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

1.1 Product identifier
   Trade name : STAPA BG HYDROLAN 8154 55900/G Aluminium Paste
   Product code : 005351GK0

1.2 Relevant identified uses of the substance or mixture and uses advised against
   This information is not available.

1.3 Details of the supplier of the safety data sheet
   Company : ECKART GmbH
   Guentersthal 4
   91235 Hartenstein
   Telephone : +499152770
   Telefax : +499152777008
   E-mail address of person responsible for the SDS : msds.eckart@altana.com

1.4 Emergency telephone number
   GBK Gefahrgut Büro GmbH, Ingelheim, Germany:
   From outside US: (001) 352-323-3500
   (First call in English, response in your language is possible)
   US & Canada (toll free) : 1-800-5355-053

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture
   Classification (REGULATION (EC) No 1272/2008)
   Acute toxicity, Category 4 : H302: Harmful if swallowed.
   Acute toxicity, Category 4 : H332: Harmful if inhaled.
   Skin irritation, Category 2 : H315: Causes skin irritation.
   Eye irritation, Category 2 : H319: Causes serious eye irritation.

2.2 Label elements
   Labelling (REGULATION (EC) No 1272/2008)
SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

STAPA BG HYDROLAN 8154 55900/G
Aluminium Paste

Version 1.0  Revision Date: 03.01.2019  SDS Number: 102000003476  Print Date: 07.01.2019
Date of first issue: 03.01.2019

Hazard pictograms:

Signal word: Warning

Hazard statements:
H302 + H332 Harmful if swallowed or if inhaled.
H315 Causes skin irritation.
H319 Causes serious eye irritation.

Precautionary statements:
Prevention:
P261 Avoid breathing dust/ fume/ gas/ mist/vapours/spray.
P264 Wash skin thoroughly after handling.
P280 Wear protective gloves/eye protection/face protection.

Response:
P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell.
P337 + P313 If eye irritation persists: Get medical advice/attention.

Disposal:
P501 Dispose of contents/container to an approved waste disposal plant.

Hazardous components which must be listed on the label:
2-butoxyethanol

Additional Labelling
EUH208 Contains N-(3-(trimethoxysilyl)propyl)ethylenediamine. May produce an allergic reaction.

2.3 Other hazards
Combustible Solids
This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS-No.</th>
<th>EC-No.</th>
<th>Index-No.</th>
<th>Registration number</th>
<th>Classification</th>
<th>Concentration (% w/w)</th>
</tr>
</thead>
</table>

...
## SECTION 4: First aid measures

### 4.1 Description of first aid measures

**General advice**
- Move the victim to fresh air.
- Do not leave the victim unattended.
- Move out of dangerous area.
- Show this safety data sheet to the doctor in attendance.

**If inhaled**
- If unconscious, place in recovery position and seek medical advice.
- If symptoms persist, call a physician.

**In case of skin contact**
- Wash off immediately with soap and plenty of water.
- If skin irritation persists, call a physician.
- If on skin, rinse well with water.
- If on clothes, remove clothes.

**In case of eye contact**
- Immediately flush eye(s) with plenty of water.
- Immediately flush eye(s) with plenty of water.
- Remove contact lenses.
- Keep eye wide open while rinsing.
- If eye irritation persists, consult a specialist.

**If swallowed**
- Keep respiratory tract clear.
- Do not give milk or alcoholic beverages.
- Never give anything by mouth to an unconscious person.
- If symptoms persist, call a physician.
4.2 Most important symptoms and effects, both acute and delayed

Risks

- Harmful if swallowed or if inhaled.
- Causes skin irritation.
- Causes serious eye irritation.

4.3 Indication of any immediate medical attention and special treatment needed

This information is not available.

SECTION 5: Firefighting measures

5.1 Extinguishing media

<table>
<thead>
<tr>
<th>Suitable extinguishing media</th>
<th>Unsuitable extinguishing media</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dry sand</td>
<td>Water</td>
</tr>
<tr>
<td>Special powder against metal fire</td>
<td>Foam</td>
</tr>
<tr>
<td></td>
<td>ABC powder</td>
</tr>
<tr>
<td></td>
<td>Carbon dioxide (CO2)</td>
</tr>
</tbody>
</table>

5.2 Special hazards arising from the substance or mixture

5.3 Advice for firefighters

| Special protective equipment for firefighters | Use personal protective equipment. |

Wear self-contained breathing apparatus for firefighting if necessary.

| Further information | Standard procedure for chemical fires. |

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

<table>
<thead>
<tr>
<th>Personal precautions</th>
<th>Evacuate personnel to safe areas.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Use personal protective equipment.</td>
</tr>
<tr>
<td></td>
<td>Remove all sources of ignition.</td>
</tr>
<tr>
<td></td>
<td>Use personal protective equipment.</td>
</tr>
<tr>
<td></td>
<td>Avoid dust formation.</td>
</tr>
</tbody>
</table>

6.2 Environmental precautions

<table>
<thead>
<tr>
<th>Environmental precautions</th>
<th>Prevent further leakage or spillage if safe to do so.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>If the product contaminates rivers and lakes or drains inform respective authorities.</td>
</tr>
</tbody>
</table>
6.3 Methods and material for containment and cleaning up

Methods for cleaning up:
- Use mechanical handling equipment.
- Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).

Do not flush with water.
Keep in suitable, closed containers for disposal.

6.4 Reference to other sections
For personal protection see section 8.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling:
- Keep away from heat and sources of ignition.
- Avoid dust formation.
- Ensure adequate ventilation.

- Avoid formation of respirable particles.
- Do not breathe vapours/dust.
- Avoid contact with skin and eyes.
- For personal protection see section 8.
- Smoking, eating and drinking should be prohibited in the application area.
- Dispose of rinse water in accordance with local and national regulations.

Advice on protection against fire and explosion:
- Keep away from open flames, hot surfaces and sources of ignition. Earthing of containers and apparatuses is essential.

Hygiene measures:
- When using do not eat or drink. When using do not smoke. Wash hands before breaks and at the end of workday.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers:
- Store in original container. Keep containers tightly closed in a cool, well-ventilated place. Keep container closed when not in use. Keep away from sources of ignition - No smoking.

- Keep container tightly closed in a dry and well-ventilated place. Electrical installations / working materials must comply with the technological safety standards.

Further information on storage conditions:
- Protect from humidity and water. Do not allow to dry.
Advice on common storage : Do not store together with oxidizing and self-igniting products. Never allow product to get in contact with water during storage. Keep away from oxidizing agents, strongly alkaline and strongly acid materials in order to avoid exothermic reactions.

Further information on storage stability : No decomposition if stored and applied as directed.

7.3 Specific end use(s)
This information is not available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Value type (Form of exposure)</th>
<th>Control parameters</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>aluminium powder (stabilised)</td>
<td>7429-90-5</td>
<td>TWA (Inhalable)</td>
<td>10 mg/m3</td>
<td>GB EH40</td>
</tr>
</tbody>
</table>

Further information

The COSHH definition of a substance hazardous to health includes dust of any kind when present at a concentration in air equal to or greater than 10 mg.m-3 8-hour TWA of inhalable dust or 4 mg.m-3 8-hour TWA of respirable dust. This means that any dust will be subject to COSHH if people are exposed above these levels. Some dusts have been assigned specific WELs and exposure to these must comply with the appropriate limit. Where no specific short-term exposure limit is listed, a figure three times the long-term exposure should be used.

Further information

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Further information

For the purposes of these limits, respirable dust and inhalable dust are those fractions of airborne dust which will be collected when sampling is undertaken in accordance with the methods described in MDHS14/3 General methods for sampling and gravimetric analysis of respirable and inhalable dust. The COSHH definition of a substance hazardous to health includes dust of any kind when present at a concentration in air equal to or greater than 10 mg.m-3 8-hour TWA of inhalable dust or 4 mg.m-3 8-hour TWA of respirable dust. This means that any dust will be subject to COSHH if people are exposed above these levels. Some dusts have been assigned...
specific WELs and exposure to these must comply with the appropriate limit. Most industrial dusts contain particles of a wide range of sizes. The behaviour, deposition and fate of any particular particle after entry into the human respiratory system and the body response that it elicits, depend on the nature and size of the particle. HSE distinguishes two size fractions for limit-setting purposes termed ‘inhalable’ and ‘respirable’. Inhalable dust approximates to the fraction of airborne material that enters the nose and mouth during breathing and is therefore available for deposition in the respiratory tract. Respirable dust approximates to the fraction that penetrates to the gas exchange region of the lung. Fuller definitions and explanatory material are given in MDHS14/3. Where dusts contain components that have their own assigned WEL, all the relevant limits should be complied with. Where no specific short-term exposure limit is listed, a figure three times the long-term exposure should be used.

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS Number</th>
<th>TWA (Respirable dust)</th>
<th>STEL</th>
<th>GB EH40</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-butoxyethanol</td>
<td>111-76-2</td>
<td>4 mg/m3</td>
<td>50 ppm</td>
<td>2000/39/EC</td>
</tr>
</tbody>
</table>
| Further information | | For the purposes of these limits, respirable dust and inhalable dust are those fractions of airborne dust which will be collected when sampling is undertaken in accordance with the methods described in MDHS14/3 General methods for sampling and gravimetric analysis of respirable and inhalable dust. The COSHH definition of a substance hazardous to health includes dust of any kind when present at a concentration in air equal to or greater than 10 mg.m⁻³ 8-hour TWA of inhalable dust or 4 mg.m⁻³ 8-hour TWA of respirable dust. This means that any dust will be subject to COSHH if people are exposed above these levels. Some dusts have been assigned specific WELs and exposure to these must comply with the appropriate limit. Most industrial dusts contain particles of a wide range of sizes. The behaviour, deposition and fate of any particular particle after entry into the human respiratory system and the body response that it elicits, depend on the nature and size of the particle. HSE distinguishes two size fractions for limit-setting purposes termed ‘inhalable’ and ‘respirable’. Inhalable dust approximates to the fraction of airborne material that enters the nose and mouth during breathing and is therefore available for deposition in the respiratory tract. Respirable dust approximates to the fraction that penetrates to the gas exchange region of the lung. Fuller definitions and explanatory material are given in MDHS14/3. Where dusts contain components that have their own assigned WEL, all the relevant limits should be complied with. Where no specific short-term exposure limit is listed, a figure three times the long-term exposure should be used.

Further information | Can be absorbed through skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity. | Can be absorbed through skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity. | Can be absorbed through skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity. | Can be absorbed through skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity. |
which there are concerns that dermal absorption will lead to systemic toxicity.

<table>
<thead>
<tr>
<th>silicon dioxide</th>
<th>TWA (Inhalable)</th>
<th>GB EH40</th>
</tr>
</thead>
<tbody>
<tr>
<td>7631-86-9</td>
<td>6 mg/m³</td>
<td></td>
</tr>
</tbody>
</table>

Further information

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<table>
<thead>
<tr>
<th>TWA (Respirable)</th>
<th>GB EH40</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.4 mg/m³</td>
<td></td>
</tr>
</tbody>
</table>
Further information

For the purposes of these limits, respirable dust and inhalable dust are those fractions of airborne dust which will be collected when sampling is undertaken in accordance with the methods described in MDHS14/3 General methods for sampling and gravimetric analysis of respirable and inhalable dust, The COSHH definition of a substance hazardous to health includes dust of any kind when present at a concentration in air equal to or greater than 10 mg.m-3 8-hour TWA of inhalable dust or 4 mg.m-3 8-hour TWA of respirable dust. This means that any dust will be subject to COSHH if people are exposed above these levels. Some dusts have been assigned specific WELs and exposure to these must comply with the appropriate limit., Most industrial dusts contain particles of a wide range of sizes. The behaviour, deposition and fate of any particular particle after entry into the human respiratory system and the body response that it elicits, depend on the nature and size of the particle. HSE distinguishes two size fractions for limit-setting purposes termed 'inhalable' and 'respirable'. Inhalable dust approximates to the fraction of airborne material that enters the nose and mouth during breathing and is therefore available for deposition in the respiratory tract. Respirable dust approximates to the fraction that penetrates to the gas exchange region of the lung. Fuller definitions and explanatory material are given in MDHS14/3., Where dusts contain components that have their own assigned WEL, all the relevant limits should be complied with., Where no specific short-term exposure limit is listed, a figure three times the long-term exposure should be used.

<table>
<thead>
<tr>
<th>TWA (Respirable dust)</th>
<th>2.4 mg/m3 (Silica)</th>
<th>GB EH40</th>
</tr>
</thead>
<tbody>
<tr>
<td>Further information</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

For the purposes of these limits, respirable dust and inhalable dust are those fractions of airborne dust which will be collected when sampling is undertaken in accordance with the methods described in MDHS14/3 General methods for sampling and gravimetric analysis of respirable and inhalable dust, The COSHH definition of a substance hazardous to health includes dust of any kind when present at a concentration in air equal to or greater than 10 mg.m-3 8-hour TWA of inhalable dust or 4 mg.m-3 8-hour TWA of respirable dust. This means that any dust will be subject to COSHH if people are exposed above these levels. Some dusts have been assigned specific WELs and exposure to these must comply with the appropriate limit., Most industrial dusts contain particles of a wide range of sizes. The behaviour, deposition and fate of any particular particle after entry into the human respiratory system and the body response that it elicits, depend on the nature and size of the particle. HSE distinguishes two size fractions for limit-setting purposes termed 'inhalable' and 'respirable'. Inhalable dust approximates to the fraction of airborne material that enters the nose and mouth during breathing and is therefore available for deposition in the respiratory tract. Respirable dust approximates to the fraction that penetrates to the gas exchange region of the lung. Fuller definitions and explanatory material are given in MDHS14/3., Where dusts contain components that have their own assigned WEL, all the relevant limits should be complied with., Where no specific short-term exposure limit is listed, a figure three times the long-term exposure should be used.
## Biological occupational exposure limits

<table>
<thead>
<tr>
<th>Substance name</th>
<th>CAS-No.</th>
<th>Control parameters</th>
<th>Sampling time</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-butoxyethanol</td>
<td>111-76-2</td>
<td>butoxyacetic acid: 240 Millimoles per mole Creatinine (Urine)</td>
<td>After shift</td>
<td>GB EH40 BAT</td>
</tr>
</tbody>
</table>

## Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:

<table>
<thead>
<tr>
<th>Substance name</th>
<th>End Use</th>
<th>Exposure routes</th>
<th>Potential health effects</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>aluminium powder (stabilised)</td>
<td>Workers</td>
<td>Inhalation</td>
<td>long term – local effects</td>
<td>3.72 mg/m³</td>
</tr>
<tr>
<td>Consumers</td>
<td>Oral</td>
<td></td>
<td>long term – systemic effects</td>
<td>3.95 mg/kg</td>
</tr>
<tr>
<td>Workers</td>
<td>Inhalation</td>
<td></td>
<td>Long-term systemic effects</td>
<td>3.72 mg/m³</td>
</tr>
<tr>
<td>2-butoxyethanol</td>
<td>Workers</td>
<td>Skin contact</td>
<td>short term – systemic effects</td>
<td>89 mg/kg</td>
</tr>
<tr>
<td>Consumers</td>
<td>Ingestion</td>
<td></td>
<td>short term – systemic effects</td>
<td>26.7 mg/kg</td>
</tr>
<tr>
<td>Consumers</td>
<td>Skin contact</td>
<td></td>
<td>short term – systemic effects</td>
<td>89 mg/kg</td>
</tr>
<tr>
<td>Consumers</td>
<td>Inhalation</td>
<td></td>
<td>short term – systemic effects</td>
<td>426 mg/m³</td>
</tr>
<tr>
<td>Consumers</td>
<td>Ingestion</td>
<td></td>
<td>long term – systemic effects</td>
<td>6.3 mg/kg</td>
</tr>
<tr>
<td>Consumers</td>
<td>Skin contact</td>
<td></td>
<td>long term – systemic effects</td>
<td>75 mg/kg</td>
</tr>
<tr>
<td>Consumers</td>
<td>Inhalation</td>
<td></td>
<td>long term – systemic effects</td>
<td>59 mg/m³</td>
</tr>
<tr>
<td>Workers</td>
<td>Inhalation</td>
<td></td>
<td>long term – systemic effects</td>
<td>98 mg/m³</td>
</tr>
<tr>
<td>Workers</td>
<td>Inhalation</td>
<td></td>
<td>short term – systemic effects</td>
<td>1091 mg/m³</td>
</tr>
<tr>
<td>Workers</td>
<td>Inhalation</td>
<td></td>
<td>short term – local effects</td>
<td>246 mg/m³</td>
</tr>
<tr>
<td>Workers</td>
<td>Skin contact</td>
<td></td>
<td>long term – systemic effects</td>
<td>405 mg/kg</td>
</tr>
<tr>
<td>Workers</td>
<td>Skin contact</td>
<td></td>
<td>short term – systemic effects</td>
<td>125 mg/kg</td>
</tr>
<tr>
<td>Consumers</td>
<td>Inhalation</td>
<td></td>
<td>short term – local effects</td>
<td>147 mg/m³</td>
</tr>
<tr>
<td>N-(3-(trimethoxysilyl)propyl)ethylenediamine</td>
<td>Workers</td>
<td>Inhalation</td>
<td>long term – systemic effects</td>
<td>35.5 mg/m³</td>
</tr>
<tr>
<td>Workers</td>
<td>Skin contact</td>
<td></td>
<td>long term – systemic effects</td>
<td>5 mg/kg</td>
</tr>
<tr>
<td>Workers</td>
<td>Skin contact</td>
<td></td>
<td>short term – systemic effects</td>
<td>5 mg/kg</td>
</tr>
<tr>
<td>Consumers</td>
<td>Oral</td>
<td></td>
<td>long term – systemic effects</td>
<td>2.5 mg/kg</td>
</tr>
</tbody>
</table>
SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

STAPA BG HYDROLAN 8154 55900/G
Aluminium Paste

<table>
<thead>
<tr>
<th>Version</th>
<th>Revision Date:</th>
<th>SDS Number:</th>
<th>Print Date:</th>
<th>Date of first issue:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0</td>
<td>03.01.2019</td>
<td>102000003476</td>
<td>07.01.2019</td>
<td>03.01.2019</td>
</tr>
</tbody>
</table>

### 8.2 Exposure controls

**Personal protective equipment**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Eye protection</strong></td>
<td>Wear face-shield and protective suit for abnormal processing problems.</td>
</tr>
<tr>
<td><strong>Hand protection</strong></td>
<td>Solvent-resistant gloves</td>
</tr>
</tbody>
</table>

**Remarks**

Take note of the information given by the producer concerning permeability and breakthrough times, and of special workplace conditions (mechanical strain, duration of contact). The exact breakthrough time can be obtained from the protective glove producer and this has to be observed. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time. Recommended preventive skin protection Skin should be washed after contact. The suitability for a specific workplace should be discussed with the producers of the protective gloves.

---

**Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:**

<table>
<thead>
<tr>
<th>Substance name</th>
<th>Environmental Compartment</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>aluminium powder (stabilised)</td>
<td>Fresh water</td>
<td>0.0749 mg/l</td>
</tr>
<tr>
<td></td>
<td>clarification plant</td>
<td>20 mg/l</td>
</tr>
<tr>
<td>2-butoxyethanol</td>
<td>Fresh water</td>
<td>8.8 mg/l</td>
</tr>
<tr>
<td></td>
<td>Fresh water sediment</td>
<td>34.6 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Marine water</td>
<td>0.88 mg/l</td>
</tr>
<tr>
<td></td>
<td>Marine sediment</td>
<td>3.46 mg/kg</td>
</tr>
<tr>
<td></td>
<td>STP</td>
<td>463 mg/l</td>
</tr>
<tr>
<td></td>
<td>Soil</td>
<td>2.33 mg/kg</td>
</tr>
<tr>
<td>N-(3-(trimethoxysilyl)propyl)ethylenediamine</td>
<td>Fresh water</td>
<td>0.062 mg/l</td>
</tr>
<tr>
<td></td>
<td>Marine water</td>
<td>0.0062 mg/l</td>
</tr>
<tr>
<td></td>
<td>clarification plant</td>
<td>25 mg/l</td>
</tr>
<tr>
<td></td>
<td>Fresh water sediment</td>
<td>0.22 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Marine sediment</td>
<td>0.022 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Soil</td>
<td>0.0085 mg/kg</td>
</tr>
</tbody>
</table>
Skin and body protection: Long sleeved clothing, Safety shoes. Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Respiratory protection: Use suitable breathing protection if workplace concentration requires.

Environmental exposure controls: Water. The product should not be allowed to enter drains, water courses or the soil.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

- **Appearance**: Pasty solid
- **Colour**: silver
- **Odour**: characteristic
- **Odour Threshold**: No data available
- **pH**: No data available
- **Freezing point**: No data available
- **Boiling point/boiling range**: No data available
- **Flash point**: No data available
- **Evaporation rate**: No data available
- **Flammability (solid, gas)**: Combustible Solids
- **Self-ignition**: not auto-flammable
- **Auto-ignition temperature**: No data available
- **Smoldering temperature**: No data available
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Decomposition temperature : No data available
Explosive properties : Not explosive
Oxidizing properties : No data available
Upper explosion limit / Upper flammability limit : No data available
Lower explosion limit / Lower flammability limit : No data available
Vapour pressure : No data available
Relative vapour density : No data available
Relative density : No data available
Density : No data available
Bulk density : No data available
Water solubility : No data available
Solubility in other solvents : No data available
Partition coefficient: n-octanol/water : No data available
Decomposition temperature : No data available
Viscosity, dynamic : No data available
Viscosity, kinematic : No data available
Flow time : No data available

9.2 Other information
No data available

SECTION 10: Stability and reactivity

10.1 Reactivity
No decomposition if stored and applied as directed.
10.2 Chemical stability
No decomposition if stored and applied as directed.

10.3 Possibility of hazardous reactions
Hazardous reactions: Reacts with alkalis, acids, halogenes and oxidizing agents. Contact with acids and alkalis may release hydrogen. Mixture reacts slowly with water resulting in evolution of hydrogen. Vapour/air-mixtures are explosive at intense warming.
Stable under recommended storage conditions.

10.4 Conditions to avoid
Conditions to avoid: Do not allow to dry.
No data available

10.5 Incompatible materials
Materials to avoid: Acids Bases Oxidizing agents Highly halogenated compounds

10.6 Hazardous decomposition products
Contact with water or humid air: This information is not available.
Thermal decomposition: This information is not available.

SECTION 11: Toxicological information

11.1 Information on toxicological effects
Acute toxicity
Harmful if swallowed or if inhaled.

Product:
Acute oral toxicity: Acute toxicity estimate: 1,250 mg/kg
Method: Calculation method

Acute inhalation toxicity: Acute toxicity estimate: 3.75 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: Calculation method

Acute dermal toxicity: Acute toxicity estimate: > 2,000 mg/kg
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Method: Calculation method

Components:
aluminium powder (stabilised):
Acute inhalation toxicity : LC50 (Rat): > 5 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist

2-butoxyethanol:
Acute oral toxicity : Acute toxicity estimate: 500 mg/kg
Method: Converted acute toxicity point estimate

Acute inhalation toxicity : > 3.1 mg/l
Exposure time: 1 h
Test atmosphere: vapour

Acute dermal toxicity : Acute toxicity estimate: 1,100 mg/kg
Method: Converted acute toxicity point estimate

N-(3-(trimethoxysilyl)propyl)ethylenediamine:
Acute oral toxicity : LD50 (Rat): ca. 2,400 mg/kg

Acute inhalation toxicity : LC50: 1.49 - 2.44 mg/l
Exposure time: 4 h
Test atmosphere: vapour

Acute dermal toxicity : LD50 (Rat): > 2,000 mg/kg

Skin corrosion/irritation
Causes skin irritation.

Product:
Remarks: May cause skin irritation in susceptible persons.

Serious eye damage/eye irritation
Causes serious eye irritation.

Product:
Remarks: Eye irritation

Respiratory or skin sensitisation

Skin sensitisation
Not classified based on available information.

Respiratory sensitisation
Not classified based on available information.
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Germ cell mutagenicity  
Not classified based on available information.

Carcinogenicity  
Not classified based on available information.

Reproductive toxicity  
Not classified based on available information.

STOT - single exposure  
Not classified based on available information.

STOT - repeated exposure  
Not classified based on available information.

Aspiration toxicity  
Not classified based on available information.

Further information  
Product:  
Remarks: No data available

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SECTION 12: Ecological information

12.1 Toxicity  
No data available

12.2 Persistence and degradability  
No data available

12.3 Bioaccumulative potential  
No data available

12.4 Mobility in soil  
No data available

12.5 Results of PBT and vPvB assessment  
Product:  
Assessment : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher..

12.6 Other adverse effects  
Product:  
Additional ecological information : No data available
SECTION 13: Disposal considerations

European Waste Catalogue: 12 01 04 - non-ferrous metal dust and particles
European Waste Catalogue: 100321 - other particulates and dust (including ball-mill dust) containing dangerous substances

13.1 Waste treatment methods

Product: Do not dispose of waste into sewer. Do not contaminate ponds, waterways or ditches with chemical or used container. Send to a licensed waste management company. In accordance with local and national regulations.

Contaminated packaging: Empty remaining contents. Dispose of as unused product. Do not re-use empty containers. In accordance with local and national regulations.

SECTION 14: Transport information

14.1 UN number
14.2 UN proper shipping name
14.3 Transport hazard class(es)
14.4 Packing group
14.5 Environmental hazards
14.6 Special precautions for user

Remarks: Not classified as dangerous in the meaning of transport regulations.

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

Not applicable for product as supplied.

SECTION 15: Regulatory information

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

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59): Not applicable
Regulation (EC) No 1005/2009 on substances that deplete the ozone layer: Not applicable

Regulation (EC) No 850/2004 on persistent organic pollutants: Not applicable

15.2 Chemical safety assessment

SECTION 16: Other information

Full text of H-Statements

H228 : Flammable solid.
H302 : Harmful if swallowed.
H312 : Harmful in contact with skin.
H315 : Causes skin irritation.
H317 : May cause an allergic skin reaction.
H318 : Causes serious eye damage.
H319 : Causes serious eye irritation.
H332 : Harmful if inhaled.
H411 : Toxic to aquatic life with long lasting effects.

Full text of other abbreviations

Acute Tox. : Acute toxicity
Aquatic Chronic : Long-term (chronic) aquatic hazard
Eye Dam. : Serious eye damage
Eye Irrit. : Eye irritation
Flam. Sol. : Flammable solids
Skin Irrit. : Skin irritation
Skin Sens. : Skin sensitisation

GB EH40 : UK. EH40 WEL - Workplace Exposure Limits
GB EH40 BAT : UK. Biological monitoring guidance values
2000/39/EC / TWA : Limit Value - eight hours
2000/39/EC / STEL : Short term exposure limit
GB EH40 / TWA : Long-term exposure limit (8-hour TWA reference period)
GB EH40 / STEL : Short-term exposure limit (15-minute reference period)

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECX - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the
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Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of Very High Concern; TCSI - Taiwan Chemical Substance Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

Further information
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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