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

1.1. Product identifier

VITAFOL H Paste

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
Fax: +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
Fax: 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:
- Flammable liquid: Flam. Liq. 2
- Serious eye damage/eye irritation: Eye Irrit. 2
- Carcinogenicity: Carc. 2
- Carcinogenicity: Carc. 1
- Specific target organ toxicity - repeated exposure: STOT RE 1
- Hazard Statements:
  - Highly flammable liquid and vapour.
  - Causes serious eye irritation.
  - May cause cancer.
  - Causes damage to organs through prolonged or repeated exposure.

2.2. Label elements

UN-GHS (Rev.3)

Hazard components for labelling

Cristobalite
4-methylpentan-2-one; isobutyl methyl ketone

Signal word: Danger
Pictograms:

Hazard statements

H225 Highly flammable liquid and vapour.
H319 Causes serious eye irritation.
H333 May be harmful if inhaled.
H350 May cause cancer.
H351 Suspected of causing cancer.
H372 Causes damage to organs through prolonged or repeated exposure.

Precautionary statements

P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233 Keep container tightly closed.
P240 Ground and bond container and receiving equipment.
P241 Use explosion-proof electrical/ventilating/lighting equipment.
P242 Use non-sparking tools.
P243 Take action to prevent static discharges.
P260 Do not breathe dust/fume/gas/mist/vapours/spray.
P264 Wash hands thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
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 or shower.
P304+P312 IF INHALED: Call a POISON CENTER or doctor/physician if you feel unwell.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313 If eye irritation persists: Get medical advice/attention.
P308+P313 IF exposed or concerned: Get medical advice/attention.
P403+P235 Store in a well-ventilated place. Keep cool.
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>14464-46-1</td>
<td>Cristobalite</td>
<td>30 - &lt; 35 %</td>
</tr>
<tr>
<td>108-10-1</td>
<td>4-methylpentan-2-one; isobutyl methyl ketone</td>
<td>10 - &lt; 15 %</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. If breathing is irregular or stopped, administer artificial respiration. If experiencing respiratory symptoms: Call a doctor.

After contact with skin
Wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse. If skin irritation or rash occurs: Get medical advice/attention.

After contact with eyes
After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an ophthalmologist immediately. Remove contact lenses, if present and easy to do. Continue rinsing.

After ingestion
Rinse mouth immediately and drink plenty of water. Observe risk of aspiration if vomiting occurs. Never give anything by mouth to an unconscious person or a person with cramps. Call a doctor.

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
Water spray jet, Carbon dioxide (CO2), Foam, Extinguishing powder.

5.2. Special hazards arising from the substance or mixture
Highly flammable. Vapours can form explosive mixtures with air.

5.3. Advice for firefighters
In case of fire: Wear self-contained breathing apparatus. Full protection suit.

Additional information
Use water spray jet to protect personnel and to cool endangered containers. Suppress gases/vapours/mists with water spray jet. Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water. Full protection suit.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Remove all sources of ignition. Provide adequate ventilation. Avoid dust formation. 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 uncontrolled discharge of product into the environment. Explosion risk.

6.3. Methods and material for containment and cleaning up
Take up mechanically. 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
Remove all sources of ignition. Provide adequate ventilation. Avoid dust formation. 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**
Keep away from sources of ignition - No smoking. Take precautionary measures against static discharges.
Vapours can form explosive mixtures with air.

**7.2. Conditions for safe storage, including any incompatibilities**

**Requirements for storage rooms and vessels**
Keep container tightly closed. Keep in a cool, well-ventilated place. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

**Hints on joint storage**
Do not store together with: Oxidizing agent. Pyrophoric or self-heating substances.

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

### SECTION 8: Exposure controls/personal protection

**8.1. Control parameters**

**Biological Monitoring Guidance Values (EH40)**

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Substance</th>
<th>Parameter</th>
<th>Value</th>
<th>Test material</th>
<th>Sampling time</th>
</tr>
</thead>
<tbody>
<tr>
<td>108-10-1</td>
<td>4-methylpentan-2-one</td>
<td>4-methylpentan-2-one</td>
<td>20 µmol/L</td>
<td>urine</td>
<td>Post shift</td>
</tr>
</tbody>
</table>

**Additional advice on limit values**
Value:
4-methylpentan-2-one; isobutyl methyl ketone
50 ppm (205 mg/m³) TWA
75 ppm (307 mg/m³) STEL

Cristobalite (respirable dust):
0.1 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 dust/fume/gas/mist/vapours/spray. Avoid dust formation. Avoid contact with skin, eyes and clothes.

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

**Hand protection**
Wear suitable gloves.
Suitable material: Butyl caoutchouc (butyl rubber)
Breakthrough time (maximum wearing time): 60 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.

**Skin protection**
Wear suitable protective clothing.

**Respiratory protection**
In case of inadequate ventilation wear respiratory protection. Provide adequate ventilation as well as local exhaustion at critical locations. Technical ventilation of workplace.

**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>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Liquid</td>
</tr>
<tr>
<td>Colour</td>
<td>white</td>
</tr>
<tr>
<td>Odour</td>
<td>characteristic</td>
</tr>
<tr>
<td>pH-Value</td>
<td>not determined</td>
</tr>
</tbody>
</table>

#### Changes in the physical state

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Melting point</td>
<td>not determined</td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>102 ºC</td>
</tr>
<tr>
<td>Flash point</td>
<td>18 ºC</td>
</tr>
</tbody>
</table>

**Flammability**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solid</td>
<td>not determined</td>
</tr>
<tr>
<td>Gas</td>
<td>not determined</td>
</tr>
</tbody>
</table>

**Explosive properties**

The product is not: Explosive. Vapours can form explosive mixtures with air.

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower explosion limits</td>
<td>1.7 vol. %</td>
</tr>
<tr>
<td>Upper explosion limits</td>
<td>9 vol. %</td>
</tr>
<tr>
<td>Ignition temperature</td>
<td>460 ºC</td>
</tr>
</tbody>
</table>

**Auto-ignition temperature**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solid</td>
<td>not determined</td>
</tr>
<tr>
<td>Gas</td>
<td>not applicable</td>
</tr>
</tbody>
</table>

**Decomposition temperature:**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decomposition temperature</td>
<td>not determined</td>
</tr>
</tbody>
</table>

**Oxidizing properties**

Not oxidising.

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vapour pressure</td>
<td>&lt;=1100 hPa</td>
</tr>
<tr>
<td>(at 50 ºC)</td>
<td></td>
</tr>
<tr>
<td>Density</td>
<td>not determined</td>
</tr>
<tr>
<td>Water solubility</td>
<td>No</td>
</tr>
</tbody>
</table>

**Solubility in other solvents**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>not determined</td>
<td></td>
</tr>
<tr>
<td>Partition coefficient</td>
<td>not determined</td>
</tr>
<tr>
<td>Viscosity / dynamic</td>
<td>not determined</td>
</tr>
<tr>
<td>Viscosity / kinematic</td>
<td>not determined</td>
</tr>
</tbody>
</table>
Vapour density: not determined
Evaporation rate: not determined

9.2. Other information

Solid content: 87,0 %
Odour threshold: not determined

SECTION 10: Stability and reactivity

10.1. Reactivity
Highly flammable.

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

10.3. Possibility of hazardous reactions
Vapours can form explosive mixtures with air.

10.4. Conditions to avoid
Keep away from sources of heat (e.g. hot surfaces), sparks and open flames.

10.5. Incompatible materials
Do not store together with: Oxidizing agent. Pyrophoric or self-heating substances.

10.6. Hazardous decomposition products
No known hazardous decomposition products.

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 (inhalation aerosol) 11,538 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>
</tr>
</thead>
<tbody>
<tr>
<td>108-10-1</td>
<td>4-methylpentan-2-one; isobutyl methyl ketone</td>
<td>dermal</td>
<td>LD50</td>
<td>&gt; 16000</td>
<td>Rabbit</td>
<td>IUCLID</td>
</tr>
<tr>
<td></td>
<td></td>
<td>inhalation vapour</td>
<td>ATE</td>
<td>11 mg/l</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>inhalation aerosol</td>
<td>ATE</td>
<td>1,5 mg/l</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Irritation and corrosivity
Causes serious eye irritation.
Skin corrosion/irritation: 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
Suspected of causing cancer. (4-methylpentan-2-one; isobutyl methyl ketone)
May cause cancer. (Cristobalite)
Germ cell mutagenicity: Based on available data, the classification criteria are not met.
Reproductive toxicity: 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
Causes damage to organs through prolonged or repeated exposure. (Cristobalite)

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
Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods
Disposal recommendations
Do not allow to enter into surface water or drains. 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 1245
14.2. UN proper shipping name: METHYL ISOBUTYL KETONE
14.3. Transport hazard class(es): 3
14.4. Packing group: II
Limited quantity: 1 L
Excepted quantity: E2

Other applicable information (land transport)
HAZCHEM: 3YE

Marine transport (IMDG)
14.1. UN number: UN 1245
14.2. UN proper shipping name: METHYL ISOBUTYL KETONE
14.3. Transport hazard class(es): 3
14.4. Packing group: II
Hazard label: 3

Special Provisions: -
Limited quantity: 1 L
VITA Zahnfabrik H. Rauter GmbH & Co. KG

Safety Data Sheet

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

VITAFOL H Paste

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Excepted quantity: E2
EmS: F-E, S-D

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number: UN 1245
14.2. UN proper shipping name: METHYL ISOBUTYL KETONE
14.3. Transport hazard class(es): II
14.4. Packing group:
Hazard label: 3

Limited quantity Passenger: 1 L
Passenger QL: Y341
Excepted quantity: E2
IATA-packing instructions - Passenger: 353
IATA-max. quantity - Passenger: 5 L
IATA-packing instructions - Cargo: 364
IATA-max. quantity - Cargo: 60 L

14.5. Environmental hazards
ENVIRONMENTALLY HAZARDOUS: no

14.6. Special precautions for user
Warning: Combustible liquid.

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
AICS:
Cristobalite: Yes.
4-methylpentan-2-one; isobutyl methyl ketone: Yes.

SUSMP:
Cristobalite: No
4-methylpentan-2-one; isobutyl methyl ketone: Yes.

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

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**TI: Technical Instructions**
**DGR: Dangerous Goods Regulations**
**UN: United Nations**
**ATE: Acute toxicity estimate**
**LC50: Lethal concentration, 50%**
**LD50: Lethal dose, 50%**
**LL50: Lethal loading, 50%**
**EL50: Effect loading, 50%**
**EC50: Effective Concentration 50%**
**ErC50: Effective Concentration 50%, growth rate**
**NOEC: No Observed Effect Concentration**
**BCF: Bio-concentration factor**
**MARPOL: International Convention for the Prevention of Marine Pollution from Ships**
**IBC: Intermediate Bulk Container**
**VOC: Volatile Organic Compounds**
**SUSMP: Standard for the Uniform Scheduling of Medicines and Poisons**

**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.)*