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

1.1 Product identifier
Trade name: STANDART Zinc flake AT Zinc Powder
Material number: 049601K50

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 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)
Dangerous for the environment: R50/53: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

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2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms : 

Signal word : Warning

Hazard statements : H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements :
Prevention: P273 Avoid release to the environment.
Response: P391 Collect spillage.
Disposal: P501 Dispose of contents/ container to an approved waste disposal plant.

2.3 Other hazards
No information available.

SECTION 3: Composition/information on ingredients

3.1 Substances

Substance name : zinc powder - zinc dust (stabilized)
Substance No. :

Hazardous components

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS-No.</th>
<th>EC-No.</th>
<th>Registration number</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>&gt;= 50 - &lt;= 100</td>
</tr>
</tbody>
</table>

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice :
Move the victim to fresh air.
Remove from exposure, lie down.

No hazards which require special first aid measures.
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.

In case of eye contact: Flush eyes with water as a precaution. 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
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
Special powder against metal fire

Unsuitable extinguishing media: Carbon dioxide (CO2)
Water

5.2 Special hazards arising from the substance or mixture
Specific hazards during firefighting: Contact with water liberates extremely flammable gas (hydrogen). 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: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Collect contaminated fire extinguishing water separately. This
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must not be discharged into drains.
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Use personal protective equipment. Evacuate personnel to safe areas. Avoid dust formation.

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 : Do not flush with water. Use mechanical handling equipment. 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 : Avoid creating dust. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces. 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 : Fine dust dispersed in air may ignite. Keep away from heat and sources of ignition. No smoking. Take measures to prevent the build up of electrostatic charge. Normal measures for preventive fire protection.

Hygiene measures : General industrial hygiene practice. Do not smoke. Wash hands before breaks and at the end of workday. Keep away
from food and drink. Keep away from tobacco products. 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. Take measures to prevent the build up of electrostatic charge. Use explosion-proof equipment. Store in original container. Keep container tightly closed in a dry and well-ventilated place. Keep containers tightly closed in a cool, well-ventilated place. Keep away from sources of ignition - No smoking.

Further information on storage conditions: Protect from humidity and water.

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

Occupational Exposure Limits

<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</td>
<td>7440-66-6</td>
<td>TWA (Inhalable)</td>
<td>10 mg/m3</td>
<td>GB EH40 (2011-12-01)</td>
</tr>
</tbody>
</table>

Further information on occupational exposure limits:
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.

zinc powder - zinc dust (stabilized) | 7440-66-6 | TWA (Respirable)              | 4 mg/m3            | GB EH40 (2011-12-01)         |

Further information on occupational exposure limits:
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.
SAFETY DATA SHEET
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Substance name | End Use | Exposure routes | Potential health effects | Value
--- | --- | --- | --- | ---
zinc (7440-66-6) | Workers | Inhalation | long term – systemic effects | 5 mg/m³
| Workers | Skin contact | long term – systemic effects | 83 mg/kg
| Consumers | Ingestion | long term – systemic effects | 0.83 mg/kg
| Consumers | Skin contact | long term – systemic effects | 83 mg/kg
| Consumers | Inhalation | long term – systemic effects | 2.5 mg/m³
Fatty acids, C16-18 (67701-03-5) | Workers | Skin contact | Chronic effects | 10 mg/kg
| Workers | Inhalation | Chronic effects | 17.632 mg/m³

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>
</table>
zinc (7440-66-6) | Fresh water | 0.0206 mg/l |
| | Fresh water sediment | 117.8 mg/kg |
| | Marine water | 0.0061 mg/l |
| | STP | 0.052 mg/l |
| | Soil | 35.6 mg/kg |
| | Marine sediment | 56.5 mg/kg |

8.2 Exposure controls

**Personal protective equipment**

Eye protection : Goggles
Safety glasses

Hand protection

Material : Leather

Remarks : Leather gloves The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. Recommended preventive skin protection The exact break through time can be obtained from the protective glove producer and this has to be observed. The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Skin and body protection : Dust impervious protective suit
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.
    Respirator with a dust filter
    P1 filter

Environmental exposure controls: This information is not available.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

- **Appearance**: solid
- **Colour**: grey
- **Odour**: odourless
- **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)**: No data available
- **Auto-flammability**: 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**: 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
- **Ignition temperature**: No data available
- **Decomposition temperature**: No data available
- **Viscosity, dynamic**: No data available
- **Viscosity, kinematic**: No data available
- **Flow time**: No data available
- **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: Reacts with alkalis, acids, halogenes and oxidizing agents. Contact with acids and alkalis may release hydrogen. Avoid dust clouds, they may form explosible dust-air-mixture. Risk of dust explosion.

No decomposition if stored and applied as directed.

10.4 Conditions to avoid
Conditions to avoid: No data available

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

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

Further information

Product:
Remarks: No data available

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
Not relevant

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 : 12 01 04 - non-ferrous metal dust and particles

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. In accordance with local and national regulations.

SECTION 14: Transport information

14.1 UN number

ADR : UN 3077
IMDG : UN 3077
IATA : UN 3077

14.2 UN proper shipping name

ADR : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Zinc powder, stabilized)
IMDG : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
STANDART Zinc flake AT Zinc Powder

14.3 Transport hazard class(es)

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<thead>
<tr>
<th>Classification</th>
<th>ADR</th>
<th>IMDG</th>
<th>IATA</th>
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<tr>
<td>Tunnel restriction code</td>
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</table>

14.4 Packing group

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<th>IATA</th>
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<td>Tunnel restriction code</td>
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</table>

14.5 Environmental hazards

<table>
<thead>
<tr>
<th>Classification</th>
<th>ADR</th>
<th>IMDG</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environmentally hazardous</td>
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<td>yes</td>
</tr>
<tr>
<td>Marine pollutant</td>
<td>yes</td>
<td>yes</td>
</tr>
</tbody>
</table>

14.6 Special precautions for user

| Remarks | For single packagings <=5L / 5 kg, or combination packagings containing inner packagings <= 5L / 5 kg net per inner packaging, SV375 ADR, 2.10.2.7 IMDG-Code, A197 IATA-DGR may be applied. |

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).

: This product does not contain substances of very high concern (Regulation (EC) No 1907/2006 (REACH), Article 57).

15.2 Chemical safety assessment

This information is not available.

SECTION 16: Other information

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; 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; 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
<table>
<thead>
<tr>
<th>Version</th>
<th>Revision Date:</th>
<th>SDS Number:</th>
<th>Print Date:</th>
<th>Date of first issue:</th>
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</table>

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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