SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: Zinc SHG

Synonyms: zinc, solid, ZINC, SHG
(Special High Grade), Zinc Anodes
CAS No.: 7440-66-6
EC No.: 231-175-3
Molecular Mass: 65.37 g/mol
Chemical Formula: Zn

Manufacturer:
IMC-MetalsAmerica, LLC
135 Old Boiling Springs Road
Shelby, NC 28152 USA
704-482-8200

Emergency Telephone: 704-482-8200
Outside the US Call: 011-704-482-8200

SECTION 2: COMPOSITION / INFORMATION ON INGREDIENTS

Name | CAS No. | Conc. | Hazardous
--- | --- | --- | ---
zinc, solid, in massive state | 7440-66-6 | >99.995 | No

SECTION 3: HAZARDS IDENTIFICATION

Classification of the substance or mixture:
- Classification according to Regulation EC No. 1272/2008
  Not classified as dangerous according to the criteria of Regulation (EC) No. 1272/2008.
- Classification according to Directive 67/548/EEC-1999/45/EC
  Not classified as dangerous according to the criteria of directive(s) 67/548/EEC and/or 1999/45/EC.

Label elements:
- Labeling according to Regulation EC No. 1272/2008 (CLP)
  Not classified as dangerous according to the criteria of Regulation (EC) No. 1272/2008

Other hazards:

CLP
- Substance does not meet the screening criteria for persistency nor bioaccumulation so it neither PBT nor vPvB.
- The melting down of moist metal leads to explosion risk.
- Heated product causes burns.
- Caution! This substance is subject to exposure limits.
- Highly toxic to fishes.
- Highly toxic to aquatic plants.
- Toxic to bacteria.

Mixtures:
- Not applicable.

SECTION 4: FIRST AID MEASURES

Description of first aid measures:

After inhalation:
- After inhalation of fume: Remove the victim into fresh air. Respiratory problems: consult a doctor/medical service.

After skin contact:
- In case of burns: Wash immediately with lots of water (15 minutes)/shower. Remove clothing while washing. Do not tear off solidified product from the skin. Do not remove clothing if it sticks to the skin. Cover wounds with sterile bandage. Consult a doctor/medical service. If burned surface > 10%: take victim to hospital.
After eye contact:
After contact with fume: Rinse immediately with plenty of water for 15 minutes. Take victim to an ophthalmologist.

After ingestion:
Not applicable.

Most important symptoms and effects, both acute and delayed:

**Acute symptoms**

After inhalation:

After skin contact:
IF MELTING: Burns.

After eye contact:
IF MELTING: Burns

After ingestion:
No data available.

**Delayed symptoms**
No data available.

Indication of any immediate medical attention and special treatment needed:
Not applicable.

SECTION 5: FIRE FIGHTING MEASURES

**Extinguishing media:**

**Suitable extinguishing media:**
Adapt extinguishing media to the environment.

**Unsuitable extinguishing media:**
Water (if molten).

**Special hazards arising from the substance or mixture:**
On burning formation of metallic fumes (zinc oxide). In molten state: violent to explosive reaction with water (moisture).

**Advice for firefighters:**

**Instructions:**

**Special protective equipment for fire-fighters:**

SECTION 6: ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment and emergency procedures:**
No naked flames.

**Protective equipment for non-emergency personnel**
See heading 8.2.

**Protective equipment for emergency responders**
Gloves. Protective clothing.

**Suitable protective clothing**
See heading 8.2

**Environmental precautions:**
No data available.

**Methods and material for containment and cleaning up:**
If melted: allow liquid to solidify before taking it up. Pick-up the material. Wash clothing and equipment after handling.

**Reference to other sections:**
See heading 13.
SECTION 7: HANDLING AND STORAGE

The information in this section is a general description. If applicable and available, exposure scenarios are attached in annex. Always use the relevant exposure scenarios that correspond to your identified use.

Precautions for safe handling:
Avoid raising dust. Keep away from naked flames/heat. Observe strict hygiene. On (re)melting down: dry and preheat installation before use. Add only dry material to the metal bath.

Conditions for safe storage, including any incompatibilities:
Safe storage requirements:
Meet the legal requirements. Store in a dry area. Keep at temperature above the dew point. Temperature above dew point.
Keep away from:
(Strong) acids.

Suitable packaging material:
No data available.
Non suitable packaging material:
No data available.

Specific end use(s):
If applicable and available, exposure scenarios are attached in annex. See information supplied by manufacturer.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters:
Occupational exposure
Occupational exposure limit values
If limit values are applicable and available these will be listed below.

<table>
<thead>
<tr>
<th>TLV (USA)</th>
<th>Zinc oxide</th>
<th>Short time value</th>
<th>10 mg/m³</th>
<th>2 mg/m³ (R)</th>
<th>(R): Respirable fraction</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Time-weighted average exposure limit 8 h</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

National biological limit values
If limit values are applicable and available these will be listed below.

Applicable limit values when using the substance or mixture as intended.
If limit values are applicable and available these will be listed below.

DNEL/PNEC values
Workers
Zinc SHG

<table>
<thead>
<tr>
<th>Effect level (DNEL/DMEL)</th>
<th>Type</th>
<th>Value</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>DNEL</td>
<td>Long-term systemic effects oral</td>
<td>0.83 mg/kg bw/day</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Long-term systemic effects dermal</td>
<td>83 mg/kg bw/day</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Long-term systemic effects inhalation</td>
<td>5 mg/m³</td>
<td></td>
</tr>
</tbody>
</table>

General population
Zinc SHG

<table>
<thead>
<tr>
<th>Effect level (DNEL/DMEL)</th>
<th>Type</th>
<th>Value</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>DNEL</td>
<td>Long-term systemic effects oral</td>
<td>0.83 mg/kg bw/day</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Long-term systemic effects dermal</td>
<td>83 mg/kg bw/day</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Long-term systemic effects inhalation</td>
<td>2.5 mg/m³</td>
<td></td>
</tr>
</tbody>
</table>
SECTION 9: PHYSICAL & CHEMICAL PROPERTIES

Information on basic physical and chemical properties:

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical form</td>
<td>Solid, Metal, Physical state</td>
<td></td>
</tr>
<tr>
<td>Odor</td>
<td>Odorless</td>
<td></td>
</tr>
<tr>
<td>Color</td>
<td>Commercial substance: grey-white</td>
<td></td>
</tr>
<tr>
<td>Explosion limits</td>
<td>Not applicable</td>
<td></td>
</tr>
<tr>
<td>Flammability</td>
<td>Not combustible</td>
<td></td>
</tr>
<tr>
<td>Melting point</td>
<td>416°C; 1013 hPa</td>
<td></td>
</tr>
<tr>
<td>Boiling Point</td>
<td>907°C; Not required: exemption</td>
<td>according to REACH</td>
</tr>
<tr>
<td>Flash point</td>
<td>Not applicable</td>
<td></td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Not applicable; ether</td>
<td></td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>Data not required</td>
<td></td>
</tr>
<tr>
<td>Solubility</td>
<td>water; insoluble</td>
<td></td>
</tr>
<tr>
<td>Relative density</td>
<td>7.1; 20°C</td>
<td></td>
</tr>
</tbody>
</table>

Physical hazards:
No physical hazard class.

Other information:
No data available.

Exposure controls:
The information in this section is a general description. If applicable and available, exposure scenarios are attached in annex. Always use the relevant exposure scenarios that correspond to your identified use.

Appropriate engineering controls:
Avoid raising dust. Keep away from naked flames/heat.

Individual protection measures, such as personal protective equipment:
Observe strict hygiene. Do not eat, drink or smoke during work.

  Respiratory protection:
  Dust production: dust mask with filter type P2.

  Hand protection:
  Gloves, on heating: insulated gloves.
  Materials for protective clothing (good resistance): leather

  Eye protection:
  On (re)melting down: face shield.

  Skin protection:

Environmental exposure controls:
See headings 6.2, 6.3 and 13.

PNEC
Zinc SHG

<table>
<thead>
<tr>
<th>Compartments</th>
<th>Value</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fresh water</td>
<td>20.6 µg/l</td>
<td></td>
</tr>
<tr>
<td>Marine water</td>
<td>6.1 µg/l</td>
<td></td>
</tr>
<tr>
<td>Fresh water sediment</td>
<td>117.8 mg/kg sediment dw</td>
<td></td>
</tr>
<tr>
<td>Marine water sediment</td>
<td>56.5 mg/kg sediment dw</td>
<td></td>
</tr>
<tr>
<td>Soil</td>
<td>35.6 mg/kg soil dw</td>
<td></td>
</tr>
<tr>
<td>STP</td>
<td>0.052 mg/l</td>
<td></td>
</tr>
</tbody>
</table>

Odor: Odorless
Color: Commercial substance: grey-white
Explosion limits: Not applicable
Flammability: Not combustible
Melting Point: 416°C; 1013 hPa
SECTION 10: STABILITY & REACTIVITY

Reactivity:
Not applicable.

Chemical stability:
Stable under normal conditions.

Possibility of hazardous reactions:
In molten state: violent to explosive reaction with water (moisture). Oxidizes slowly in moist air.

Conditions to avoid:
Avoid raising dust. Keep away from naked flames/heat.

Incompatible materials:
(Strong) acids.

Hazardous decomposition products:
Reacts with (some) acids: release of highly flammable gases/vapors (hydrogen). On burning formation of metallic fumes (zinc oxide).

SECTION 11: TOXICOLOGICAL INFORMATION

Information on toxicological effects:
Test results

Toxicokinetics: summary
Zinc compounds release, depending on their solubility, zinc cations which determine the biological activity of the respective zinc compounds. Sufficient data is available on the soluble zinc compounds zinc chloride and zinc sulphate and on the slightly soluble zinc compounds ZnO and ZnCO3.

Zinc is an essential trace element which is regulated and maintained in the various tissues mainly by the gastrointestinal absorption and secretion during high and low dietary zinc intake and because of the limited exchange of zinc between tissues, a constant supply of zinc is required to sustain the physiological requirements. The zinc absorption process in the intestines includes both passive diffusion and a carrier-mediated process. The absorption can be influenced by several factors such as ligands in the diet and zinc status. Persons with adequate nutritional levels absorb 20-30% and animals absorb 40-50%. Persons that are zinc deficient absorb more, while persons with excessive zinc intake absorb less.

For the soluble zinc compounds, the available information suggests an oral absorption value of 20%. This value can be considered as the lower bound range at adequate nutritional levels. The oral absorption of the slightly soluble zinc oxide has been shown to be 60% of that of the soluble zinc compounds. This corresponds to approximately 12-18%. No oral absorption information is available for the remaining slightly soluble and insoluble zinc compounds (i.e., ZnO, Zn(OH)2, Zn3(P04)2, ZnCO3, Zn, ZnS). However, considering that these substances have lower water solubility than ZnO, it can be conservatively assumed that the oral absorption of these compounds is ≤12%.

Acute toxicity
Zinc SH6

<table>
<thead>
<tr>
<th>Route of exposure</th>
<th>Parameter</th>
<th>Method</th>
<th>Value</th>
<th>Exposure time</th>
<th>Species</th>
<th>Gender</th>
<th>Value determination</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral</td>
<td>LD50</td>
<td>Equivalent or similar to OECD 401</td>
<td>&gt;2000 mg/kg bw</td>
<td>Rat</td>
<td>Experimental value</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dermal</td>
<td>LD50</td>
<td>Equivalent or similar to OECD 402</td>
<td>&gt;2000 mg/kg bw</td>
<td>24 weeks (daily, 5 days/week)</td>
<td>Rat</td>
<td>Read-across</td>
<td></td>
</tr>
</tbody>
</table>

Test results
Inhalation | LC50 | Equivalent or similar to OECD 403 | >5.41 mg/l | 4 weeks (daily, 5 days/week) | Rat | Experimental value
---|---|---|---|---|---|---
Inhalation (ZnO, metallic fume) | LC50 | Equivalent or similar to OECD 403 | >5.7 mg/l | 4 weeks (daily, 5 days/week) | Rat | Experimental value

**Conclusion**
Toxicity is only applicable when components are released.
Low acute toxicity by the dermal route.
Low acute toxicity by the oral route.
Low acute toxicity by the inhalation route.

**Corrosion/irritation**
Zinc SHG

<table>
<thead>
<tr>
<th>Route of exposure</th>
<th>Result</th>
<th>Method</th>
<th>Exposure time</th>
<th>Time point</th>
<th>Species</th>
<th>Value determination</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eye</td>
<td>Moderately irritating</td>
<td>Equivalent or similar to OECD 405</td>
<td></td>
<td></td>
<td>Rabbit</td>
<td>Experimental value</td>
</tr>
<tr>
<td>Dermal (ZnO, metallic fume)</td>
<td>Not irritating</td>
<td>Equivalent or similar to OECD 405</td>
<td></td>
<td></td>
<td>Rabbit</td>
<td>Experimental value</td>
</tr>
<tr>
<td>Dermal</td>
<td>Not irritating</td>
<td>Equivalent or similar to OECD 404</td>
<td></td>
<td></td>
<td>Rabbit</td>
<td>Weight of evidence</td>
</tr>
<tr>
<td>Dermal (ZnO, metallic fume)</td>
<td>Not irritating</td>
<td>Equivalent or similar to OECD 404</td>
<td></td>
<td></td>
<td>Guinea pig</td>
<td>Experimental value</td>
</tr>
<tr>
<td>Dermal</td>
<td>Not irritating</td>
<td>human observation</td>
<td></td>
<td></td>
<td>Human</td>
<td>Read-across</td>
</tr>
<tr>
<td>Dermal</td>
<td>Not irritating</td>
<td>human observation</td>
<td></td>
<td></td>
<td>Human</td>
<td>Read-across</td>
</tr>
</tbody>
</table>

**Conclusion**
Not classified as irritating to the skin.
Not classified as irritating to the eyes.

**Respiratory or skin sensitisation**
Zinc SHG

<table>
<thead>
<tr>
<th>Route of exposure</th>
<th>Result</th>
<th>Method</th>
<th>Exposure time</th>
<th>Observation time point</th>
<th>Species</th>
<th>Gender</th>
<th>Value determination</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dermal</td>
<td>Negative</td>
<td>Equivalent or similar to OECD 429</td>
<td></td>
<td></td>
<td>Mouse</td>
<td></td>
<td>Read-across</td>
</tr>
<tr>
<td>Dermal (ZnO, metallic fume)</td>
<td>Negative</td>
<td>human observation</td>
<td></td>
<td></td>
<td>Human</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inhalation</td>
<td>Negative</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Inconclusive, insufficient data</td>
</tr>
</tbody>
</table>

**Conclusion**
Not sensitizing for inhalation.
Not sensitizing for skin.
### Specific target organ toxicity

**Zinc SHG**

<table>
<thead>
<tr>
<th>Route of exposure</th>
<th>Parameter</th>
<th>Method</th>
<th>Value</th>
<th>Organ</th>
<th>Effect</th>
<th>Exposure time</th>
<th>Species</th>
<th>Gender</th>
<th>Value determination</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral</td>
<td>NOAEL</td>
<td>Equivalent or similar to OECD 408</td>
<td>13.3 mg/kg bw/day</td>
<td>Blood</td>
<td>No effect</td>
<td>90 weeks (daily, 5 days/week)</td>
<td>Rat</td>
<td>Male/female</td>
<td>Read-across</td>
</tr>
<tr>
<td>Oral</td>
<td>NOAEL</td>
<td>Human observation study: case control study</td>
<td>50 mg/kg bw/day</td>
<td>No effect</td>
<td></td>
<td></td>
<td>Human</td>
<td>Male/female</td>
<td>Weight of evidence</td>
</tr>
<tr>
<td>Dermal</td>
<td></td>
<td>Not relevant, expert judgement</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Conclusion**
- Low sub-chronic toxicity by the dermal route.
- Low sub-chronic toxicity by the oral route.
- Low sub-chronic toxicity by inhalation route.

### Carcinogenicity

**Zinc SHG**

<table>
<thead>
<tr>
<th>Route of exposure</th>
<th>Parameter</th>
<th>Method</th>
<th>Value</th>
<th>Exposure time</th>
<th>Species</th>
<th>Gender</th>
<th>Value determination</th>
<th>Organ</th>
<th>Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inhalation</td>
<td>No data available</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dermal</td>
<td>No data available</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oral</td>
<td>Negative</td>
<td>Other</td>
<td>51 weeks (daily, 5 days/week)</td>
<td>Rat</td>
<td></td>
<td>literature</td>
<td>General</td>
<td>No neoplastic effects</td>
<td></td>
</tr>
<tr>
<td>Oral</td>
<td>Negative</td>
<td>Human observation study: case control study</td>
<td>204 weeks (daily, 5 days/week)</td>
<td>Human</td>
<td></td>
<td>literature</td>
<td>General</td>
<td>No neoplastic effects</td>
<td></td>
</tr>
</tbody>
</table>

**Conclusion CMR**
- Not classified for mutagenic or genotoxic toxicity.
- Not classified for carcinogenicity.

### Toxicity other effects

**Zinc SHG**
- No data available.

**Conclusion**
- No data available.

### Other information

**Zinc SHG**
- No data available.
### Toxicity: Zinc SHG

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Method</th>
<th>Value</th>
<th>Duration</th>
<th>Species</th>
<th>Test design</th>
<th>Fresh/salt water</th>
<th>Value determination</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity fishes</td>
<td>LC50 ASTM</td>
<td>0.169 mg/l</td>
<td>96 h</td>
<td>Oncorhynchus mykiss</td>
<td>STATIC SYSTEM</td>
<td>Fresh water</td>
<td>Read-across</td>
</tr>
<tr>
<td>Acute toxicity fishes</td>
<td>LC50 Other</td>
<td>0.330-0.780 mg/l</td>
<td>96 h</td>
<td>Pimephales promelas</td>
<td>STATIC SYSTEM</td>
<td>Fresh water</td>
<td>Read-across</td>
</tr>
<tr>
<td>Acute toxicity invertebrates</td>
<td>EC50 US EPA</td>
<td>0.413 mg/l</td>
<td>48 h</td>
<td>Ceriodaphnia dubia</td>
<td>STATIC SYSTEM</td>
<td>Fresh water</td>
<td>Experimental value</td>
</tr>
<tr>
<td>Acute toxicity invertebrates</td>
<td>EC50 Other</td>
<td>0.530 mg/l</td>
<td>48 h</td>
<td>Daphnia magna</td>
<td>STATIC SYSTEM</td>
<td>Fresh water</td>
<td>Read-across</td>
</tr>
<tr>
<td>Acute toxicity invertebrates</td>
<td>EC50 Other</td>
<td>0.095-0.530 mg/l</td>
<td>48 h</td>
<td>Ceriodaphnia dubia</td>
<td>STATIC SYSTEM</td>
<td>Fresh water</td>
<td>Read-across</td>
</tr>
<tr>
<td>Toxicity algae and other</td>
<td>IC50 OECD 201</td>
<td>0.136 mg/l</td>
<td>72 h</td>
<td>Pseudokirchneriell subcapitata</td>
<td>STATIC SYSTEM</td>
<td>Fresh water</td>
<td>Experimental value</td>
</tr>
<tr>
<td>Toxicity algae and other</td>
<td>EC10 Other</td>
<td>0.0077 mg/l</td>
<td>7 day(s)</td>
<td>Algae</td>
<td>STATIC SYSTEM</td>
<td>Salt water</td>
<td>Experimental value</td>
</tr>
<tr>
<td>Toxicity algae and other</td>
<td>EC10 Other</td>
<td>0.6708 mg/l</td>
<td>10 day(s)</td>
<td>Algae</td>
<td>FLOW-THROUGH SYSTEM</td>
<td>Salt water</td>
<td>Read-across</td>
</tr>
<tr>
<td>Long-term toxicity fish</td>
<td>NOEC Other</td>
<td>0.440 mg/l</td>
<td>72 day(s)</td>
<td>Oncorhynchus mykiss</td>
<td>FLOW-THROUGH SYSTEM</td>
<td>Fresh water</td>
<td>Read-across</td>
</tr>
<tr>
<td>Long-term toxicity fish</td>
<td>NOEC Other</td>
<td>0.530 mg/l</td>
<td>36 month(s)</td>
<td>Salvelinus fontinalis</td>
<td>FLOW-THROUGH SYSTEM</td>
<td>Fresh water</td>
<td>Read-across</td>
</tr>
<tr>
<td>Long-term toxicity fish</td>
<td>NOEC Other</td>
<td>0.025 mg/l</td>
<td>27 day(s)</td>
<td>Clupea harengus</td>
<td>Semi-static</td>
<td>Salt water</td>
<td>Read-across</td>
</tr>
<tr>
<td>Long-term toxicity aquatic</td>
<td>NOEC Other</td>
<td>0.400 mg/l</td>
<td>10 week(s)</td>
<td>Oncorhynchus mykiss</td>
<td>STATIC SYSTEM</td>
<td>Fresh water</td>
<td>Read-across</td>
</tr>
<tr>
<td>Long-term toxicity aquatic</td>
<td>NOEC Other</td>
<td>0.037 mg/l</td>
<td>3 week(s)</td>
<td>Daphnia magna</td>
<td>Semi-static</td>
<td>Fresh water</td>
<td>Read-across</td>
</tr>
<tr>
<td>Long-term toxicity aquatic</td>
<td>NOEC US EPA</td>
<td>0.0056 mg/l</td>
<td>24 day(s)</td>
<td>Invertebrata</td>
<td>Semi-static</td>
<td>Salt water</td>
<td>Read-across</td>
</tr>
<tr>
<td>Toxicity aquatic micro-</td>
<td>EC50 Equivalent or similar to OECD 209</td>
<td>5.2 mg/l</td>
<td>3 h</td>
<td>Invertebrata</td>
<td>STATIC SYSTEM</td>
<td>Fresh water</td>
<td>Read-across</td>
</tr>
<tr>
<td>organisms</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Test design:**
- STATIC SYSTEM
- FLOW-THROUGH SYSTEM
- Equivalent or similar to OECD 209
- Experimental value

**Species:**
- Oncorhynchus mykiss
- Pimephales promelas
- Ceriodaphnia dubia
- Daphnia magna
- Algae
- Clupea harengus
- Daphnia magna
- Invertebrata

**Duration:**
- 96 h
- 72 day(s)
- 36 month(s)
- 24 day(s)
- 10 week(s)
- 3 week(s)
- 10 day(s)
- 7 day(s)
- 1 week(s)
- 7 day(s)
- 72 day(s)
- 10 day(s)
- 3 week(s)
- 27 day(s)
- 3 week(s)
<table>
<thead>
<tr>
<th>Parameter</th>
<th>Method</th>
<th>Value</th>
<th>Duration</th>
<th>Species</th>
<th>Value determination</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toxicity soil macro-organisms</td>
<td>NOEC</td>
<td>1634 mg/kg soil dw</td>
<td>42 day(s)</td>
<td>Lumbricus terrestris</td>
<td>Read-across</td>
</tr>
<tr>
<td>Toxicity soil macro-organisms</td>
<td>EC10</td>
<td>35.7 mg/kg soil dw</td>
<td>42 day(s)</td>
<td>Enchytraeus albidus</td>
<td>Read-across</td>
</tr>
<tr>
<td>Toxicity micro-organisms</td>
<td>NOEC</td>
<td>17 mg/kg soil dw</td>
<td>12 week(s)</td>
<td>Read-across</td>
<td></td>
</tr>
<tr>
<td>Toxicity soil micro-organisms</td>
<td>EC10</td>
<td>2623 mg/kg soil dw</td>
<td>6 week(s)</td>
<td>Read-across</td>
<td></td>
</tr>
<tr>
<td>Toxicity terrestrial plants</td>
<td>EC10</td>
<td>5855 mg/kg soil dw</td>
<td>21 day(s)</td>
<td>Triticum aestivum</td>
<td>Read-across</td>
</tr>
<tr>
<td>Toxicity terrestrial plants</td>
<td>NOEC</td>
<td>32 mg/kg soil dw</td>
<td>25 day(s)</td>
<td>Triticum pratense</td>
<td>Read-across</td>
</tr>
<tr>
<td>Toxicity birds</td>
<td>NOEC</td>
<td>&gt;150 mg/kg dw</td>
<td>28 day(s)</td>
<td>Anas plathyrynchos</td>
<td>Experimental value</td>
</tr>
</tbody>
</table>

**Conclusion**

Highly toxic to fishes.
Very toxic to invertebrates.
Highly toxic to aquatic plants.
Toxic to bacteria.
Ecotoxicity is only applicable when components are released.

**Persistence and degradability:**

**Conclusion**

Biodegradability: not applicable.

**Mobility in soil:**

**Zinc SHG**

| Volatile organic compounds (VOC) | Not applicable |

**Conclusion**

Literature reports: insoluble in water.
Substance sinks in water.

**Results of PBT and vPvB assessment:**

Substance does not meet the screening criteria for persistency nor bioaccumulation so is neither PBT nor vPvB.

**Other adverse effects:**

**Zinc SHG**

**Global warming potential (GWP)**

Not data available.

**Ozone-depleting potential (ODP)**

| Ozone layer | Not dangerous for the ozone layer (Council Regulation (EC) No. 1005/2009) |
SECTION 13: DISPOSAL CONSIDERATIONS

The information in this section is a general description. If applicable and available, exposure scenarios are attached in annex. Always use the relevant exposure scenarios that correspond to your identified use.

Waste treatment methods:

Disposal methods
Recycle/reuse. Remove waste in accordance with local and/or national regulations.

Packaging/Container
No data available.

SECTION 14: TRANSPORTATION INFORMATION

Not regulated.

SECTION 15: REGULATORY INFORMATION

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

European legislation:

Chemical safety assessment:
A chemical safety assessment has been performed.

SECTION 16: OTHER INFORMATION

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