AluminEtch

ALUMINUM ETCHING CHEMICAL AND CLEANER

SAFETY DATA SHEET (SDS)

Print Date: 04/18/2025

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SECTION 1: Identification

1.1 GHS Product identifier

Product name	KoatGuard AluminEtch
Product number	KGAE

1.3 Recommended use of the chemical and restrictions on use

Aluminum etching chemical, brightener, and cleaner. Do not use on polished aluminum.

1.4 Supplier's details

Name	KoatGuard Chemicals
Address	12683 McIllwain Rd Holladay, TN 38341 United States
Telephone	931-388-7730

1.5 Emergency phone number (Poison Control)

1-800-222-1222

SECTION 2: Hazard identification

General hazard statement

"Consumer Products", as defined by the US Consumer Product Safety Act and which are used as intended (typical consumer duration and frequency), are exempt from the OSHA Hazard Communication Standard (29 CFR 1910.1200). This SDS is being provided as a courtesy to help assist in the safe handling and proper use of the product.

2.1 Classification of the substance or mixture

GHS classification in accordance with: OSHA (29 CFR 1910.1200)

- Acute toxicity, dermal, Cat. 3
- Acute toxicity, inhalation, Cat. 4
- Acute toxicity, inhalation, Cat. 5
- Acute toxicity, oral, Cat. 4
- Eye damage/irritation, Cat. 2A
- Skin corrosion/irritation, Cat. 2

2.2 GHS label elements, including precautionary statements

Pictograms

Signal word **Danger**

Hazard statement(s)

H302	Harmful if swallowed
H311	Toxic in contact with skin
H315	Causes skin irritation
H319	Causes serious eye irritation
H332	Harmful if inhaled
H333	May be harmful if inhaled

Precautionary statement(s)

P261	Avoid breathing dust/fume/gas/mist/vapors/spray.
P264	Wash … thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear eye protection/face protection/protective gloves/protective clothing.
P301+P312	IF SWALLOWED: Call a POISON CENTER /doctor/...if you feel unwell,
P302+P352	IF ON SKIN: Wash with plenty of water/...
P304+P312	IF INHALED: Call a POISON CENTER/doctor/... if you feel unwell.
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.
P312	Call a POISON CENTER/doctor/.../ if you feel unwell.
P321	Specific treatment (see … on this label).
P330	Rinse mouth.
P332+P313	If skin irritation occurs: Get medical advice/attention.
P337+P313	If eye irritation persists: Get medical advice/attention.
P361+P364	Take off immediately all contaminated clothing and wash it before reuse.
P362+P364	Take off contaminated clothing and wash it before reuse.
P405	Store locked up.
P501	Dispose of contents/container to …

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Hazardous components

1. Hydrofluoric acid (conc. less than 50%)

Concentration	> 1 % (volume)
EC no.	231-634-8
CAS no.	7664-39-3
Index no.	009-003-00-1

- Acute toxicity, dermal, Cat. 1
- Acute toxicity, inhalation, Cat. 2
- Acute toxicity, oral, Cat. 2
- Skin corrosion/irritation, Cat. 1A

H300	Fatal if swallowed
H310	Fatal in contact with skin
H314	Causes severe skin burns and eye damage
H330	Fatal if inhaled
SCLs/M-factors/ATEs	Skin Corr. 1A; H314: C ≥ 7 % Skin Corr. 1B; H314: 1 % ≤ C < 7 % Eye Irrit. 2; H319: 0,1 % ≤ C < 1 %
H314	Causes severe skin burns and eye damage
H335	May cause respiratory irritation

2. Sulfuric acid

4	Concentration	> 1 % (volume)
5	EC no.	231-639-5

CAS no.	7664-93-9
Index no.	016-020-00-8

- Skin corrosion/irritation, Cat. 1A

H314	Causes severe skin burns and eye damage
SCLs/M-factors/ATEs	Skin Corr. 1A; H314: C ≥ 15 %
	Skin Irrit. 2; H315: 5 % ≤ C < 15 %
	Eye Irrit. 2; H319: 5 % ≤ C < 15 %

Trade secret statement (OSHA 1910.1200(i))
*The specific chemical identities and/or actual concentrations or actual concentration ranges for one or more listed components are being withheld as trade secrets under the US regulation 29 CFR 1910.1200(i).

SECTION 4: First-aid measures

4.1 Description of necessary first-aid measures

General advice	Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.
If inhaled	Remove person to fresh air and keep comfortable for breathing. Call a poison center or doctor if you feel unwell. Acute and delayed symptoms and effects: May cause respiratory irritation. Signs/symptoms may include burning pain in the nose and throat, coughing, wheezing, shortness of breath and pulmonary edema.
In case of skin contact	Take off immediately all contaminated clothing. Rinse skin with water/shower for at least 15 minutes. Call a poison center or doctor if irritation develops or persists. Wash contaminated clothing before reuse. Acute and delayed symptoms and effects: Causes severe skin burns. Signs/symptoms may include localized redness, swelling, itching, intense pain, blistering, ulceration, and tissue destruction.
In case of eye contact	Rinse cautiously with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center or doctor. Acute and delayed symptoms and effects: Causes serious eye damage. Signs/symptoms may include cloudy appearance of the cornea, chemical burns, severe pain, tearing, ulcerations, significantly impaired vision or complete loss of vision.
If swallowed	Rinse mouth. Do NOT induce vomiting. Immediately call a poison center or doctor. If vomiting occurs naturally, have victim lean forward to reduce the risk of aspiration. Never give anything by mouth to an unconscious person. Acute and delayed symptoms and effects: Harmful if swallowed. Causes burns to nose, mouth, throat, and digestive tract. Signs/symptoms may include severe mouth, throat and abdominal pain, nausea, vomiting, and diarrhea, blood in the feces and/or vomitus may also be seen.

4.2 Most important symptoms/effects, acute and delayed
The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11

4.3 Indication of immediate medical attention and special treatment needed, if necessary
No data available.

SECTION 5: Fire-fighting measures

5.1 Suitable extinguishing media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Specific hazards arising from the chemical

Sulfuric acid: No data available.

5.3 Special protective actions for fire-fighters
Avoid any skin contact. Effects of contact or inhalation may be delayed. Fire may produce irritating, corrosive and/or toxic gases. Runoff from fire control or dilution water may be corrosive and/or toxic and cause pollution. Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible.

Further information
Use water spray to cool unopened containers.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Wear respiratory protection if necessary. Avoid breathing gas, mist, vapors, or spray. Ensure adequate ventilation. Evacuate personnel to safe areas.
For personal protection see section 8.

6.2 Environmental precautions
Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up
Stop leak if you can do it without risk. Sweep up and shovel into suitable containers for disposal.

Reference to other sections
For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling
Do not swallow. Do not breathe mist, vapors, or spray. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. See Section 8 for information on Personal Protective Equipment.

7.2 Conditions for safe storage, including any incompatibilities
Store locked up. Store away from incompatible materials. See Section 10 for information on Incompatible Materials. Keep out of the reach of children.

Specific end use(s)

Apart from the uses mentioned in section 1 no other specific uses are stipulate

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

1. Hydrofluoric acid (conc. less than 50%) (CAS: 7664-39-3)
TWA [Hydrogen fluoride (as F)] (Inhalation): 3 Peak limitation ppm; 2.6 Peak limitation mg/m3; AU (AU/SWA)

IOELV-LTEL [Hydrogen fluoride] (Inhalation): 1.5 mg/m3; EU (EU/OSHA)
List no. 1 under Council Directive 98/24/EC as amended. List last updated on 8/29/2023.

IOELV-LTEL [Hydrogen fluoride] (Inhalation): 1.8 ppm; EU (EU/OSHA)
List no. 1 under Council Directive 98/24/EC as amended. List last updated on 8/29/2023.

IOELV-STEL [Hydrogen fluoride] (Inhalation): 2.5 mg/m3; EU (EU/OSHA)
List no. 1 under Council Directive 98/24/EC as amended. List last updated on 8/29/2023.

IOELV-STEL [Hydrogen fluoride] (Inhalation): 3 ppm; EU (EU/OSHA)
List no. 1 under Council Directive 98/24/EC as amended. List last updated on 8/29/2023.

2. Sulfuric acid (CAS: 7664-93-9 EC: 231-639-5)
TWA (Inhalation): 1 mg/m3; US (US/OSHA)
USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000

TWA [Sulphuric acid] (Inhalation): 1 mg/m3; AU (AU/SWA)

STEL [Sulphuric acid] (Inhalation): 3 mg/m3; AU (AU/SWA)

IOELV-LTEL [Sulphuric acid, Mist] (Inhalation): 0.05 mg/m3; EU (EU/OSHA)
2 When selecting an appropriate exposure monitoring method, account should be taken of potential limitations and interferences that may arise in the presence of other sulphur compounds. 3 The mist is defined as the thoracic fraction. List no. 3 under Coun

PEL (Inhalation): 1 mg/m3; US (US/OSHA)
OSHA Annotated Table Z-1, www.osha.gov

PEL (Inhalation): 0.1 mg/m3, (ST) 3 mg/m3; US (Cal/OSHA)
OSHA Annotated Table Z-1, www.osha.gov

REL (Inhalation): 1 mg/m3; US (NIOSH)
OSHA Annotated Table Z-1, www.osha.gov

8.2 Appropriate engineering controls
Use ventilation adequate to keep exposures (airborne levels of dust, fume, vapor, gas, etc.) below recommended exposure limits.

8.3 Individual protection measures, such as personal protective equipment (PPE)

Pictograms

Eye/face protection
Tightly fitting safety goggles. If splash hazard, wear face shield (8-inch minimum). Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection
Wear protective gloves. Consult manufacturer specifications for further information.

Body protection
Wear protective clothing. Clothing with full length sleeves and pants should be worn. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection
Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multipurpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Thermal hazards
No data available.

Environmental exposure controls
Do not let product enter drains.

SECTION 9: Physical and chemical properties

Appearance (physical state, color, etc.)	colorless, strong odor
Odor	No data available.
Odor threshold	No data available.
pH	No data available.
Melting point/freezing point	No data available.
Initial boiling point and boiling range	No data available.
Flash point	No data available.
Evaporation rate	No data available.
Flammability (solid, gas)	No data available.
Upper/lower flammability or explosive limits	No data available.
Vapor pressure	No data available.
Vapor density	No data available.
Relative density	No data available.
Solubility(ies)	No data available.
Partition coefficient: n-octanol/water	No data available.
Auto-ignition temperature	No data available.
Decomposition temperature	No data available.
Viscosity	No data available.

Additional properties

Physical state	Liquid
Color	colorless, clear
Explosive properties	No data available.
Oxidizing properties	No data available.

Particle characteristics
No data available.

Further safety characteristics (supplemental)
No data available.

SECTION 10: Stability and reactivity

10.1 Reactivity
Contact with incompatible materials. Sources of ignition. Exposure to heat.

10.2 Chemical stability
Stable under normal storage conditions.

10.3 Possibility of hazardous reactions
No data available.

10.4 Conditions to avoid

Heat, flames, and sparks. Incompatible products. Keep away from open flames, hot surfaces and sources of ignition

10.5 Incompatible materials

Sulfuric acid: Bases, Halides, Organic materials, Carbides, fulminates, Nitrates, picrates, Cyanides, Chlorates, alkali halides, Zinc salts, permanganates, e.g. potassium permanganate, Hydrogen peroxide, Azides, Perchlorates., Nitromethane, phosphorous, Reacts violently with:, cyclopentadiene, cyclopentanone oxime, nitroaryl amines, hexalithium disilicide, phosphorous(III) oxide, Powdered metals

10.6 Hazardous decomposition products

Sulfuric acid: Hazardous decomposition products formed under fire conditions. - Sulphur oxides
Other decomposition products - No data available
In the event of fire: see section 5

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity
Likely Routes of Exposure: Eye contact. Skin contact. Inhalation. Ingestion.

Symptoms (including delayed and immediate effects):
Inhalation: May cause respiratory irritation. Signs/symptoms may include burning pain in the nose and throat, coughing, wheezing, shortness of breath and pulmonary edema.
Ingestion: Causes burns to nose, mouth, throat, and digestive tract. Signs/symptoms may include severe mouth, throat and abdominal pain, nausea, vomiting, and diarrhea, blood in the feces and/or vomitus may also be seen.

// ----- From the Suggestion report (10/03/2023, 10:21 AM) ------ //
The ATE (dermal) of the mixture is: 500 mg/kg bw

// ----- From the Suggestion report (10/03/2023, 10:21 AM) ------ //
The ATE (gas inhalation) of the mixture is: 10000 ppmV

// ----- From the Suggestion report (10/03/2023, 10:21 AM) ------ //
The ATE (vapor inhalation) of the mixture is: 50 mg/l

// ----- From the Suggestion report (10/03/2023, 10:21 AM) ------ //
The ATE (oral) of the mixture is: 500 mg/kg bw

Skin corrosion/irritation
Causes severe skin burns. Signs/symptoms may include localized redness, swelling, itching, intense pain, blistering, ulceration, and tissue destruction.

Serious eye damage/irritation
Causes serious eye damage. Signs/symptoms may include cloudy appearance of the cornea, chemical burns, severe pain, tearing, ulcerations, significantly impaired vision or complete loss of vision.

Respiratory or skin sensitization

May cause an allergic skin reaction

May cause allergy or asthma symptoms or breathing difficulties if inhaled

Germ cell mutagenicity
Sulfuric acid
LD50 Oral - Rat - 2,140 mg/kg

Carcinogenicity
Sulfuric acid

Result: The International Agency for Research on Cancer (IARC) has determined that occupational exposure to strong inorganic-acid mists containing sulfuric acid is carcinogenic to humans (group 1).
IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity
Sulfuric acid

Result: The methods for determining the biological degradability are not applicable to inorganic substances.

Specific target organ toxicity (STOT) - single exposure
No data available.

Specific target organ toxicity (STOT) - repeated exposure

No data available.

Aspiration hazard
Sulfuric acid
LD50
Result: The International Agency for Research on Cancer (IARC) has determined that occupational exposure to strong inorganic-acid mists containing sulfuric acid is carcinogenic to humans (group 1).
IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Additional information

Hydrofluoric acid (conc. less than 50%): From Sigma:

Hazard Codes T+,C

Risk Statements 26/27/28-35

Safety Statements 26-28-36/37/39-45

RIDADR UN 1790 8/PG 2

WGK Germany 2

RTECS MW7875000

- - -

Sulfuric acid: Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin, spasm, inflammation and edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary edema, burning sensation, Cough, wheezing, laryngitis, Shortness of breath, Headache, Nausea, Vomiting, Pulmonary edema. Effects may be delayed., To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.
Stomach - Irregularities - Based on Human Evidence

SECTION 12: Ecological information

Toxicity
No data available on product

Persistence and degradability

No data available on product

Bioaccumulative potential
No data available on product

Mobility in soil
No data available.

Results of PBT and vPvB assessment
No data available.

SECTION 13: Disposal considerations

Disposal methods

Product disposal
Disposal should be in accordance with applicable Federal, State and local laws and regulations. Local regulations may be more stringent than State or Federal requirements.

Packaging disposal
Dispose of as unused product.

SECTION 14: Transport information

14.1 UN Number
14.2 UN Proper Shipping Name
14.3 Transport hazard class(es)
14.4 Packing group

SECTION 15: Regulatory information

15.1 Safety, health, and environmental regulations specific for the product in question California Prop. 65 Components

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

Canadian Domestic Substances List (DSL)
Chemical name: Hydrofluoric acid
CAS number: 7664-39-3

Chemical name: Sulfuric acid
CAS number: 7664-93-9

EU Cosmetics Prohibited Substances List, (EC) 2009/1223 Annex II
Chemical name/INN: Hydrofluoric acid (conc. less than 50%)
CAS number: 7664-39-3

EU Table of Harmonised Entries (Annex VI to CLP)
Chemical name: Hydrofluoric acid (conc. less than 50%)
CAS number: 7664-39-3

Chemical name: Sulfuric acid
CAS number: 7664-93-9

Massachusetts Right To Know Components
No components are subject to the Massachusetts Right to Know Act.

Chemical name: Hydrofluoric acid
CAS number: 7664-39-3

Sulfuric acid
CAS number: 7664-93-9

New Jersey Right To Know Components
No components are subject to the New Jersey Right To Know Act.

Common name: HYDROGEN FLUORIDE
CAS number: 7664-39-3

Sulfuric acid
CAS number: 7664-93-9

Pennsylvania Right To Know Components
No components are subject to the Pennsylvania Right To Know Act.

Chemical name: Hydrofluoric acid
CAS number: 7664-39-3

Sulfuric acid
CAS number: 7664-93-9

SARA 302 Components
No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

The following components are subject to reporting levels established by SARA Title III, Section 302:
Sulfuric acid

CAS number: 7664-93-9

SARA 311/312 Hazards
Acute Health Hazard

Acute Health Hazard, Chronic Health Hazard

SARA 313 Components
This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

The following components are subject to reporting levels established by SARA Title III, Section 313:
Sulfuric acid
CAS number: 7664-93-9

US EPA TSCA public inventory
Chemical name: Hydrofluoric acid (conc. less than 50%)
CAS number: 7664-39-3

Chemical name: Sulfuric acid

SECTION 16: Other information

CAS number: 7664-93-9

16.1 Further information/disclaimer

DISCLAIMER: The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigation to determine the suitability of information for their particular purposes. In no event shall [COMPANY NAME] be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, whatsoever arising, even if [KOATGUARD CHEMICALS] has been advised of the possibility of such damages.