

Safety Data Sheet

according to UK REACH Regulation

Etching solution according to Keller 5.0 g NaF + 20 ml HCl conc. + 10 ml HNO₃ conc. /l in destilated

Revision date: 19.03.2024

Product code: 24062

Page 1 of 12

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

1.1. Product identifier

Etching solution according to Keller 5.0 g NaF + 20 ml HCl conc. + 10 ml HNO₃ conc. /l in destilated

UFI: MUM4-T2Y3-600W-JD2K

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture

Laboratory chemicals

Industrial uses: Uses of substances as such or in preparations at industrial sites

Professional uses: Public domain (administration, education, entertainment, services, craftsmen)

Uses advised against

Do not use for private purposes (household).

1.3. Details of the supplier of the safety data sheet

| | | |
|-------------------------|----------------------------------|------------------------------|
| Company name: | AnalytiChem GmbH ACD | |
| Street: | Stempelstraße 6 | |
| Place: | D-47167 Duisburg | |
| Telephone: | 0203/5194-0 | Telefax: 0203/5194-290 |
| E-mail: | info@analytichem.de | |
| Contact person: | Abteilung Produktsicherheit | Telephone: 0203/5194-107/117 |
| E-mail: | produktsicherheit@analytichem.de | |
| Internet: | www.analytichem.de | |
| Responsible Department: | Abteilung Produktsicherheit | |

1.4. Emergency telephone number:

For Hazardous Materials [or Dangerous Goods] Incidents Spill, Leak, Fire, Exposure, or Accident Call CHEMTREC Day or Night Within USA and Canada: 1-800-424-9300 Outside USA and Canada: +1 703-741-5970 (collect calls accepted)

Further Information

inapplicable, this product is a mixture REACH registration number see section 3

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GB CLP Regulation

Met. Corr. 1; H290

Full text of hazard statements: see SECTION 16.

2.2. Label elements

GB CLP Regulation

Signal word: Warning

Pictograms:



Hazard statements

H290 May be corrosive to metals.

Precautionary statements

P234 Keep only in original packaging.

Safety Data Sheet

according to UK REACH Regulation

Etching solution according to Keller 5.0 g NaF + 20 ml HCl conc. + 10 ml HNO3 conc. /l in destilated

Revision date: 19.03.2024

Product code: 24062

Page 2 of 12

P390 Absorb spillage to prevent material damage.
P406 Store in a corrosion-resistant container with a resistant inner liner.

2.3. Other hazards

No data available

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Chemical characterization

Mixtures in aqueous solution

Relevant ingredients

| CAS No | Chemical name | | | Quantity |
|-----------|---|--------------|------------------|----------|
| | EC No | Index No | REACH No | |
| | Classification (GB CLP Regulation) | | | |
| 7697-37-2 | nitric acid | | | < 1 % |
| | 231-714-2 | 007-030-00-3 | 01-2119487297-23 | |
| | Ox. Liq. 3, Met. Corr. 1, Acute Tox. 3, Skin Corr. 1A; H272 H290 H331 H314 EUH071 | | | |
| 7647-01-0 | Hydrochloric acid | | | < 1 % |
| | 231-595-7 | 017-002-01-X | 01-2119484862-27 | |
| | Skin Corr. 1B, STOT SE 3; H314 H335 | | | |
| 7681-49-4 | sodium fluoride | | | < 1 % |
| | 231-667-8 | 009-004-00-7 | 01-2119539420-47 | |
| | Acute Tox. 3, Skin Irrit. 2, Eye Irrit. 2; H301 H315 H319 EUH032 | | | |

Full text of H and EUH statements: see section 16.

Specific Conc. Limits, M-factors and ATE

| CAS No | EC No | Chemical name | Quantity |
|-----------|-----------|---|----------|
| | | Specific Conc. Limits, M-factors and ATE | |
| 7697-37-2 | 231-714-2 | nitric acid | < 1 % |
| | | inhalation: ATE 2,65 mg/l (vapours) Ox. Liq. 3; H272: >= 65 - 100 Skin Corr. 1A; H314: >= 20 - 100 Skin Corr. 1B; H314: >= 5 - < 20 | |
| 7647-01-0 | 231-595-7 | Hydrochloric acid | < 1 % |
| | | Skin Corr. 1B; H314: >= 25 - 100 Skin Irrit. 2; H315: >= 10 - < 25 Eye Irrit. 2; H319: >= 10 - < 25 STOT SE 3; H335: >= 10 - 100 | |
| 7681-49-4 | 231-667-8 | sodium fluoride | < 1 % |
| | | dermal: LD50 = > 2000 mg/kg; oral: LD50 = > 25 - < 2000 mg/kg | |

Further Information

This product does not contain substances of very high concern according to Regulation (EC) No 1907/2006 (REACH), Article 57 above the respective regulatory concentration limit of = 0.1 % (w/w).

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

No data available

After inhalation

Provide fresh air.
Call a doctor if you feel unwell.

Safety Data Sheet

according to UK REACH Regulation

Etching solution according to Keller 5.0 g NaF + 20 ml HCl conc. + 10 ml HNO₃ conc. / l in destilated

Revision date: 19.03.2024

Product code: 24062

Page 3 of 12

After contact with skin

Wash immediately with: Water
Take off immediately all contaminated clothing and wash it before reuse.
Call a physician immediately.

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.
Protect uninjured eye.

After ingestion

Rinse mouth immediately and drink plenty of water.
Do NOT induce vomiting. Do not allow a neutralisation agent to be drunk.
Call a physician immediately.

4.2. Most important symptoms and effects, both acute and delayed

Irritant

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

No data available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Co-ordinate fire-fighting measures to the fire surroundings.

Unsuitable extinguishing media

no restriction

5.2. Special hazards arising from the substance or mixture

Non-combustible liquids
Hazardous combustion products
In case of fire may be liberated:
Nitrogen oxides (NO_x)
Hydrogen chloride (HCl)
Hydrogen fluoride

5.3. Advice for firefighters

In case of fire: Wear self-contained breathing apparatus.
In case of fire and/or explosion do not breathe fumes.
Avoid contact with skin, eyes and clothes.

Additional information

Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.
Move undamaged containers from immediate hazard area if it can be done safely.
Use water spray jet to protect personnel and to cool endangered containers.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General advice

Corrosive to metals.

For non-emergency personnel

Provide adequate ventilation.
Use personal protection equipment.
Avoid contact with skin, eyes and clothes.
Remove persons to safety.

Safety Data Sheet

according to UK REACH Regulation

Etching solution according to Keller 5.0 g NaF + 20 ml HCl conc. + 10 ml HNO₃ conc. // in distilled

Revision date: 19.03.2024

Product code: 24062

Page 4 of 12

Emergency procedures
Consult an expert
Do not breathe dust/fume/gas/mist/vapours/spray.

For emergency responders

Precautionary statements For emergency responders : Personal protection equipment: see section 8

6.2. Environmental precautions

Do not allow to enter into surface water or drains.

6.3. Methods and material for containment and cleaning up

For cleaning up

Clean contaminated articles and floor according to the environmental legislation.

Other information

Provide adequate ventilation.
Do not breathe dust/fume/gas/mist/vapours/spray.
Wear breathing apparatus if exposed to vapours/dusts/aerosols.

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

Read label before use. Handle and open container with care.
When using do not eat, drink, smoke, sniff. Use personal protection equipment.
Provide adequate ventilation. Avoid contact with skin, eyes and clothes.
Do not breathe vapour/aerosol.

Advice on protection against fire and explosion

Usual measures for fire prevention.

Advice on general occupational hygiene

Keep away from food, drink and animal feedingstuffs. 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. Avoid: aerosol or mist formation Do not breathe vapour/aerosol.

Further information on handling

Draw up and observe skin protection programme.
Wash hands and face before breaks and after work and take a shower if necessary.
Take off immediately all contaminated clothing and wash it before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Corrosive to metals.
Unsuitable container/equipment material: Metal Glass
The product develops hydrogen in an aqueous solution in contact with metals.

Hints on joint storage

national regulations

Further information on storage conditions

Keep container tightly closed.

7.3. Specific end use(s)

Laboratory chemicals

Safety Data Sheet

according to UK REACH Regulation

Etching solution according to Keller 5.0 g NaF + 20 ml HCl conc. + 10 ml HNO3 conc. /l in destilated

Revision date: 19.03.2024

Product code: 24062

Page 5 of 12

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure limits (EH40)

| CAS No | Substance | ppm | mg/m ³ | fibres/ml | Category | Origin |
|-----------|---|-----|-------------------|-----------|---------------|--------|
| 7647-01-0 | Hydrogen chloride (gas and aerosol mists) | 1 | 2 | | TWA (8 h) | WEL |
| | | 5 | 8 | | STEL (15 min) | WEL |
| 7697-37-2 | Nitric acid | 1 | 2.6 | | STEL (15 min) | WEL |

DNEL/DMEL values

| CAS No | Substance | Exposure route | Effect | Value |
|--------------------------|-------------------|----------------|----------|-----------------------|
| 7647-01-0 | Hydrochloric acid | | | |
| Worker DNEL, long-term | | inhalation | local | 8 mg/m ³ |
| Worker DNEL, acute | | inhalation | local | 15 mg/m ³ |
| Consumer DNEL, long-term | | inhalation | local | 8 mg/m ³ |
| Consumer DNEL, acute | | inhalation | local | 15 mg/m ³ |
| 7681-49-4 | sodium fluoride | | | |
| Worker DNEL, acute | | inhalation | systemic | 2,5 mg/m ³ |
| Worker DNEL, long-term | | inhalation | local | 2,5 mg/m ³ |
| Worker DNEL, long-term | | dermal | systemic | 0,36 mg/kg bw/day |
| Worker DNEL, acute | | dermal | systemic | 0,36 mg/kg bw/day |

PNEC values

| CAS No | Substance | Value |
|--|-----------------|----------|
| 7681-49-4 | sodium fluoride | |
| Freshwater | | 0,9 mg/l |
| Micro-organisms in sewage treatment plants (STP) | | 51 mg/l |
| Soil | | 11 mg/kg |

8.2. Exposure controls

Appropriate engineering controls

Technical measures and the application of suitable work processes have priority over personal protection equipment.

If handled uncovered, arrangements with local exhaust ventilation have to be used.

Individual protection measures, such as personal protective equipment

Eye/face protection

goggles
Wear eye/face protection.

Hand protection

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

Safety Data Sheet

according to UK REACH Regulation

Etching solution according to Keller 5.0 g NaF + 20 ml HCl conc. + 10 ml HNO3 conc. /l in destilated

Revision date: 19.03.2024

Product code: 24062

Page 6 of 12

supplier of these gloves.

Suitable examples are gloves of KCL GmbH, D-36124 Eichenzell, e-mail: vertrieb@kcl.de with the following specification (test according to EN 374):

By long-term hand contact

Trade name/designation: KCL 741 Dermatril® L
Recommended material: NBR (Nitrile rubber) 0,11 mm
Wearing time with permanent contact: > 480 min

By short-term hand contact

Trade name/designation: KCL 741 Dermatril® L
Recommended material: NBR (Nitrile rubber) 0,11 mm
Wearing time with occasional contact (splashes): > 480 min

The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types. This recommendation applies only to the product stated in the safety data sheet supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Skin protection

Wear suitable protective clothing. Take off immediately all contaminated clothing.
Wash hands before breaks and after work.

Respiratory protection

Wear breathing apparatus if exposed to vapours/dusts/aerosols.

Environmental exposure controls

Do not allow to enter into surface water or drains.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

| | | |
|---|-------------------|---------------------|
| Physical state: | Liquid | |
| Colour: | colourless | |
| Odour: | odourless | |
| Odour threshold: | No data available | |
| Melting point/freezing point: | | No data available |
| Boiling point or initial boiling point and boiling range: | | No data available |
| Flammability: | | No data available |
| Lower explosion limits: | | No data available |
| Upper explosion limits: | | No data available |
| Flash point: | | No data available |
| Auto-ignition temperature: | | No data available |
| Decomposition temperature: | | No data available |
| pH-Value: | | acidic |
| Viscosity / kinematic: | | No data available |
| Water solubility: | | completely miscible |
| Solubility in other solvents | | |
| No data available | | |
| Dissolution rate: | | No data available |
| Partition coefficient n-octanol/water: | | No data available |

Safety Data Sheet

according to UK REACH Regulation

Etching solution according to Keller 5.0 g NaF + 20 ml HCl conc. + 10 ml HNO3 conc. /l in destilated

Revision date: 19.03.2024

Product code: 24062

Page 7 of 12

| | |
|---------------------------|-------------------------|
| Dispersion stability: | No data available |
| Vapour pressure: | No data available |
| Vapour pressure: | No data available |
| Density: | 1,011 g/cm ³ |
| Relative density: | No data available |
| Bulk density: | No data available |
| Relative vapour density: | No data available |
| Particle characteristics: | No data available |

9.2. Other information

Information with regard to physical hazard classes

Explosive properties

No data available

Sustaining combustion:

No data available

Self-ignition temperature

Solid:

No data available

Gas:

No data available

Oxidizing properties

Oxidizing

Other safety characteristics

Evaporation rate:

No data available

Solvent separation test:

No data available

Solvent content:

0

Solid content:

0

Sublimation point:

No data available

Softening point:

No data available

Pour point:

No data available

No data available:

Viscosity / dynamic:

No data available

Flow time:

No data available

Further Information

Corrosive to metals.

SECTION 10: Stability and reactivity

10.1. Reactivity

Corrosive to metals.

10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.

10.3. Possibility of hazardous reactions

Alkali (lye)

10.4. Conditions to avoid

No data available

10.5. Incompatible materials

Metal

Glass

The product develops hydrogen in an aqueous solution in contact with metals.

10.6. Hazardous decomposition products

In case of fire may be liberated:

SECTION 5: Firefighting measures

Safety Data Sheet

according to UK REACH Regulation

Etching solution according to Keller 5.0 g NaF + 20 ml HCl conc. + 10 ml HNO3 conc. /l in destilated

Revision date: 19.03.2024

Product code: 24062

Page 8 of 12

Further information

No data available

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in GB CLP Regulation

Toxicocinetics, metabolism and distribution

There are no data available on the preparation/mixture itself.

Acute toxicity

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

ATEmix calculated

ATE (oral) > 2000 mg/kg; ATE (dermal) > 2000 mg/kg; ATE (inhalation vapour) > 20 mg/l; ATE (inhalation dust/mist) > 5 mg/l

| CAS No | Chemical name | | | | |
|-----------|-------------------|--------------------------|---------|----------------------------|--------------------|
| | Exposure route | Dose | Species | Source | Method |
| 7697-37-2 | nitric acid | | | | |
| | inhalation vapour | ATE 2,65 mg/l | | | |
| 7681-49-4 | sodium fluoride | | | | |
| | oral | LD50 > 25 - < 2000 mg/kg | Rat | Other company data (1994) | OECD Guideline 401 |
| | dermal | LD50 > 2000 mg/kg | Rat | REACH Registration Dossier | EPA OPPTS 870.1200 |

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.

Information on likely routes of exposure

There are no data available on the preparation/mixture itself.

Specific effects in experiment on an animal

There are no data available on the preparation/mixture itself.

Additional information on tests

There are no data available on the preparation/mixture itself.

Practical experience

There are no data available on the preparation/mixture itself.

11.2. Information on other hazards

Endocrine disrupting properties

There are no data available on the preparation/mixture itself.

Other information

There are no data available on the preparation/mixture itself.

Safety Data Sheet

according to UK REACH Regulation

Etching solution according to Keller 5.0 g NaF + 20 ml HCl conc. + 10 ml HNO3 conc. /l in destilated

Revision date: 19.03.2024

Product code: 24062

Page 9 of 12

Further information

There are no data available on the preparation/mixture itself.

SECTION 12: Ecological information

12.1. Toxicity

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

| CAS No | Chemical name | | | | | |
|-----------|-------------------------|------------------|-----------|---------|--|--|
| | Aquatic toxicity | Dose | [h] [d] | Species | Source | Method |
| 7697-37-2 | nitric acid | | | | | |
| | Acute fish toxicity | LC50 mg/l | 1559 | 96 h | Topeka shiner | Environmental Toxicology and Chemistry, other: ASTM E729-26 |
| | Fish toxicity | NOEC | 268 mg/l | 30 d | juvenile Topeka shiner and with juvenile Fathead m | Study report (2009) Growth tests estimated the test chemical |
| | Algae toxicity | NOEC mg/l | > 419 | 10 d | several benthic diatoms; see results | Marine Biology 43:307-315 (1977) Ten cultures of benthic diatoms were iso |
| | Acute bacteria toxicity | EC50 mg/l () | > 1000 | 3 h | Activated sludge | Study report (2008) OECD Guideline 209 |
| 7647-01-0 | Hydrochloric acid | | | | | |
| | Acute fish toxicity | LC50 | 862 mg/l | 96 h | Leuciscus idus | |
| 7681-49-4 | sodium fluoride | | | | | |
| | Acute algae toxicity | ErC50 | 43 mg/l | 96 h | various algae species | European Union Risk Assessment Report, V Methods not detailed in the review. |
| | Fish toxicity | NOEC | 4 mg/l | 21 d | Oncorhynchus mykiss | EU RAR Hydrogen Fluoride, Volume 8, 2001 other: no guideline stated |
| | Algae toxicity | NOEC | 50 mg/l | 7 d | various | Appendix to Report 785484010, RIVM (1989) The review includes summaries of a numbr |
| | Crustacea toxicity | NOEC | 3,7 mg/l | 21 d | Daphnia magna | European Union Risk Assessment Report, V The publication is a review article of v |

12.2. Persistence and degradability

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

12.3. Bioaccumulative potential

There are no data available on the mixture itself.

BCF

| CAS No | Chemical name | BCF | Species | Source |
|-----------|-----------------|---------|---------|----------------------|
| 7681-49-4 | sodium fluoride | 53 - 58 | | EU RAR Hydrogen Fluo |

12.4. Mobility in soil

There are no data available on the mixture itself.

12.5. Results of PBT and vPvB assessment

The substances in the mixture do not meet the PBT/vPvB criteria according to UK REACH.

Safety Data Sheet

according to UK REACH Regulation

Etching solution according to Keller 5.0 g NaF + 20 ml HCl conc. + 10 ml HNO3 conc. / l in destilated

Revision date: 19.03.2024

Product code: 24062

Page 10 of 12

12.6. Endocrine disrupting properties

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

12.7. Other adverse effects

Harmful effect due to pH shift.
Forms corrosive mixtures with water even if diluted.

Further information

Do not allow to enter into surface water or drains.
Discharge into the environment must be avoided.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations

Waste disposal according to directive 2008/98/EC, covering waste and dangerous waste.
Send to a physico-chemical treatment facility under observation of official regulations.
Do not empty into drains.

Contaminated packaging

Handle contaminated packages in the same way as the substance itself.
The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.
Dispose of waste according to "Kreislaufwirtschafts- und Abfallgesetz (KrW-/AbfG)".

SECTION 14: Transport information

Land transport (ADR/RID)

| | |
|--|--|
| 14.1. UN number or ID number: | UN 3264 |
| 14.2. UN proper shipping name: | CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (nitric acid, Hydrochloric acid) |
| 14.3. Transport hazard class(es): | 8 |
| 14.4. Packing group: | III |
| Hazard label: | 8 |
| Classification code: | C1 |
| Special Provisions: | 274 |
| Limited quantity: | 5 L |
| Excepted quantity: | E1 |
| Transport category: | 3 |
| Hazard No: | 80 |
| Tunnel restriction code: | E |

Inland waterways transport (ADN)

| | |
|--|--|
| 14.1. UN number or ID number: | UN 3264 |
| 14.2. UN proper shipping name: | CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (nitric acid, Hydrochloric acid) |
| 14.3. Transport hazard class(es): | 8 |
| 14.4. Packing group: | III |
| Hazard label: | 8 |
| Classification code: | C1 |
| Special Provisions: | 274 |
| Limited quantity: | 5 L |
| Excepted quantity: | E1 |

Marine transport (IMDG)

| | |
|--------------------------------------|---------|
| 14.1. UN number or ID number: | UN 3264 |
|--------------------------------------|---------|

Safety Data Sheet

according to UK REACH Regulation

Etching solution according to Keller 5.0 g NaF + 20 ml HCl conc. + 10 ml HNO3 conc. / I in destilated

Revision date: 19.03.2024

Product code: 24062

Page 11 of 12

| | |
|--|--|
| 14.2. UN proper shipping name: | CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Nitric acid, Hydrochloric acid) |
| 14.3. Transport hazard class(es): | 8 |
| 14.4. Packing group: | III |
| Hazard label: | 8 |
| Special Provisions: | 223, 274 |
| Limited quantity: | 5 L |
| Excepted quantity: | E1 |
| EmS: | F-A, S-B |

Air transport (ICAO-TI/IATA-DGR)

| | |
|--|--|
| 14.1. UN number or ID number: | UN 3264 |
| 14.2. UN proper shipping name: | CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Nitric acid, Hydrochloric acid) |
| 14.3. Transport hazard class(es): | 8 |
| 14.4. Packing group: | III |
| Hazard label: | 8 |
| Special Provisions: | A3 A803 |
| Limited quantity Passenger: | 1 L |
| Passenger LQ: | Y841 |
| Excepted quantity: | E1 |
| IATA-packing instructions - Passenger: | 852 |
| IATA-max. quantity - Passenger: | 5 L |
| IATA-packing instructions - Cargo: | 856 |
| IATA-max. quantity - Cargo: | 60 L |

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: No

SECTION 15: Regulatory information

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

EU regulatory information

Restrictions on use (REACH, annex XVII):

Entry 75

Marketing and use of explosives precursors (Regulation (EU) 2019/1148):

This product is regulated by Regulation (EU) 2019/1148: all suspicious transactions, and significant disappearances and thefts should be reported to the relevant national contact point.

National regulatory information

Employment restrictions: Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC).

Water hazard class (D): - - non-hazardous to water

SECTION 16: Other information

Changes

This data sheet contains changes from the previous version in section(s): 1,9.

Safety Data Sheet

according to UK REACH Regulation

Etching solution according to Keller 5.0 g NaF + 20 ml HCl conc. + 10 ml HNO3 conc. /l in destilated

Revision date: 19.03.2024

Product code: 24062

Page 12 of 12

Abbreviations and acronyms

- Ox. Liq: Oxidising liquids
- Met. Corr: Corrosive to metals
- Acute Tox: Acute toxicity
- Skin Corr: Skin corrosion
- Skin Irrit: Skin irritation
- Eye Irrit: Eye irritation
- STOT SE: Specific target organ toxicity - single exposure

Classification for mixtures and used evaluation method according to GB CLP Regulation

| Classification | Classification procedure |
|--------------------|--------------------------|
| Met. Corr. 1; H290 | On basis of test data |

Relevant H and EUH statements (number and full text)

- H272 May intensify fire; oxidiser.
- H290 May be corrosive to metals.
- H301 Toxic if swallowed.
- H314 Causes severe skin burns and eye damage.
- H315 Causes skin irritation.
- H319 Causes serious eye irritation.
- H331 Toxic if inhaled.
- H335 May cause respiratory irritation.
- EUH032 Contact with acids liberates very toxic gas.
- EUH071 Corrosive to the respiratory tract.

Further Information

Provide appropriate information, instructions and training to users
 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 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 relevant ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)