. 3 H311 Toxic in contact with skin.
Acute Tox. 4 H332 Harmful if inhaled.
Skin Corr. 1A H314 Causes severe skin burns and eye damage.
- **Additional information:** There are no other hazards not otherwise classified that have been identified.
- **Label elements**
- **GHS label elements**
The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms:**

GHS05 GHS06
- **Signal word:** Danger
- **Hazard statements:**
H311 Toxic in contact with skin.
H332 Harmful if inhaled.
H314 Causes severe skin burns and eye damage.
- **Precautionary statements:**
P260 Do not breathe mist/vapors/spray.
P264 Wash thoroughly after handling.
P280 Wear protective gloves/protective clothing/eye protection.
P271 Use only outdoors or in a well-ventilated area.
P303+P361+P353 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

(Cont'd. on page 2)

Safety Data Sheet

acc. to OSHA HCS (29 CFR 1910.1200)

Printing date: 10/11/2016

Revision: 10/11/2016

Trade name: Aluminum Brightener

(Cont'd. of page 1)

P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P321 Specific treatment - after skin contact: Rub in Calcium gluconate solution or Calcium gluconate gel immediately.

P363 Wash contaminated clothing before reuse.

P312 Call a POISON CENTER/doctor if you feel unwell.

P301+P330+P331 If swallowed: Rinse mouth. Do NOT induce vomiting.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

- **Classification system**

- **NFPA ratings (scale 0 - 4)**



- **HMS-ratings (scale 0 - 4)**

HEALTH	3	Health = 3
FIRE	0	Fire = 0
REACTIVITY	0	Reactivity = 0

3 Composition/information on ingredients

- **Chemical characterization: Mixtures**

- **Components:**

7664-93-9	sulfuric acid Met. Corr. 1, H290; Skin Corr. 1A, H314	20-40%
1341-49-7	ammonium bifluoride Acute Tox. 3, H301 Met. Corr. 1, H290; Skin Corr. 1B, H314	5-10%
7664-39-3	hydrofluoric acid Acute Tox. 2, H300; Acute Tox. 2, H310; Acute Tox. 2, H330 Skin Corr. 1A, H314	1-5%
61789-40-0	Cocoamidopropyl Betaine Skin Irrit. 2, H315; Eye Irrit. 2A, H319	1-5%

- **Additional information:**

For the listed ingredient(s), the identity and/or exact percentage(s) are being withheld as a trade secret.
For the wording of the listed Hazard Statements refer to section 16.

4 First-aid measures

- **Description of first aid measures**

- **General information:**

Immediately remove any clothing soiled by the product.

Involve doctor immediately. Symptoms, including pain, following any exposure may be delayed by as much as 24 hours.

(Cont'd. on page 3)

Safety Data Sheet

acc. to OSHA HCS (29 CFR 1910.1200)

Printing date: 10/11/2016

Revision: 10/11/2016

Trade name: Aluminum Brightener

(Cont'd. of page 2)

- **After inhalation:**
Supply fresh air; consult doctor in case of complaints.
In case of irregular breathing or respiratory arrest provide artificial respiration.
- **After skin contact:**
Immediately rinse with water.
Rub in Calcium gluconate solution or Calcium gluconate gel immediately.
If skin irritation continues, consult a doctor.
Launder contaminated clothing before reuse.
Seek immediate medical help for blistering or open wounds.
- **After eye contact:**
Protect unharmed eye.
Remove contact lenses if worn.
Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:**
Rinse out mouth and then drink plenty of water.
Do not induce vomiting; immediately call for medical help.
- **Most important symptoms and effects, both acute and delayed:**
Breathing difficulty
Coughing
Danger of severe eye injury.
Strong caustic effect on skin and mucous membranes.
Acidosis
Nausea in case of ingestion.
Gastric or intestinal disorders when ingested.
- **Danger:**
Danger of impaired breathing.
Danger of disturbed cardiac rhythm.
Danger of circulatory collapse.
Danger of convulsion.
Danger of gastric perforation.
Toxic in contact with skin.
Harmful if inhaled.
- **Indication of any immediate medical attention and special treatment needed:**
Contains Fluoride Salts. Consult literature for specific antidotes.
Monitor circulation.
If necessary oxygen respiration treatment.
Medical supervision for at least 48 hours.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **For safety reasons unsuitable extinguishing agents:** None.
- **Special hazards arising from the substance or mixture**
Formation of toxic gases is possible during heating or in case of fire.

(Cont'd. on page 4)

Safety Data Sheet

acc. to OSHA HCS (29 CFR 1910.1200)

Printing date: 10/11/2016

Revision: 10/11/2016

Trade name: Aluminum Brightener

(Cont'd. of page 3)

- **Advice for firefighters**
- **Protective equipment:**
Wear self-contained respiratory protective device.
Wear fully protective suit.
- **Additional information:**
In case of fire involving large quantities, evacuate area and fight fire from the upwind side.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures:**
Use respiratory protective device against the effects of fumes/dust/aerosol.
Ensure adequate ventilation.
Wear protective equipment. Keep unprotected persons away.
Particular danger of slipping on leaked/spilled product.
- **Environmental precautions:**
Do not allow to enter sewers/ surface or ground water.
Inform respective authorities in case of seepage into water course or sewage system.
- **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose contaminated material as waste according to item 13.
Send for recovery or disposal in suitable receptacles.
- **Reference to other sections:**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

- **Handling**
- **Precautions for safe handling:**
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
- **Information about protection against explosions and fires:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **Storage**
- **Requirements to be met by storerooms and receptacles:**
Use receptacles with fluoroplastic lining.
Storage area should be dry and well-ventilated.
- **Information about storage in one common storage facility:**
Store away from foodstuffs.
Do not store together with alkalis (caustic solutions).
Store away from metals.
- **Further information about storage conditions:** Keep containers tightly sealed.
- **Specific end use(s):** No relevant information available.

(Cont'd. on page 5)

Safety Data Sheet

acc. to OSHA HCS (29 CFR 1910.1200)

Printing date: 10/11/2016

Revision: 10/11/2016

Trade name: Aluminum Brightener

(Cont'd. of page 4)

8 Exposure controls/personal protection

- **Control parameters**

- **Components with limit values that require monitoring at the workplace:**

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit.

At this time, the other constituents have no known exposure limits.

7664-93-9 sulfuric acid

PEL (USA)	Long-term value: 1 mg/m ³
REL (USA)	Long-term value: 1 mg/m ³
TLV (USA)	Long-term value: 0.2* mg/m ³ *as thoracic fraction
EL (Canada)	Long-term value: 0.2 mg/m ³ ACGIH A2; IARC 1
EV (Canada)	Long-term value: 0.2 mg/m ³
LMPE (Mexico)	Long-term value: 0.2* mg/m ³ A2;*fracción torácica

7664-39-3 hydrofluoric acid

PEL (USA)	Long-term value: 3 ppm as F
REL (USA)	Long-term value: 2.5 mg/m ³ , 3 ppm Ceiling limit value: 5* mg/m ³ , 6* ppm *15-min, as F
TLV (USA)	Long-term value: 0.41 mg/m ³ , 0.5 ppm Ceiling limit value: 1.64 mg/m ³ , 2 ppm as F; Skin, BEI
EL (Canada)	Ceiling limit value: 2 ppm
EV (Canada)	Long-term value: 0.5 ppm Ceiling limit value: 2 ppm as F
LMPE (Mexico)	Ceiling limit value: 2 mg/m ³ , 0.5 ppm PIEL, IBE

- **Ingredients with biological limit values:**

7664-39-3 hydrofluoric acid

BEI (USA)	3 mg/g creatinine Medium: urine Time: prior to shift Parameter: Fluorides (background, nonspecific)
	10 mg/g creatinine Medium: urine Time: end of shift Parameter: Fluorides (background, nonspecific)

(Cont'd. on page 6)

Safety Data Sheet

acc. to OSHA HCS (29 CFR 1910.1200)

Printing date: 10/11/2016

Revision: 10/11/2016

Trade name: Aluminum Brightener

(Cont'd. of page 5)

- **Exposure controls**

- **Personal protective equipment:**

- **General protective and hygienic measures:**

The usual precautionary measures for handling chemicals should be followed.

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Do not inhale gases / fumes / aerosols.

Store protective clothing separately.

Avoid contact with the eyes and skin.

- **Engineering controls:** No relevant information available.

- **Breathing equipment:**

Wear appropriate NIOSH respirator when ventilation is inadequate and occupational exposure limits are exceeded.

- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **Material of gloves**

Butyl rubber, BR Nitrile

rubber, NBR Fluorocarbon

rubber (Viton)

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

- **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

- **Eye protection:**

Contact lenses should not be worn.



Safety glasses

- **Body protection:** Apron

- **Limitation and supervision of exposure into the environment**

Avoid release to the environment.

- **Risk management measures** See Section 7 for additional information.

(Cont'd. on page 7)

Safety Data Sheet
acc. to OSHA HCS (29 CFR 1910.1200)

Printing date: 10/11/2016

Revision: 10/11/2016

Safety Data Sheet

acc. to OSHA HCS (29 CFR 1910.1200)

Printing date: 10/11/2016

Revision: 10/11/2016

Trade name: Aluminum Brightener

(Cont'd. of page 6)

9 Physical and chemical properties

· Information on basic physical and chemical properties

· Appearance:

· Form:	Liquid
· Color:	Colorless
· Odor:	Not determined.
· Odor threshold:	Not determined.

· pH-value at 20 °C (68 °F):	2
· Melting point/Melting range:	Not determined.
· Boiling point/Boiling range:	>100 °C (>212 °F)

· Flash point:	Not applicable.
----------------	-----------------

· Flammability (solid, gaseous):	Not applicable.
----------------------------------	-----------------

· Auto-ignition temperature:	Not determined.
------------------------------	-----------------

· Decomposition temperature:	Not determined.
------------------------------	-----------------

· Danger of explosion:	Product does not present an explosion hazard.
------------------------	---

· Explosion limits

· Lower:	Not determined.
· Upper:	Not determined.

· Oxidizing properties:	Non-oxidizing.
-------------------------	----------------

· Vapor pressure:	Not determined.
-------------------	-----------------

· Density:	Not determined.
· Relative density:	Not determined.
· Vapor density:	Not determined.
· Evaporation rate:	Not determined.

· Solubility in / Miscibility with Water:	Fully miscible.
---	-----------------

· Partition coefficient (n-octanol/water):	Not determined.
--	-----------------

· Viscosity

· Dynamic:	Not determined.
· Kinematic:	Not determined.

· Other information	No relevant information available.
---------------------	------------------------------------

10 Stability and reactivity

- **Reactivity:** No relevant information available.
- **Chemical stability:**
- **Thermal decomposition / conditions to be avoided:** Heating may cause release of toxic fumes.
- **Possibility of hazardous reactions:**
 - Reacts with alcohols.
 - Reacts with amines.

(Cont'd. on page 8)

Safety Data Sheet

acc. to OSHA HCS (29 CFR 1910.1200)

Printing date: 10/11/2016

Revision: 10/11/2016

Trade name: Aluminum Brightener

(Cont'd. of page 7)

Reacts with fats and oils.
 Reacts with alkali (lyes).
 Reacts with oxidizing agents.
 Reacts with various metals.
 Develops toxic gases / fumes.

- **Conditions to avoid:**

Excessive heat.
 Store away from oxidizing agents.

- **Incompatible materials:**

Oxidizers, strong bases, strong acids
 Do not store in glass or metal containers

- **Hazardous decomposition products:**

Carbon monoxide and carbon dioxide
 Hydrogen fluoride
 Sulfur oxides (SOx)
 Nitrogen oxides (NOx)
 Fluorine.

11 Toxicological information

- **Information on toxicological effects**

- **Acute toxicity:**

- **LD/LC50 values that are relevant for classification:**

1341-49-7 ammonium bifluoride

Oral	LD50	130 mg/kg (rat)
------	------	-----------------

- **Primary irritant effect:**

- **On the skin:** Strong caustic effect on skin and mucous membranes.
- **On the eye:** Strong caustic effect.
- **Sensitization:** No sensitizing effects known.
- **Subacute to chronic toxicity:** No relevant information available.

- **Carcinogenic categories**

- **IARC (International Agency for Research on Cancer):**

None of the ingredients are listed.

- **NTP (National Toxicology Program):**

7664-93-9	sulfuric acid	K
-----------	---------------	---

- **OSHA-Ca (Occupational Safety & Health Administration):**

None of the ingredients are listed.

- **Probable route(s) of exposure:**

Ingestion.
 Inhalation.
 Eye contact.
 Skin contact.

- **Acute effects (acute toxicity, irritation and corrosivity):**

Causes severe skin burns and eye damage.
 Toxic in contact with skin.

(Cont'd. on page 9)

Safety Data Sheet

acc. to OSHA HCS (29 CFR 1910.1200)

Printing date: 10/11/2016

Revision: 10/11/2016

Trade name: Aluminum Brightener

(Cont'd. of page 8)

Harmful if inhaled.

- **Repeated dose toxicity:** No relevant information available.
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
- **Germ cell mutagenicity:** Based on available data, the classification criteria are not met.
- **Carcinogenicity:** Based on available data, the classification criteria are not met.
- **Reproductive toxicity:** Based on available data, the classification criteria are not met.
- **STOT-single exposure:** Based on available data, the classification criteria are not met.
- **STOT-repeated exposure:** Based on available data, the classification criteria are not met.
- **Aspiration hazard:** Based on available data, the classification criteria are not met.

12 Ecological information

- **Toxicity**
- **Aquatic toxicity** No relevant information available.
- **Persistence and degradability** No relevant information available.
- **Bioaccumulative potential:** No relevant information available.
- **Mobility in soil:** No relevant information available.
- **Additional ecological information**
- **General notes:**
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
Must not reach bodies of water or drainage ditch undiluted or unneutralized.
- **Other adverse effects:** No relevant information available.

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
Can be disposed of with household garbage with prior chemical-physical or biological treatment following consultation with the waste disposal facility operator and the pertinent authorities and adhering to the necessary technical regulations.
The user of this material has the responsibility to dispose of unused material, residues and containers in compliance with all relevant local, state and federal laws and regulations regarding treatment, storage and disposal for hazardous and nonhazardous wastes. Residual materials should be treated as hazardous.
- **Uncleaned packagings**
- **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

- **UN-Number**
- **DOT, ADR, IMDG, IATA** UN3264

(Cont'd. on page 10)

Safety Data Sheet

acc. to OSHA HCS (29 CFR 1910.1200)

Printing date: 10/11/2016

Revision: 10/11/2016

Trade name: Aluminum Brightener

(Cont'd. of page 9)

· **UN proper shipping name**



Limited Quantity for packages less than 30 kg (66 lb) and inner packagings less than 1 L (0.3 gal).

· **DOT, IATA**

Corrosive liquid, acidic, inorganic, n.o.s. (Ammonium hydrogendifluoride, Sulfuric acid)

· **ADR**

3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (AMMONIUM HYDROGENDIFLUORIDE, SULPHURIC ACID)

· **IMDG**

CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (AMMONIUM HYDROGENDIFLUORIDE, SULPHURIC ACID)

· **Transport hazard class(es)**

· **DOT**



· **Class**

8 Corrosive substances

· **Label**

8, 6.1

· **ADR**



· **Class**

8 (C1) Corrosive substances

· **Label**

8+6.1

· **IMDG**



· **Class**

8 Corrosive substances

· **Label**

8/6.1

· **IATA**



· **Class**

8 Corrosive substances

· **Label**

8 (6.1)

· **Packing group**

· **DOT, ADR, IMDG, IATA**

II

(Cont'd. on page 11)

Safety Data Sheet

acc. to OSHA HCS (29 CFR 1910.1200)

Printing date: 10/11/2016

Revision: 10/11/2016

Trade name: Aluminum Brightener

(Cont'd. of page 10)

- | | |
|--|---|
| · Environmental hazards | |
| · Marine pollutant: | No |
| · Special precautions for user | Warning: Corrosive substances |
| · Danger code (Kemler): | 80 |
| · EMS Number: | F-A,S-B |
| · Segregation groups | Acids |
| · Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code | Not applicable. |
| · Transport/Additional information: | |
| · DOT | |
| · Quantity limitations | On passenger aircraft/rail: 1 L
On cargo aircraft only: 30 L |

15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture
- United States (USA)
- SARA

· Section 302 (extremely hazardous substances):
--

None of the ingredients are listed.

· Section 304 (emergency release notification):
--

None of the ingredients are listed.

· Section 355 (extremely hazardous substances):
--

7664-93-9 sulfuric acid

7664-39-3 hydrofluoric acid

· Section 313 (Specific toxic chemical listings):
--

7664-93-9 sulfuric acid

7664-39-3 hydrofluoric acid

· TSCA (Toxic Substances Control Act)
--

All ingredients are listed.

· Proposition 65 (California)

· Chemicals known to cause cancer:

None of the ingredients are listed.

· Chemicals known to cause reproductive toxicity for females:
--

None of the ingredients are listed.

· Chemicals known to cause reproductive toxicity for males:
--

None of the ingredients are listed.

(Cont'd. on page 12)

Safety Data Sheet

acc. to OSHA HCS (29 CFR 1910.1200)

Printing date: 10/11/2016

Revision: 10/11/2016

Trade name: Aluminum Brightener

(Cont'd. of page 11)

· Chemicals known to cause developmental toxicity:

None of the ingredients are listed.

· Carcinogenic categories
· EPA (Environmental Protection Agency):

None of the ingredients are listed.

· IARC (International Agency for Research on Cancer):

1341-49-7	ammonium bifluoride	3
111-76-2	2-butoxyethanol	3

· NIOSH-Ca (National Institute for Occupational Safety and Health):

None of the ingredients are listed.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· Date of preparation / last revision 10/11/2016 / -
· Abbreviations and acronyms:

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
 IMDG: International Maritime Code for Dangerous Goods
 DOT: US Department of Transportation
 IATA: International Air Transport Association
 CAS: Chemical Abstracts Service (division of the American Chemical Society)
 NFPA: National Fire Protection Association (USA)
 HMIS: Hazardous Materials Identification System (USA)
 LC50: Lethal concentration, 50 percent
 LD50: Lethal dose, 50 percent
 NIOSH: National Institute for Occupational Safety
 OSHA: Occupational Safety & Health
 TLV: Threshold Limit Value
 PEL: Permissible Exposure Limit
 REL: Recommended Exposure Limit
 BEI: Biological Exposure Limit
 LDLo: Lowest Lethal Dose Observed
 Met. Corr. 1: Corrosive to metals – Category 1
 Acute Tox. 2: Acute toxicity – Category 2
 Acute Tox. 3: Acute toxicity – Category 3
 Acute Tox. 4: Acute toxicity – Category 4
 Skin Corr. 1A: Skin corrosion/irritation – Category 1A
 Skin Corr. 1B: Skin corrosion/irritation – Category 1B
 Skin Irrit. 2: Skin corrosion/irritation – Category 2
 Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A

· Sources

SDS Prepared by:
 ChemTel Inc.
 1305 North Florida Avenue
 Tampa, Florida USA 33602-2902
 Toll Free North America 1-888-255-3924 Intl. +01 813-248-0573
 Website: www.chemtelinc.com