1. Identification

Product identifier
VITA CERAMICS ETCH

Recommended use of the chemical and restrictions on use

Use of the substance/mixture
Use as laboratory reagent

Details of the supplier of the safety data sheet
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

Emergency phone number: +49-(0)761-19240

2. Hazard(s) identification

Classification of the chemical
29 CFR Part 1910.1200
Hazard categories:
Corrosive to metals: Met. Corr. 1
Acute toxicity: Acute Tox. 2
Acute toxicity: Acute Tox. 3
Acute toxicity: Acute Tox. 4
Skin corrosion/irritation: Skin Corr. 1A
Serious eye damage/eye irritation: Eye Dam. 1

Hazard Statements:
May be corrosive to metals
Fatal in contact with skin
Toxic if swallowed
Harmful if inhaled
Causes severe skin burns and eye damage
Causes serious eye damage

Label elements
29 CFR Part 1910.1200
Signal word: Danger

Pictograms:

Hazard statements
Toxic if swallowed
Fatal in contact with skin
Causes severe skin burns and eye damage
Harmful if inhaled

Precautionary statements
Do not breathe dust/fume/gas/mist/vapors/spray.
Wash ... thoroughly after handling.
Wear protective gloves/protective clothing/eye protection/face protection.
If swallowed: Rinse mouth. Do NOT induce vomiting.
If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
Continue rinsing.
Immediately call a poison center/doctor.
Specific treatment (see ... on this label).

Hazards not otherwise classified
No information available.

### 3. Composition/information on ingredients

**Mixtures**

**Hazardous components**

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Components</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>7664-93-9</td>
<td>Sulphuric acid ... %</td>
<td>7.84 %</td>
</tr>
<tr>
<td>7664-39-3</td>
<td>hydrofluoric acid</td>
<td>4.8 %</td>
</tr>
<tr>
<td>64-17-5</td>
<td>ethyl alcohol</td>
<td>3.19 %</td>
</tr>
</tbody>
</table>

### 4. First-aid measures

**Description of first aid measures**

**General information**
First aider: Pay attention to self-protection! Remove affected person from the danger area and lay down.

**After inhalation**
Provide fresh air. Medical treatment necessary.

**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. Call a physician immediately. IF ON SKIN (or hair):
Ca-Gluconate solution

**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.

**After ingestion**
Rinse mouth immediately and drink plenty of water. Do NOT induce vomiting. Adverse human health effects and symptoms: Gastric perforation. Call a physician immediately.

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

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

### 5. Fire-fighting measures

**Extinguishing media**

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

**Specific hazards arising from the chemical**
Non-flammable.

**Special protective equipment and precautions for fire-fighters**
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.

6. Accidental release measures

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.

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

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.

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

7. Handling and storage

Precautions for safe handling
Advice on safe handling
If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe gas/fumes/vapour/spray.

Advice on protection against fire and explosion
No special fire protection measures are necessary.

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 as well as local exhaustion at critical locations.

Advice on storage compatibility
No special measures are necessary.

8. Exposure controls/personal protection

Control parameters
### Exposure Limits

<table>
<thead>
<tr>
<th>CAS No.</th>
<th>Substance</th>
<th>ppm</th>
<th>mg/m³</th>
<th>f/cc</th>
<th>Category</th>
<th>Origin</th>
</tr>
</thead>
<tbody>
<tr>
<td>64-17-5</td>
<td>Ethanol</td>
<td>-</td>
<td>-</td>
<td>TWA (8 h)</td>
<td>ACGIH-2016</td>
<td></td>
</tr>
<tr>
<td>64-17-5</td>
<td>Ethyl alcohol (Ethanol)</td>
<td>1000</td>
<td>1900</td>
<td>STEL (15 min)</td>
<td>ACGIH-2016</td>
<td></td>
</tr>
<tr>
<td>64-17-5</td>
<td>Ethyl alcohol</td>
<td>1000</td>
<td>1900</td>
<td>TWA (8 h)</td>
<td>PEL</td>
<td></td>
</tr>
<tr>
<td>7664-39-3</td>
<td>Hydrogen fluoride (as F)</td>
<td>3</td>
<td>-</td>
<td>TWA (8 h)</td>
<td>ACGIH-2016</td>
<td></td>
</tr>
<tr>
<td>7664-39-3</td>
<td>Hydrogen fluoride, as F</td>
<td>0.5</td>
<td>-</td>
<td>Peak</td>
<td>ACGIH-2016</td>
<td></td>
</tr>
<tr>
<td>7664-93-9</td>
<td>Sulfuric acid (thoracic fraction)</td>
<td>3</td>
<td>2.5</td>
<td>TWA (8 h)</td>
<td>REL</td>
<td></td>
</tr>
<tr>
<td>7664-93-9</td>
<td>Sulfuric acid</td>
<td>-</td>
<td>0.2</td>
<td>Ceiling</td>
<td>PEL</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>-</td>
<td>1</td>
<td>TWA (8 h)</td>
<td>PEL</td>
<td></td>
</tr>
</tbody>
</table>

### Exposure Controls

#### Appropriate engineering controls
- If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe gas/fumes/vapour/spray.

#### 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 or drink.

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

#### Hand protection
- Recommended glove articles KCL Dermatril P Wearing time with occasional contact (splashes): 480 min
- When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. 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.

#### Skin protection
- Wear suitable protective clothing.

#### Respiratory protection
- In case of inadequate ventilation wear respiratory protection.

### 9. Physical and chemical properties

#### Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Physical state:</th>
<th>light red</th>
</tr>
</thead>
<tbody>
<tr>
<td>Color:</td>
<td>light red</td>
</tr>
<tr>
<td>Odor:</td>
<td>characteristic</td>
</tr>
</tbody>
</table>
Test method

pH-Value: 2,0

Changes in the physical state
Melting point/freezing point: not determined
Initial boiling point and boiling range: 100 °C

Flammability
Solid: not applicable
Gas: not applicable

Lower explosion limits: not determined
Upper explosion limits: not determined

Auto-ignition temperature
Solid: not applicable
Gas: not applicable

Decomposition temperature: not determined

Oxidizing properties
Not oxidizing.

Vapor pressure: <=1100 hPa
(at 50 °C)
Density: 1,06000 g/cm³

Solubility in other solvents
not determined
Partition coefficient: not determined
Vapor density: not determined
Evaporation rate: not determined

Other information
Solid content: 1,5 %

10. Stability and reactivity

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

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

Possibility of hazardous reactions
No known hazardous reactions.

Conditions to avoid
none

Incompatible materials
No information available.

Hazardous decomposition products
No known hazardous decomposition products.

11. Toxicological information

Information on toxicological effects
Acute toxicity
Toxic if swallowed
Fatal in contact with skin
Harmful if inhaled

ATEmix calculated
ATE (oral) 104,2 mg/kg; ATE (dermal) 104,2 mg/kg; ATE (inhalative vapour) 10,42 mg/l; ATE (inhalative aerosol) 1,042 mg/l

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Exposure route</th>
<th>Dose</th>
<th>Species</th>
<th>Source</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>7664-39-3</td>
<td>oral</td>
<td>ATE 5 mg/kg</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>dermal</td>
<td>ATE 5 mg/kg</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>inhalative vapour</td>
<td>ATE 0,5 mg/l</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>inhalative aerosol</td>
<td>ATE 0,05 mg/l</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>64-17-5</td>
<td>dermal</td>
<td>LD50 7060 mg/kg</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Irritation and corrosivity
Causes severe skin burns and eye damage

Sensitizing 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.

Specific target organ toxicity (STOT) - single exposure
Based on available data, the classification criteria are not met.

Specific target organ toxicity (STOT) - repeated exposure
Based on available data, the classification criteria are not met.

Carcinogenicity (OSHA):
No ingredient of this mixture is listed.

Carcinogenicity (IARC):
Sulfuric Acid (CAS 7664-93-9) is listed in group 1. Ethanol in alcoholic beverages (CAS 64-17-5) is listed in group 1.

Carcinogenicity (NTP):
Sulfuric Acid (CAS 7664-93-9) is listed in group Known.

Aspiration hazard
Based on available data, the classification criteria are not met.

Additional information on tests
This mixture is classified as hazardous according to regulation (EC) No. 1272/2008 [CLP]. Special hazards arising from the substance or mixture!

12. Ecological information

Ecotoxicity
The product is not: Ecotoxic.

Persistence and degradability
The product has not been tested.

Bioaccumulative potential
The product has not been tested.

Mobility in soil
The product has not been tested.
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.

13. Disposal considerations

Waste treatment methods

Advice on disposal

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

This material and its container must be disposed of as hazardous waste. Handle contaminated packages in the same way as the substance itself.

14. Transport information

Marine transport (IMDG)

UN number: UN 2922
UN proper shipping name: CORROSIVE LIQUID, TOXIC, N.O.S. (Wasser)
Transport hazard class(es): 8
Packing group: II
Hazard label: 8+6.1

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

Air transport (ICAO-TI/IATA-DGR)

UN number: UN 2922
UN proper shipping name: CORROSIVE LIQUID, TOXIC, N.O.S. (Wasser)
Transport hazard class(es): 8
Packing group: II
Hazard label: 8+6.1

Limited quantity Passenger: 0.5 L
Passenger LQ: 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

Environmental hazards

ENVIRONMENTALLY HAZARDOUS: no

Special precautions for user

Warning: Toxic. strongly corrosive.
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
not applicable

15. Regulatory information

U.S. Regulations
National regulatory information
SARA Section 302 Extremely hazardous substances:
- Sulfuric acid (aerosol forms only) (7664-93-9): Reportable quantity = 1,000 lbs., Threshold planning quantity = 1,000 lbs.
- Hydrofluoric acid (conc. < 50%) (7664-39-3): Reportable quantity = 100 lbs., Threshold planning quantity = 100 lbs.
SARA Section 304 CERCLA:
- Sulfuric acid (aerosol forms only) (7664-93-9): Reportable quantity = 1,000 (454) lbs. (kg)
- Hydrofluoric acid (conc. < 50%) (7664-39-3): Reportable quantity = 100 (45.4) lbs. (kg)
SARA Section 311/312 Hazards:
- Sulfuric acid (aerosol forms only) (7664-93-9): Immediate (acute) health hazard
- Hydrofluoric acid (conc. < 50%) (7664-39-3): Immediate (acute) health hazard
- Ethyl alcohol (64-17-5): Fire hazard, Immediate (acute) health hazard
SARA Section 313 Toxic release inventory:
- Sulfuric acid (aerosol forms only) (7664-93-9): De minimis limit = 1.0 %, Reportable threshold = Standard
- Hydrofluoric acid (conc. < 50%) (7664-39-3): De minimis limit = 1.0 %, Reportable threshold = Standard
Clean Air Act Section 112(b):
- Hydrofluoric acid (conc. < 50%) (7664-39-3)

State Regulations
Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65, State of California)
This product contains no chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

16. Other information

Revision date: 09.01.2017
Revision No: 1

Abbreviations and acronyms
- ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
- IMDG: International Maritime Code for Dangerous Goods
- IATA: International Air Transport Association
- GHS: Globally Harmonized System of Classification and Labelling of Chemicals
- EINECS: European Inventory of Existing Commercial Chemical Substances
- ELINCS: European List of Notified Chemical Substances
- CAS: Chemical Abstracts Service
- LC50: Lethal concentration, 50%
- LD50: Lethal dose, 50%

Other data
The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

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