Sunchem AB

SAFETY DATA SHEET

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH)

Aluminium Etch 16:1:1:2

SECTION 1. Identification of the substance/mixture and of the company

1.1 Product identifier Aluminium Etch 16:1:1:2

1.2 Relevant identified uses of the product and uses advised against

Intended use: Professional use. Electronics chemical.

1.3 Details of the supplier of the safety data sheet

Manufacturer: Sunchem AB
Postadress: Box 69
SE - 433 21 Partille
Land: Sverige
Telefon +46-31-447310

E-mail: purchasing@sunco.se

1.4 Telephone emergency number:

In case of emergency, contact toxicological information, emergency tel 112.
For non-emergency poison information, see:
http://www.who.int/gho/phe/chemical_safety/poisons_centres/en/

SECTION 2. Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 (CLP)

Skin Corrosion/irritation ((Category 1B); H314
Serious eye damage/eye irritation (Category 1), H318
Acute toxicity (Category 4: inhalation), H332

2.2 Label elements

Classification according to regulation (EC) No. 1272/2008 (CLP)

Pictogram(s)

Signal word Danger

Hazard statements

H314 Causes severe skin burns and eye damage.
H332 Harmful if inhaled.

Precautionary statements

P260 - Do not breathe dust/fume/gas/mist/vapours/spray.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
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
P301+P330+P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting.

Contains Phosphoric acid (70%), Acetic acid (5%) och Nitric acid (5%).

2.3 Other hazards

This mixture does not contain any substances that meets the criteria for PBT or vPvB in accordance with Regulation (EC) No. 1907/2006, Annex XIII.

This mixture does not contain substances at ≥ 0,1% with endocrine disrupting properties in accordance with the criteria of the Delegated Regulation (EU) 2017/2100 of the Commission or Regulation (EU) 2018/605 of the Commision.

SECTION 3. Composition/information on ingredients

3.2 Mixtures

Declaration of components according to Regulation (EC) No. 1272/2008

Chemical name	CAS No. EC No.	REACH Reg. No. Index No.	Conc. %	Classification
Phosphoric acid (ortophosphoric acid)	76664-38-2 231-633-2	01-2119485924-24 015-011-00-6	60 - 70	Skin Corr 1AB; H314
Acetic acid	64-19-7 200-580-7	01-2119475328-30 607-002-00-6	5	Flam Liq 3; H226 Skin Corr 1A, H314
Nitric acid	7697-37-2 231-714-2	01-2119487297-23 007-004-00-1	2 - 5	Ox. Liq 2; H272 Skin Corr 1A; H314 Acute Tox 3; H331

Specific concentration limits of classification (CLP):
Phosphoric acid
(10 =<C < 25) Eye Irrit. 2, H319
(10 =<C < 25) Skin Irrit. 2, H315
(C >= 25) Skin Corr. 1B, H314

Acetic acid
(10 =<C < 25) Eye Irrit. 2, H319
(10 =<C < 25) Skin Irrit. 2, H315
(25 =<C < 90) Skin Corr. 1B, H314
(C >= 90) Skin Corr. 1A, H314

Nitric acid
(5 =<C < 20) Skin Corr. 1B, H314
(C >= 20) Skin Corr. 1A, H314
(65 =<C < 99) Ox. Liq. 3, H272
(C >= 99) Ox. Liq. 2, H272
Note:
ATE inhalation value is the reason of extra H332 classification (due to 5% Nitric Acid), see section 11.

For full text of the H-statements see section 16 "Other information".

SECTION 4. First aid measures

4.1 Description of first aid measures

General: In the least doubt or if symptoms persist, seek medical attention.

Inhalation: Call a poison center or a doctor if you feel unwell. Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor.

Skin contact: Wash with plenty of soap and water. Take off immediately all contaminated clothing. Get medical attention if any discomfort continues. Chemical burns must be treated by a physician. Rinse skin with water/shower. Immediately call a POISON CENTER/doctor.

Eye contact: Get medical advice/attention if you feel unwell. Immediately flush with plenty of water for up to 15 minutes. Remove any contact lenses and open eyelids widely. If irritation persists: Continue flushing during transport to hospital. Bring these instructions. Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.

Ingestion: DO NOT induce vomiting. Get medical attention immediately. Rinse nose, mouth and throat with water. Drink plenty of water. Get medical attention immediately!. Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER/doctor.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms/effects after inhalation : Harmful if inhaled.
Symptoms/effects after skin contact : Causes severe skin burns and eye damage.
Symptoms/effects after eye contact : Causes serious eye damage.
Symptoms/effects after ingestion : If ingested may cause corrosion of gastrointestinal tract.

4.3 Indication of any immediate medical attention and special treatment needed

Symptomatic treatment. Consult a doctor and show this safety data sheet.

SECTION 5. Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media: Use water fog, alcohol resistant foam, powder, or carbon dioxide.

Unsuitable extinguishing media: Water with a full water jet.

5.2 Special hazards arising from the substance or mixture

Non flammable.

Hazardous decomposition products in case of :

Toxic and corrosive fumes are released. Very corrosive gases/vapours/fumes. Phosphorus oxides if fire.

5.3 Advice to firefighters

Do not enter fire area without proper personal protective equipment, including respiratory protection.
Exercise caution when fighting any chemical fire. Containers close to fire should be removed immediately or cooled with water.

Protection during firefighting : Wear self-contained breathing apparatus (SCBA) to prevent contact with thermal decomposition products.

SECTION 6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation, especially in confined areas. Avoid contact with skin and eyes. Use personal protective equipment as required. Do not breathe gas/fumes/vapour/spray (appropriate wording to be specified by the manufacturer).

Wear appropriate personal protective equipment - see Section 8.
Keep public away from danger area.

Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2 Environmental precautions

Avoid discharges to soil, water or air. Prevent discharges into sewers.

6.3 Methods and material for containment and cleaning up

Dispose of at a licensed waste collection centre.
Take up liquid spill into absorbent material. Post clean with water. Never pour spill back in original packaging for reuse.
Dispose of materials or solid residues at an authorized site.

6.4 Reference to other sections

See Section 8 for personal protection and Section 13 for disposal considerations, respectively.

SECTION 7. Handling and storage

7.1 Precautions for safe handling

Corrosive storage.
Avoid spilling, skin and eye contact. Avoid inhalation of vapours. Use only outdoors or in a well-ventilated area. Ensure adequate ventilation. NEVER pour water into this substance; when dissolving or diluting always add it slowly to the water.

Hygiene measures:
Do not eat, drink or smoke when using this product. Wash hands, forearms and face thoroughly after handling. Wash contaminated clothing before reuse.

7.2 Conditions for safe storage, including any incompatibilities

Comply with applicable regulations.
Keep cool. Protect from sunlight. Store in a dry place. Store in a well-ventilated place. Keep container tightly closed. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Incompatible materilas: Bases.

7.3 Specific end use(s)

See Section 1.2.

SECTION 8. Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits
The national occupational exposure limit values that correspond to Union occupational exposure limit values in accordance with Directive 98/24/EC, including any notations as referred to in Article 2(3) of Commission Decision 2014/113/EU(5);

Substances	ppm	mg/m^3	Interval	Category	Notes
Ortophosphoric acid	-	1	8 hours	TWA	
Ortophosphoric acid	-	2	15 minutes	STEL	
Acetic acid	10	25	8 hours	TWA	
Acetic acid	20	50	15 minutes	STEL	
Nitric acid	-	-	8 hours	TWA	
Nitric acid	1	2,6	15 minutes	STEL	

8.2 Exposure control

Assigned personal protection equipment is a guideline. A risk assessment of actual risks may lead to other requirements.

8.2.1 Engineering controls

Work in a well-ventilated area. Mechanical ventilation of local exhaust may be required.

8.2.2 Personal protection

Do not eat, drink or smoke when using this product. Wash hands after handling.

8.2.2.1 Eye protection

Wear protective googles according EN standard 166.

8.2.2.2 Hand protection

Use protective gloves according EN standard 374. Recommended glove barrier materials include nitrile rubber and butyl rubber:
Layer thickness : >0,40mm. Breakthrough time : 240 >480min.

Skin protection

In case of handling large quantities or in the event of spatter, wear protective clothes, i.e. an apron.

8.2.2.3 Respiratory protection

In case of inadequate ventilation, respiratory protection according EN standard 149 (full-face mask with gas filter type E, gul) or breathing apparatus may be required.

8.2.2.4 Thermal hazard

No thermal hazard.

8.3 Environmental exposure control

See Section 6.2.

SECTION 9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

a	**Physical state**	Liquid
b	**Colour**	Colourless
c	**Odour/odour threshold**	Stinging
d	**Melting point/Freezing point**	No data available/not applicable
e	**Initial boiling point/boiling range**	No data available/not applicable
f	**Flammability (solid, gas)**	No data available/not applicable
g	**Lower and upper explosion limit**	No data available/not applicable
h	**Flash point**	No data available/not applicable
i	**Auto-ignition temperature**	No data available/not applicable
j	**Decomposition temperature**	No data available/not applicable
k	**pH**	No data available/not applicable
l	**Kinematic viscosity**	No data available/not applicable
m	**Solubility**	Very soluble in water
n	**Partition coefficient (n-octanol/water)**	No data available/not applicable
o	**Vapour pressure**	0,03 mm Hg
p	**Density and/or relative density**	1,59 g/cm^3
q	**Relative vapour density**	No data available/not applicable
r	**Particle characteristics**	No data available/not applicable

9.2 Other information

No more specific or information about safety characteristics.

SECTION 10. Stability and reactivity

10.1 Reactivity

No reactive groups noted.

10.2 Chemical stability

Stable under recommended storage and usage conditions.

10.3 Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use. NEVER add water to acid!

10.4 Conditions to avoid

Stable under recommended storage and usage conditions (se Section 7).

10.5 Incompatible materials

Alkali metals. alkalis. Strong oxidising agents.

10.6 Hazardous decomposition products

During fire or high temperatures, carbon monoxide (CO) may be formed.

SECTION 11. Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

No toxicological tests have been performed on the product. The product is classified as harmful if inhaled.

Estimated value of **ATE**:
ATE oral: > 2000 mg/kg
ATE dermal: >2000 mg/kg
ATE inandning: >10 mg/l

General toxicological information

Hazardous components CAS no.	Value Type	Value	Route of exposure	Exposure time	Species	Method
Phosphoric acid	LD50	1800 mg/kg	Oral		Rat	
Phosphoric acid	LD50	2740 mg/kg	Dermal		Rabbit	
Acetic acid	LD50	3310 mg/kg	Oral		Rat	
Nitric acid	LC50	2,65 mg/l	Inhalation	4h/ vapour	Rat	

Classification according to GHS (1272/2008/EC, CLP)

Acute toxicity:	Harmful if inhaled.
Skin corrosion/irritation:	Causes severe skin burns and eye damage.
Serious eye damage/eye irritation:	Causes serious eye damage.
Respiratory or skin sensitization:	Not classified
Germ cell mutagenicity:	Not classified
Carcinogenicity:	Not classified
Reproductive toxicity:	Not classified
STOT – single exposure:	Not classified
STOT – repeated exposure:	Not classified
Aspiration hazard:	Not classified

11.2 Information on other hazards

This mixture does not contain substances at ≥ 0,1% with endocrine disrupting properties in accordance with the criteria of the Delegated Regulation (EU) 2017/2100 of the Commission or Regulation (EU) 2018/605 of the Commision.

SECTION 12. Ecological information

12.1 Toxicity

Large amounts of the product may affect the acidity (pH-factor) in water with possible risk of harmful effects to aquatic organisms. Not regarded as dangerous to the environment. This does not, however, rule out the possibility that large or frequent smaller emissions of the product may be harmful to the environment.

Hazardous components CAS no.	Value Type	Value	Route of Exposure	Exposure Time	Species	Method
Phosphoric acid	LC50	138 mg/l	Vatten	96 h	Fish	
Acetic acid	LC50	79 mg/l	Vatten	96 h	Fish	
Acetic acid	LC50	65 mg/l	Vatten	48 h	Daphnia	
Nitric acid	LC50	72 mg/l	Vatten	96 h	Fish	

12.2 Persistence and degradability

Aluminium Etch 16:1:1:2: Components are biodegradable

12.3 Bioaccumulative potential

Acetic acid: > 60 % (28 days, method: OECD 301C)

Phosphoric acid	Log Pow	< 0
Acetic acid	Log Pow	-0,23
Nitric acid	Log Pow	-2,3

12.4 Mobility in soil

Aluminium Etch 16:1:1:2: Components are water soluble and may spread in water system and soil.

12.5 Results of PBT and vPvB assessment

The substance/mixture does not fulfil the criteria to be identified as PBT substance or vPvB substance.

12.6 Endocrine disrupted properties

This mixture does not contain substances at ≥ 0,1% with endocrine disrupting properties in accordance with the criteria of the Delegated Regulation (EU) 2017/2100 of the Commission or Regulation (EU) 2018/605 of the Commision.

12.7 Other adverse effects

No data available.

SECTION 13. Disposal considerations

13.1 Waste treatment methods

Dispose according to Directive 2008/98/EC on waste (Waste Framework Directive) and in compliance with local and national legislation. Do not allow to enter sewers. Transfer to a waste container and send for destruction.

Packaging may still contain hazardous residues and disposal should be undertaken by a licensed waste contractor. Any disposal practice must comply with local and national laws and regulations.

Suggested EWC codes

06 01 06* - other acids
16 05 07* - discarded inorganic chemicals consisting of or containing dangerous substances.

SECTION 14. Transport information

14.1 UN number

ADR	1805
RID	1805
IMDG	1805
ICAO/IATA	1805

14.2 UN proper shipping name

ADR	PHOSPHORIC ACID, SOLUTION
RID	PHOSPHORIC ACID, SOLUTION
IMDG	PHOSPHORIC ACID, SOLUTION
ICAO/IATA	PHOSPHORIC ACID, SOLUTION

14.3 Transport hazard class(es)

ADR	8
RID	8

ADN	8
IMDG	8
ICAO/IATA	8

14.4 Packaging group

ADR	III
RID	III
IMDG	III
ICAO/IATA	III

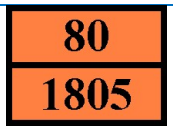
14.5 Environmental hazards

ADR	NO
RID	NO
IMDG	NO
ICAO/IATA	NO

14.6 Special precautions for user

- Overland transport

Limited quantities (ADR)	: 5l
Excepted quantities (ADR)	: E1
Hazard identification number (Kemler No.)	: 80

Orange plates : 

EAC code : 2R

- Transport by sea

Special provisions (IMDG)	: 223
EmS-No. (Fire)	: F-A
EmS-No. (Spillage)	: S-B

- Air transport

PCA Excepted quantities (IATA)	: E1
PCA Limited quantities (IATA)	: Y841
Special provisions (IATA)	: A3, A803

Rail transport

No data available

14.7 Maritime transport in bulk according to IMO instruments.

Not applicable

SECTION 15. Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Regulation (EC) No 1272/2008 (CLP) of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures. Latest update of legal requirements 23/10/2024 of CLP regulation.

Regulation (EC) No 1907/2006 (REACH) of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC.

Regulation (EU) 2020/878 of the European Commission, supplement for REACH appendix II.

The national occupational exposure limit values that correspond to Union occupational exposure limit values in accordance with Directive 98/24/EC, including any notations as referred to in Article 2(3) of Commission Decision 2014/113/EU(5); EH40/2005: Workplace exposure limits updates 2020.

15.2 Chemical safety assessment

No Chemical Safety Assessment has been carried out.

SECTION 16. Other information

Version: 5.0
New EU regulations (REACH/CLP) according SDS content/sections/tables and new SDS from raw data.

Explanations to abbreviations in Section 3

Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Flam. Liq. 3	Flammable liquids, Category 3
Ox. Liq. 2	Oxidising Liquids, Category 2
Skin Corr. 1A	Skin corrosion/irritation, Category 1A
Skin Corr. 1B	Skin corrosion/irritation, Category 1B
H226	Flammable liquid and vapour.
H272	May intensify fire; oxidiser.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.

Explanations to abbreviations in Section 14

ADR	European Agreement Concerning the International Carriage of Dangerous Goods by Road
RID	Règlement concernant le transport international ferroviaire de marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by rail)
IMDG	IMDG code (International Maritime Dangerous Goods Code)
ICAO	International Civil Aviation Organization (ICAO, 999 University Street, Montreal, Quebec H3C 5H7, Canada)
IATA	International Air Transport Association

This safety data sheet has been produced and reviewed by Chemgroup Scandinavia AB.