SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier
VITA CERAMICS ETCH

1.2. Relevant identified uses of the substance or mixture and uses advised against
Use of the substance/mixture
Use as laboratory reagent

1.3. Details of the supplier of the safety data sheet
Manufacturer
Company name: VITA Zahnfabrik H.Rauter GmbH & Co.KG
Post-office box: 1338
79704 Bad Säckingen
Telephone: +49(0)7761-562-0
Telefax: +49(0)7761-562-299
E-mail: info@vita-zahnfabrik.com
Internet: www.vita-zahnfabrik.com

Supplier
Company name: Company Name
Street: Street
Place: 79704 Town
Telephone: Phone
Telefax: Telefax
E-mail: email
Contact person: Contact person
Internet: url

1.4. Emergency telephone number:
+49-(0)761-19240

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture
UN-GHS (Rev.3)
Hazard categories:
Acute toxicity: Acute Tox. 2
Acute toxicity: Acute Tox. 3
Acute toxicity: Acute Tox. 4
Skin corrosion/irritation: Skin Corr. 1
Serious eye damage/eye irritation: Eye Dam. 1
Hazard Statements:
Fatal in contact with skin.
Toxic if swallowed.
Harmful if inhaled.
Causes severe skin burns and eye damage.
Causes serious eye damage.

2.2. Label elements
UN-GHS (Rev.3)
Hazard components for labelling
Sulphuric acid
hydrofluorid acid
Signal word: Danger
Pictograms:

Hazard statements
- H301 Toxic if swallowed.
- H310 Fatal in contact with skin.
- H314 Causes severe skin burns and eye damage.
- H332 Harmful if inhaled.

Precautionary statements
- P260 Do not breathe dust/fume/gas/mist/vapours/spray.
- P262 Do not get in eyes, on skin, or on clothing.
- P264 Wash hands 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 protective gloves/protective clothing/eye protection/face protection.
- P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
- P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
- P362+P364 Take off contaminated clothing and wash it before reuse.
- 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.
- P405 Store locked up.
- P501 Dispose of waste according to applicable legislation.

2.3. Other hazards
No information available.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Hazardous components

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Chemical name</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>7664-93-9</td>
<td>Sulphuric acid</td>
<td>5 - &lt; 10%</td>
</tr>
<tr>
<td>7664-39-3</td>
<td>Hydrofluorid acid</td>
<td>1 - &lt; 5%</td>
</tr>
<tr>
<td>64-17-5</td>
<td>Ethanol</td>
<td>1 - &lt; 5%</td>
</tr>
</tbody>
</table>

SECTION 4: First aid measures

4.1. Description of first aid measures

General information
When in doubt or if symptoms are observed, get medical advice.

After inhalation
Provide fresh air. Immediately call a doctor.

After contact with skin
After contact with skin, wash immediately with plenty of water and soap. Take off immediately all contaminated clothing and wash it before reuse.
If ON SKIN (or hair): Ca-Gluconate solution. Immediately call a doctor.
After contact with eyes
In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a doctor. Ca-Gluconate solution

After ingestion
Never give anything by mouth to an unconscious person or a person with cramps. Rinse mouth immediately and drink plenty of water. Do NOT induce vomiting. Adverse human health effects and symptoms: Gastric perforation. Call a physician immediately.

4.2. Most important symptoms and effects, both acute and delayed
No information available.

4.3. Indication of any immediate medical attention and special treatment needed
Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media
Suitable extinguishing media
Co-ordinate fire-fighting measures to the fire surroundings.

5.2. Special hazards arising from the substance or mixture
Non-flammable. In case of fire may be liberated: Gases/vapours, toxic.

5.3. Advice for firefighters
Wear a self-contained breathing apparatus and chemical protective clothing. Full protection suit.

Additional information
Suppress gases/vapours/mists with water spray jet. Collect contaminated fire extinguishing water separately.
Do not allow entering drains or surface water.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Provide adequate ventilation. Do not breathe gas/fumes/vapour/spray. Avoid contact with skin, eyes and clothes. Use personal protection equipment. Remove persons to safety.

6.2. Environmental precautions
Do not allow to enter into surface water or drains.

6.3. Methods and material for containment and cleaning up
Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents). Treat the recovered material as prescribed in the section on waste disposal.

6.4. Reference to other sections
Safe handling: see section 7
Personal protection equipment: see section 8
Disposal: see section 13

SECTION 7: Handling and storage

7.1. Precautions for safe handling
Advice on safe handling
Provide adequate ventilation. Do not breathe gas/fumes/vapour/spray. Avoid contact with skin, eyes and clothes. Use personal protection equipment.

Advice on protection against fire and explosion
Usual measures for fire prevention.

7.2. Conditions for safe storage, including any incompatibilities
Requirements for storage rooms and vessels
Keep container tightly closed. Keep locked up. Store in a place accessible by authorized persons only. Provide adequate ventilation.

Hints on joint storage
No information available.

7.3. Specific end use(s)
Use as laboratory reagent

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Additional advice on limit values
Value:
Sulphuric acid:
1 mg/m³ TWA
3 mg/m³ STEL

Hydrofluoric acid:
3 ppm (2,6 mg/m³) Peak limitation TWA

Ethanol:
1000 ppm (1880 mg/m³) TWA

Source: Workplace exposure standards for airborne contaminants, Publication date: 16 December 2019

8.2. Exposure controls

Appropriate engineering controls
Provide adequate ventilation as well as local exhaustion at critical locations.

Protective and hygiene measures
Remove contaminated, saturated clothing immediately. Draw up and observe skin protection programme. Wash hands and face before breaks and after work and take a shower if necessary. When using do not eat, drink, smoke, sniff. Do not breathe gas/fumes/vapour/spray.

Eye/face protection
Suitable eye protection: goggles. Wear eye/face protection.

Hand protection
Wear suitable gloves.

Suitable material: NBR (Nitrile rubber)
Breakthrough time (maximum wearing time): 480 min

The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves. Recommended glove articles

Skin protection
Wear suitable protective clothing.
Respiratory protection
In case of inadequate ventilation wear respiratory protection.

Environmental exposure controls
Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Physical state:</th>
<th>Liquid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colour:</td>
<td>light red</td>
</tr>
<tr>
<td>Odour:</td>
<td>characteristic</td>
</tr>
<tr>
<td>pH-Value:</td>
<td>2.0</td>
</tr>
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</table>

Changes in the physical state

<table>
<thead>
<tr>
<th>Melting point:</th>
<th>not determined</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial boiling point and boiling range:</td>
<td>100 °C</td>
</tr>
<tr>
<td>Flash point:</td>
<td>not determined</td>
</tr>
</tbody>
</table>

Flammability

<table>
<thead>
<tr>
<th>Solid:</th>
<th>not applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gas:</td>
<td>not applicable</td>
</tr>
</tbody>
</table>

Explosive properties
The product is not: Explosive.

| Lower explosion limits: | not determined |
| Upper explosion limits: | not determined |
| Ignition temperature: | not determined |

Auto-ignition temperature

| Solid:         | not applicable |
| Gas:           | not applicable |

Decomposition temperature: not determined

Oxidizing properties
Not oxidising.

Vapour pressure: <= 1100 hPa
(at 50 °C)

Density: 1.06000 g/cm³

Water solubility: easily soluble

Solubility in other solvents
not determined

Partition coefficient: not determined
Viscosity / dynamic: not determined
Viscosity / kinematic: not determined
Vapour density: not determined
Evaporation rate: not determined

9.2. Other information

Solid content: 1.5 %
Odour threshold: not determined
SECTION 10: Stability and reactivity

10.1. Reactivity
No hazardous reaction when handled and stored according to provisions.

10.2. Chemical stability
The product is stable under storage at normal ambient temperatures.

10.3. Possibility of hazardous reactions
No known hazardous reactions.

10.4. Conditions to avoid
No information available.

10.5. Incompatible materials
No information available.

10.6. Hazardous decomposition products
In case of fire may be liberated: Gases/vapours, toxic.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity
Based on available data, the classification criteria are not met.

ATEmix calculated
ATE (oral) 104.2 mg/kg; ATE (dermal) 104.2 mg/kg; ATE (inhalation vapour) 10.42 mg/l; ATE (inhalation aerosol) 1.042 mg/l

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Chemical name</th>
<th>Exposure route</th>
<th>Dose</th>
<th>Species</th>
<th>Source</th>
<th>Method</th>
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</thead>
<tbody>
<tr>
<td>7664-39-3</td>
<td>hydrofluoric acid</td>
<td>oral</td>
<td>ATE</td>
<td>5 mg/kg</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>dermal</td>
<td>ATE</td>
<td>5 mg/kg</td>
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<tr>
<td></td>
<td></td>
<td>inhalation vapour</td>
<td>ATE</td>
<td>0.5 mg/l</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>inhalation aerosol</td>
<td>ATE</td>
<td>0.05 mg/l</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Irritation and corrosivity
Based on available data, the classification criteria are not met.

Sensitising effects
Based on available data, the classification criteria are not met.

Carcinogenic/mutagenic/toxic effects for reproduction
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.

SECTION 12: Ecological information

12.1. Toxicity
The product is not: Ecotoxic.

12.2. Persistence and degradability
The product has not been tested.

12.3. Bioaccumulative potential
The product has not been tested.

12.4. Mobility in soil
The product has not been tested.

12.5. Other adverse effects
No information available.

Further information
Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations
Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil. Dispose of waste according to applicable legislation.

Contaminated packaging
Handle contaminated packages in the same way as the substance itself.

SECTION 14: Transport information

Land transport (ADG)

14.1. UN number: UN 2922
14.2. UN proper shipping name: CORROSIVE LIQUID, TOXIC, N.O.S. (Sulphuric acid, hydrofluorid acid)
14.3. Transport hazard class(es): 8
14.4. Packing group: II
Special Provisions: 274
Limited quantity: 1 L
Excepted quantity: E2

Other applicable information (land transport)
HAZCHEM: 2X

Marine transport (IMDG)

14.1. UN number: UN 2922
14.2. UN proper shipping name: CORROSIVE LIQUID, TOXIC, N.O.S. (Sulphuric acid, hydrofluorid acid)
14.3. Transport hazard class(es): 8
14.4. Packing group: II
Hazard label: 8+6.1

Special Provisions: 274
Limited quantity: 1 L
Excepted quantity: E2
EmS: F-A, S-B

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number: UN 2922
14.2. UN proper shipping name: CORROSIVE LIQUID, TOXIC, N.O.S. (Sulphuric acid, hydrofluorid acid)
14.3. Transport hazard class(es): 8
14.4. Packing group: II
Safety Data Sheet

according to the Preparation of Safety data Sheets for Hazardous Chemicals Code of Practice

VITA CERAMICS ETCH

Revision date: 21.01.2020

Hazard label: 8+6.1

Special Provisions:
- A3 A803
- Limited quantity Passenger: 0.5 L
- Passenger LO: Y840
- Excepted quantity: E2

IATA-packing instructions - Passenger: 851
IATA-max. quantity - Passenger: 1 L
IATA-packing instructions - Cargo: 855
IATA-max. quantity - Cargo: 30 L

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: no

14.6. Special precautions for user

Warning: Toxic. strongly corrosive.

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

not applicable

SECTION 15: Regulatory information

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

National regulatory information

Additional information

AISC:
- Sulphuric acid: Yes.
- hydrofluorid acid: Yes.
- Ethanol: Yes.

SUSMP:
- Sulphuric acid: Yes.
- hydrofluorid acid: Yes.
- Ethanol: No

SECTION 16: Other information

Abbreviations and acronyms

- ACGIH: American Conference of Governmental Industrial Hygienists
- ADG: Australian Dangerous Goods
- AICS: Australian Inventory of Chemical Substances
- ICAO: International Civil Aviation Organization
- IMDG: International Maritime Code for Dangerous Goods
- IATA: International Air Transport Association
- GHS: Globally Harmonized System of Classification and Labelling of Chemicals
- CAS: Chemical Abstracts Service
- STEL: Short-term exposure limit
- TWA: time-weighted average
- TI: Technical Instructions
- DGR: Dangerous Goods Regulations
- UN: United Nations
- ATE: Acute toxicity estimate
- LC50: Lethal concentration, 50%
Further Information

The information is based on the present level of our knowledge. It does not, however, give assurance of product properties and establishes no contract legal rights. The receiver of our product is singularly responsible for adhering to existing laws and regulations.

(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)