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

1.1 Product identifier
Trade name: Sample Concentrate Zincflakespray 750 ml 14-07012
Material number: 08070407Z

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)

Flammable liquids, Category 2
Skin irritation, Category 2
Eye irritation, Category 2
Specific target organ toxicity - single exposure, Category 3, Respiratory system
Specific target organ toxicity - repeated exposure, Category 2

H225: Highly flammable liquid and vapour.
H315: Causes skin irritation.
H319: Causes serious eye irritation.
H335: May cause respiratory irritation.
H373: May cause damage to organs through prolonged or repeated exposure.
Sample Concentrate Zincflakespray 750 ml 14-07012

Acute aquatic toxicity, Category 1
H400: Very toxic to aquatic life.

Chronic aquatic toxicity, Category 1
H410: Very toxic to aquatic life with long lasting effects.

Classification (67/548/EEC, 1999/45/EC)
Highly flammable
R11: Highly flammable.

Harmful
R20/21: Harmful by inhalation and in contact with skin.

Irritant
R38: Irritating to skin.

Dangerous for the environment
R50/53: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms:

Signal word: Danger

Hazard statements:
H225: Highly flammable liquid and vapour.
H315: Causes skin irritation.
H319: Causes serious eye irritation.
H335: May cause respiratory irritation.
H373: May cause damage to organs through prolonged or repeated exposure.
H410: Very toxic to aquatic life with long lasting effects.

Precautionary statements:
Prevention:
P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233: Keep container tightly closed.
P260: Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P273: Avoid release to the environment.
P280: Wear protective gloves/ eye protection/ face protection.

Response:
P370 + P378: In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.
Hazardous components which must be listed on the label:
1330-20-7 xylene
123-86-4 n-butyl acetate
71-36-3 butan-1-ol

2.3 Other hazards
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.
No information available.

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>Registration number</th>
<th>Classification (67/548/EEC)</th>
<th>Classification (REGULATION (EC) No 1272/2008)</th>
<th>Concentration (% w/w)</th>
</tr>
</thead>
<tbody>
<tr>
<td>zinc powder - zinc dust (stabilized)</td>
<td>7440-66-6</td>
<td>231-175-3</td>
<td>01-2119467174-37</td>
<td>N; R50-R53</td>
<td>Aquatic Acute 1; H400 Aquatic Chronic 1; H410</td>
<td>&gt;= 25 - &lt; 50</td>
</tr>
<tr>
<td>xylene</td>
<td>1330-20-7</td>
<td>215-535-7</td>
<td>R10 Xn; R20/21 Xi; R38</td>
<td>Flam. Liq. 3; H226 Acute Tox. 4; H332 Acute Tox. 4; H312 Skin Irrit. 2; H315 Eye Irrit. 2; H319 STOT SE 3; H335 STOT RE 2; H373 Asp. Tox. 1; H304</td>
<td>=&gt; 20 - &lt; 25</td>
<td></td>
</tr>
<tr>
<td>n-butyl acetate</td>
<td>123-86-4</td>
<td>204-658-1</td>
<td>01-2119485493-29</td>
<td>R10 R66 R67</td>
<td>Flam. Liq. 3; H226 STOT SE 3; H336</td>
<td>=&gt; 10 - &lt; 20</td>
</tr>
<tr>
<td>aluminium powder (stabilised)</td>
<td>7429-90-5</td>
<td>231-072-3</td>
<td>01-2119529243-45</td>
<td>F; R11</td>
<td>Flam. Sol. 1; H228</td>
<td>=&gt; 1 - &lt; 10</td>
</tr>
<tr>
<td>ethylbenzene</td>
<td>100-41-4</td>
<td>202-849-4</td>
<td>01-2119489370-35</td>
<td>F; R11 Xn; R20-R48/20-R65</td>
<td>Flam. Liq. 2; H225 Acute Tox. 4; H332 STOT RE 2; H373 Asp. Tox. 1; H304</td>
<td>=&gt; 1 - &lt; 10</td>
</tr>
<tr>
<td>butan-1-ol</td>
<td>71-36-3</td>
<td>200-751-6</td>
<td>01-2119484630-38</td>
<td>R10 Xn; R22 Xi; R37/38-R41</td>
<td>Flam. Liq. 3; H226 Acute Tox. 4; H302 Skin Irrit. 2; H315</td>
<td>=&gt; 1 - &lt; 3</td>
</tr>
</tbody>
</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. Take victim immediately to hospital.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms: No information available.

Risks: No information available.
4.3 Indication of any immediate medical attention and special treatment needed
   Treatment : No information available.

SECTION 5: Firefighting measures

5.1 Extinguishing media
   Suitable extinguishing media : Dry sand
                                 ABC powder
                                 Foam
   Unsuitable extinguishing media : High volume water jet

5.2 Special hazards arising from the substance or mixture
   Specific hazards during firefighting : Do not allow run-off from fire fighting to enter drains or water courses.

5.3 Advice for firefighters
   Special protective equipment for firefighters : Wear self-contained breathing apparatus for firefighting if necessary.
   Further information : Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. For safety reasons in case of fire, cans should be stored separately in closed containments. Use a water spray to cool fully closed containers.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
   Personal precautions : Evacuate personnel to safe areas.
                         Use personal protective equipment.
                         Ensure adequate ventilation.
                         Remove all sources of ignition.
                         Evacuate personnel to safe areas.
                         Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

6.2 Environmental precautions
   Environmental precautions : Prevent product from entering drains.
                               Prevent further leakage or spillage if safe to do so.
                               If the product contaminates rivers and lakes or drains inform respective authorities.
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). Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

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: Avoid formation of aerosol. Do not breathe vapours/dust. Avoid exposure - obtain special instructions before use. Avoid contact with skin and eyes. For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area. Take precautionary measures against static discharges. Provide sufficient air exchange and/or exhaust in work rooms. Open drum carefully as content may be under pressure. Dispose of rinse water in accordance with local and national regulations.

Advice on protection against fire and explosion: Do not spray on a naked flame or any incandescent material. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapours). Use only explosion-proof equipment. Keep away from open flames, hot surfaces and sources of ignition.

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: Earthing of containers and apparatuses is essential. Reaction with water liberates extremely flammable gas (hydrogen) Take measures to prevent the build up of electrostatic charge. Use explosion-proof equipment. Store in original container. Keep containers tightly closed in a cool, well-ventilated place. Keep away from sources of ignition - No smoking. Keep container closed when not in use.

No smoking. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Electrical installations / working materials must comply with
Further information on storage conditions: Protect from humidity and water.

Advice on common storage:
- Do not store near acids.
- 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.

Other data: 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 (Version Date)</th>
</tr>
</thead>
<tbody>
<tr>
<td>zinc powder - zinc dust (stabilized)</td>
<td>7440-66-6</td>
<td>TWA (Inhalable)</td>
<td>10 mg/m³</td>
<td>GB EH40 (2011-12-01)</td>
</tr>
<tr>
<td>Further information</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>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.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>xylene</td>
<td>1330-20-7</td>
<td>TWA (Respirable)</td>
<td>4 mg/m³</td>
<td>GB EH40 (2011-12-01)</td>
</tr>
<tr>
<td>Further information</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>xylene</td>
<td>1330-20-7</td>
<td>STEL</td>
<td>100 ppm</td>
<td>GB EH40</td>
</tr>
<tr>
<td>Further information</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Can be absorbed through skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>
Sample Concentrate Zincflakespray 750 ml 14-07012

<table>
<thead>
<tr>
<th>Further information</th>
<th>441 mg/m³ (2005-04-06)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Can be absorbed through skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.</td>
<td></td>
</tr>
<tr>
<td>xylene</td>
<td></td>
</tr>
<tr>
<td>1330-20-7 TWA</td>
<td>50 ppm, 221 mg/m³</td>
</tr>
<tr>
<td>Further information</td>
<td></td>
</tr>
<tr>
<td>Identifies the possibility of significant uptake through the skin, Indicative</td>
<td></td>
</tr>
<tr>
<td>xylene</td>
<td></td>
</tr>
<tr>
<td>1330-20-7 STEL</td>
<td>100 ppm, 442 mg/m³</td>
</tr>
<tr>
<td>Further information</td>
<td></td>
</tr>
<tr>
<td>Identifies the possibility of significant uptake through the skin, Indicative</td>
<td></td>
</tr>
<tr>
<td>n-butyl acetate</td>
<td></td>
</tr>
<tr>
<td>123-86-4 TWA</td>
<td>150 ppm, 724 mg/m³</td>
</tr>
<tr>
<td>GB EH40 (2005-04-06)</td>
<td></td>
</tr>
<tr>
<td>Further information</td>
<td></td>
</tr>
<tr>
<td>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.</td>
<td></td>
</tr>
<tr>
<td>aluminium powder (stabilised)</td>
<td></td>
</tr>
<tr>
<td>7429-90-5 TWA (Inhalable)</td>
<td>10 mg/m³</td>
</tr>
<tr>
<td>GB EH40 (2011-12-01)</td>
<td></td>
</tr>
<tr>
<td>Further information</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>aluminium powder (stabilised)</td>
<td></td>
</tr>
<tr>
<td>7429-90-5 TWA (Respirable)</td>
<td>4 mg/m³</td>
</tr>
<tr>
<td>GB EH40 (2011-12-01)</td>
<td></td>
</tr>
<tr>
<td>Further information</td>
<td></td>
</tr>
<tr>
<td>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</td>
<td></td>
</tr>
<tr>
<td>aluminium powder (stabilised)</td>
<td>TWA (Respirable)</td>
</tr>
<tr>
<td>--------------------------------</td>
<td>------------------</td>
</tr>
<tr>
<td>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.</td>
<td></td>
</tr>
<tr>
<td>Further information</td>
<td>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.</td>
</tr>
<tr>
<td>aluminium powder (stabilised)</td>
<td>TWA (inhalable dust)</td>
</tr>
<tr>
<td>Further information</td>
<td>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.</td>
</tr>
</tbody>
</table>
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.

- **aluminium powder (stabilised)**
  - Control parameters: TWA (Respirable dust)
  - Sampling time: 4 mg/m³
  - Basis: GB EH40 (2011-12-01)

**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.

**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>methyl hippuric acid</td>
<td>650 mmol/mol</td>
<td>Post shift</td>
<td>GB EH40 BAT</td>
<td></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>zinc (7440-66-6)</td>
<td>Workers</td>
<td>Inhalation</td>
<td>long term – systemic effects</td>
<td>5 mg/m³</td>
</tr>
<tr>
<td></td>
<td>Workers</td>
<td>Skin contact</td>
<td>long term – systemic effects</td>
<td>83 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Consumers</td>
<td>Ingestion</td>
<td>long term – systemic effects</td>
<td>0.83 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Consumers</td>
<td>Skin contact</td>
<td>long term – systemic effects</td>
<td>83 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Consumers</td>
<td>Inhalation</td>
<td>long term – systemic effects</td>
<td>2.5 mg/m³</td>
</tr>
<tr>
<td>xylene (1330-20-7)</td>
<td>Workers</td>
<td>Inhalation</td>
<td>short term – local effects</td>
<td>289 mg/m³</td>
</tr>
<tr>
<td></td>
<td>Workers</td>
<td>Inhalation</td>
<td>short term – systemic effects</td>
<td>289 mg/m³</td>
</tr>
<tr>
<td></td>
<td>Workers</td>
<td>Inhalation</td>
<td>long term – systemic effects</td>
<td>77 mg/m³</td>
</tr>
<tr>
<td></td>
<td>Workers</td>
<td>Skin contact</td>
<td>long term – systemic effects</td>
<td>180 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Consumers</td>
<td>Inhalation</td>
<td>short term – local effects</td>
<td>174 mg/m³</td>
</tr>
<tr>
<td></td>
<td>Consumers</td>
<td>Inhalation</td>
<td>short term – systemic effects</td>
<td>174 mg/m³</td>
</tr>
<tr>
<td></td>
<td>Consumers</td>
<td>Skin contact</td>
<td>long term – systemic effects</td>
<td>108 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Consumers</td>
<td>Inhalation</td>
<td>long term – systemic effects</td>
<td>14.8 mg/m³</td>
</tr>
<tr>
<td></td>
<td>Consumers</td>
<td>Ingestion</td>
<td>long term – systemic effects</td>
<td>1.6 mg/kg</td>
</tr>
<tr>
<td>n-butyl acetate (123-86-4)</td>
<td>Workers</td>
<td>Inhalation</td>
<td>short term – local effects</td>
<td>600 mg/m³</td>
</tr>
<tr>
<td></td>
<td>Workers</td>
<td>Inhalation</td>
<td>long term – local effects</td>
<td>300 mg/m³</td>
</tr>
<tr>
<td></td>
<td>Consumers</td>
<td>Inhalation</td>
<td>long term – local effects</td>
<td>35.7 mg/m³</td>
</tr>
<tr>
<td></td>
<td>Workers</td>
<td>Skin contact</td>
<td>Long-term systemic effects</td>
<td>11 mg/kg</td>
</tr>
<tr>
<td>Consumers</td>
<td>Ingestion</td>
<td>long term – systemic effects</td>
<td>2 mg/kg</td>
<td></td>
</tr>
<tr>
<td>------------</td>
<td>----------------</td>
<td>------------------------------</td>
<td>---------</td>
<td></td>
</tr>
<tr>
<td>Consumers</td>
<td>Skin contact</td>
<td>long term – systemic effects</td>
<td>6 mg/kg</td>
<td></td>
</tr>
<tr>
<td>Workers</td>
<td>Ingestion</td>
<td>short term – systemic effects</td>
<td>2 mg/kg</td>
<td></td>
</tr>
<tr>
<td>Consumers</td>
<td>Skin contact</td>
<td>short term – systemic effects</td>
<td>6 mg/kg</td>
<td></td>
</tr>
<tr>
<td>Workers</td>
<td>Skin contact</td>
<td>short term – systemic effects</td>
<td>11 mg/kg</td>
<td></td>
</tr>
<tr>
<td>butan-1-ol (71-36-3)</td>
<td>Workers</td>
<td>Inhalation</td>
<td>long term – local effects</td>
<td>310 mg/m3</td>
</tr>
<tr>
<td>Consumers</td>
<td>Inhalation</td>
<td>long term – local effects</td>
<td>55 mg/m3</td>
<td></td>
</tr>
<tr>
<td>Consumers</td>
<td>Ingestion</td>
<td>long term – systemic effects</td>
<td>3.125 mg/kg</td>
<td></td>
</tr>
<tr>
<td>Naphtha (petroleum), hydrotreated heavy (64742-48-9)</td>
<td>Workers</td>
<td>Skin contact</td>
<td>long term – systemic effects</td>
<td>300 mg/kg</td>
</tr>
<tr>
<td>Consumers</td>
<td>Ingestion</td>
<td>long term – systemic effects</td>
<td>300 mg/kg</td>
<td></td>
</tr>
<tr>
<td>Consumers</td>
<td>Skin contact</td>
<td>long term – systemic effects</td>
<td>300 mg/kg</td>
<td></td>
</tr>
<tr>
<td>Consumers</td>
<td>Inhalation</td>
<td>long term – systemic effects</td>
<td>900 mg/m3</td>
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</table>

**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>
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</thead>
<tbody>
<tr>
<td>zinc (7440-66-6)</td>
<td>Fresh water</td>
<td>0.0206 mg/l</td>
</tr>
<tr>
<td></td>
<td>Fresh water sediment</td>
<td>117.8 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Marine water</td>
<td>0.0061 mg/l</td>
</tr>
<tr>
<td></td>
<td>Soil</td>
<td>35.6 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Marine sediment</td>
<td>56.5 mg/kg</td>
</tr>
<tr>
<td>xylene (1330-20-7)</td>
<td>Soil</td>
<td>2.31 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Fresh water</td>
<td>0.327 mg/l</td>
</tr>
<tr>
<td></td>
<td>Fresh water sediment</td>
<td>12.46 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Marine water</td>
<td>0.327 mg/l</td>
</tr>
<tr>
<td></td>
<td>Marine sediment</td>
<td>12.46 mg/kg</td>
</tr>
<tr>
<td></td>
<td>STP</td>
<td>6.58 mg/l</td>
</tr>
</tbody>
</table>
n-butyl acetate (123-86-4)  | Soil          | 0.0903 mg/kg |
<table>
<thead>
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</thead>
<tbody>
<tr>
<td></td>
<td>Fresh water</td>
<td>0.18 mg/l</td>
</tr>
<tr>
<td></td>
<td>Fresh water sediment</td>
<td>0.981 mg/kg</td>
</tr>
<tr>
<td></td>
<td>STP</td>
<td>35.6 mg/l</td>
</tr>
<tr>
<td></td>
<td>Marine water</td>
<td>0.018 mg/l</td>
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<tr>
<td></td>
<td>Marine sediment</td>
<td>0.0981 mg/kg</td>
</tr>
</tbody>
</table>

butan-1-ol (71-36-3)  | Soil          | 0.015 mg/kg |
<table>
<thead>
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</thead>
<tbody>
<tr>
<td></td>
<td>Fresh water</td>
<td>0.082 mg/l</td>
</tr>
<tr>
<td></td>
<td>Fresh water sediment</td>
<td>0.178 mg/kg</td>
</tr>
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<td></td>
<td>STP</td>
<td>2476 mg/l</td>
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<tr>
<td></td>
<td>Marine water</td>
<td>0.0082 mg/l</td>
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<tr>
<td></td>
<td>Marine sediment</td>
<td>0.0178 mg/kg</td>
</tr>
<tr>
<td>Sporadic Release</td>
<td></td>
<td>2.25 mg/l</td>
</tr>
</tbody>
</table>

8.2 Exposure controls

Personal protective equipment

Eye protection: Goggles

Hand protection
Material: Solvent-resistant gloves (butyl-rubber)

Remarks: Take note of the information given by the producer concerning permeability and break through times, and of special workplace conditions (mechanical strain, duration of contact). The exact break through 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.

Skin and body protection: 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.
In the case of vapour formation use a respirator with an approved filter.

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**: liquid
- **Colour**: No data available
- **Odour**: characteristic
- **Odour Threshold**: No data available
- **pH**: No data available
- **Freezing point**: No data available
- **Boiling point/boiling range**: 55 °C
- **Flash point**: -19 °C
- **Evaporation rate**: No data available
- **Flammability (solid, gas)**: No data available
- **Auto-ignitability**: No data available
- **Upper explosion limit**: No data available
- **Lower explosion limit**: No data available
- **Vapour pressure**: No data available
- **Relative vapour density**: No data available
- **Relative density**: No data available
- **Density**: ca. 1.2 g/cm³
- **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
- **Ignition temperature**: No data available
- **Decomposition temperature**: No data available
- **Viscosity**: see user defined free text
  - **Viscosity, dynamic**: > 21 mm²/s (40 °C)
  - **Viscosity, kinematic**: No data available
- **Flow time**: 15 - 25 s at 20 °C
  - **Cross section**: 4 mm
  - **Method**: DIN 53211
- **Explosive properties**: No data available
- **Oxidizing properties**: 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 : Contact with acids and alkalis may release hydrogen.
No decomposition if stored and applied as directed.
Vapours may form explosive mixture with air.

10.4 Conditions to avoid
Conditions to avoid : Do not allow evaporation to dryness.
Heat, flames and sparks.

10.5 Incompatible materials
Materials to avoid : Acids
Bases
Oxidizing agents

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

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

Acute inhalation toxicity : Acute toxicity estimate: > 20 mg/l
Exposure time: 4 h
Test atmosphere: vapour
Method: Calculation method

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

**Components:**
7440-66-6:
Acute oral toxicity: (Rat): > 2,000 mg/kg
Acute inhalation toxicity: LC50 (Rat): 5.41 mg/l
Exposure time: 4 h

1330-20-7:
Acute dermal toxicity: Acute toxicity estimate: 1,100 mg/kg
Method: Converted acute toxicity point estimate

7429-90-5:
Acute inhalation toxicity: LC50 (Rat): > 5 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist

100-41-4:
Acute oral toxicity: LD50 (Rat): 3,500 mg/kg
Acute dermal toxicity: LD50 (Rabbit): 5,000 mg/kg

71-36-3:
Acute oral toxicity: Acute toxicity estimate: 500 mg/kg
Method: Converted acute toxicity point estimate

**Skin corrosion/irritation**

**Product:**
Remarks: May cause skin irritation and/or dermatitis.

**Serious eye damage/eye irritation**

**Product:**
Remarks: Eye irritation

**Components:**
1330-20-7:
Result: Eye irritation

**Respiratory or skin sensitisation**

**Components:**
1330-20-7:
Assessment: Harmful in contact with skin or if inhaled

**STOT - single exposure**

**Components:**
1330-20-7:
Assessment: May cause respiratory irritation.

**STOT - repeated exposure**

**Components:**
1330-20-7:
Assessment: May cause damage to organs through prolonged or repeated exposure.

**Components:**
1330-20-7:
Aspiration toxicity

**Components:**
1330-20-7:
May be fatal if swallowed and enters airways.

**Further information**

**Product:**
Remarks: Solvents may degrease the skin.

---

**SECTION 12: Ecological information**

12.1 **Toxicity**
No data available

12.2 **Persistence and degradability**
No data available

12.3 **Bioaccumulative potential**

**Components:**
123-86-4:
Partition coefficient: n-octanol/water: log Pow: 2.3

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**: Remarks: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Very toxic to aquatic life with long lasting effects.

**SECTION 13: Disposal considerations**

**European Waste Catalogue**: 08 01 11 - waste paint and varnish containing organic solvents or other dangerous substances

**13.1 Waste treatment methods**

**Product**: The product should not be allowed to enter drains, water courses or the soil. 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. Do not burn, or use a cutting torch on, the empty drum. In accordance with local and national regulations.

**SECTION 14: Transport information**

**14.1 UN number**

<table>
<thead>
<tr>
<th>ADR</th>
<th>UN 1263</th>
</tr>
</thead>
<tbody>
<tr>
<td>IMDG</td>
<td>UN 1263</td>
</tr>
<tr>
<td>IATA</td>
<td>UN 1263</td>
</tr>
</tbody>
</table>

**14.2 UN proper shipping name**

<table>
<thead>
<tr>
<th>ADR</th>
<th>PAINT</th>
</tr>
</thead>
<tbody>
<tr>
<td>IMDG</td>
<td>PAINT (, Zinc powder, stabilized)</td>
</tr>
<tr>
<td>IATA</td>
<td>Paint</td>
</tr>
</tbody>
</table>

**14.3 Transport hazard class(es)**

<table>
<thead>
<tr>
<th>ADR</th>
<th>3</th>
</tr>
</thead>
</table>
14.4 Packing group

**ADR**
- Packing group: II
- Classification Code: F1
- Hazard Identification Number: 33
- Labels: 3
- Tunnel restriction code: (D/E)

**IMDG**
- Packing group: II
- Labels: 3
- EmS Number: F-E,S-E

**IATA**
- Packing instruction (cargo aircraft): 364
- Packing instruction (passenger aircraft): 353
- Packing instruction (LQ): Y341
- Packing group: II
- Labels: Flammable Liquids

14.5 Environmental hazards

**ADR**
- Environmentally hazardous: yes

**IMDG**
- Marine pollutant: yes

14.6 Special precautions for user

Not applicable

14.7 Transport in bulk according to Annex II of MARPOL 73/78 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

15.2 Chemical safety assessment

This information is not available.
Sample Concentrate Zincflakespray 750 ml 14-07012

SECTION 16: Other information

Full text of R-Phrases
R10: Flammable.
R11: Highly flammable.
R20: Harmful by inhalation.
R20/21: Harmful by inhalation and in contact with skin.
R22: Harmful if swallowed.
R34: Causes burns.
R37/38: Irritating to respiratory system and skin.
R38: Irritating to skin.
R41: Risk of serious damage to eyes.
R48/20: Harmful: danger of serious damage to health by prolonged exposure through inhalation.
R50: Very toxic to aquatic organisms.
R53: May cause long-term adverse effects in the aquatic environment.
R65: Harmful: may cause lung damage if swallowed.
R66: Repeated exposure may cause skin dryness or cracking.
R67: Vapours may cause drowsiness and dizziness.

Full text of H-Statements
H225: Highly flammable liquid and vapour.
H226: Flammable liquid and vapour.
H228: Flammable solid.
H302: Harmful if swallowed.
H304: May be fatal if swallowed and enters airways.
H312: Harmful in contact with skin.
H314: Causes severe skin burns and eye damage.
H315: Causes skin irritation.
H318: Causes serious eye damage.
H319: Causes serious eye irritation.
H332: Harmful if inhaled.
H335: May cause respiratory irritation.
H36: May cause drowsiness or dizziness.
H373: May cause damage to organs through prolonged or repeated exposure.
H400: Very toxic to aquatic life.
H410: Very toxic to aquatic life with long lasting effects.

Full text of other abbreviations
Acute Tox.: Acute toxicity
Aquatic Acute: Acute aquatic toxicity
Aquatic Chronic: Chronic aquatic toxicity
Asp. Tox.: Aspiration hazard
Eye Dam.: Serious eye damage
Eye Irrit.: Eye irritation
Flam. Liq.: Flammable liquids
Flam. Sol.: Flammable solids
Skin Corr.: Skin corrosion
Skin Irrit.: Skin irritation
STOT RE: Specific target organ toxicity - repeated exposure
SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

Sample Concentrate Zincflakespray 750 ml 14-07012

Version 2.1  Revision Date: 21.03.2017  SDS Number: 102000005101  Print Date: 20.11.2018  Date of first issue: 28.01.2014

STOT SE : Specific target organ toxicity - single exposure

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 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 Road; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; 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.

GB / EN