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

This product is considered an article. This Safety Data Sheet is written based on the encapsulated substance or mixture in this article.

1.1 Product identifier
Product name : 73CI MSD Ship Kit, Part Number G1999-60582
Part No. : G1999-60582

1.2 Relevant identified uses of the substance or mixture and uses advised against

<table>
<thead>
<tr>
<th>Identified uses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Analytical chemistry. cartridge</td>
</tr>
<tr>
<td>Length: 52.3 cm (21&quot;)</td>
</tr>
<tr>
<td>Diameter: 3.8 cm (1.5&quot;)</td>
</tr>
<tr>
<td>Shipping weight: 1300 g (3.04 lb)</td>
</tr>
</tbody>
</table>

1.3 Details of the supplier of the safety data sheet
Agilent Technologies Manufacturing GmbH & Co. KG
Hewlett-Packard-Str. 8
76337 Waldbronn
Germany
0800 603 1000
e-mail address of person responsible for this SDS : pdl-msds_author@agilent.com

1.4 Emergency telephone number
Emergency telephone number (with hours of operation) : CHEMTREC®: +(44)-870-8200418

SECTION 2: Hazards identification

This article, when used under reasonable conditions and in accordance with the directions for use, should not present a health hazard. The substance or mixture is encapsulated in the article. Only if released due to use or processing of the article in a manner not in accordance with the product’s directions for use it may present potential health and safety hazards.

2.1 Classification of the substance or mixture
Product definition : Mixture (encapsulated in article)
Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]
- H315 SKIN CORROSION/IRRITATION - Category 2
- H318 SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1
- H400 SHORT-TERM (ACUTE) AQUATIC HAZARD - Category 1
- H410 LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 1

Ingredients of unknown toxicity : Percentage of the mixture consisting of ingredient(s) of unknown dermal toxicity: 10 - 30%
Percentage of the mixture consisting of ingredient(s) of unknown inhalation toxicity: > 60%
Percentage of the mixture consisting of ingredient(s) of unknown oral toxicity: 10 - 30%

Ingredients of unknown ecotoxicity : Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 2.5%

Date of issue/Date of revision : 12/09/2017
SECTION 2: Hazards identification

See Section 16 for the full text of the H statements declared above.
See Section 11 for more detailed information on health effects and symptoms.

2.2 Label elements

Hazard pictograms:

- Danger

Signal word: Danger

Hazard statements:
- H318 - Causes serious eye damage.
- H315 - Causes skin irritation.
- H410 - Very toxic to aquatic life with long lasting effects.

Precautionary statements

Prevention:
- P280 - Wear protective gloves. Wear eye or face protection.
- P273 - Avoid release to the environment.

Response:
- P305 + P351 + P310 - IF IN EYES: Rinse cautiously with water for several minutes. Immediately call a POISON CENTER or physician.

Storage: Not applicable.

Disposal:
- P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

Hazardous ingredients:
- Calcium oxide

Supplemental label elements:
- Not applicable.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles:
- Not applicable.

Special packaging requirements:
- Tactile warning of danger: Not applicable.

2.3 Other hazards

Other hazards which do not result in classification:
- Causes digestive tract burns.

SECTION 3: Composition/information on ingredients

This article, when used under reasonable conditions and in accordance with the directions for use, should not present a health hazard. The substance or mixture is encapsulated in the article. Only if released due to use or processing of the article in a manner not in accordance with the product’s directions for use it may present potential health and safety hazards.

3.1 Substances:
- Mixture (encapsulated in article)
SECTION 3: Composition/information on ingredients

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Identifiers</th>
<th>%</th>
<th>Regulation (EC) No. 1272/2008 [CLP]</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copper</td>
<td>EC: 231-159-6, CAS: 7440-50-8</td>
<td>≥10 - ≤25</td>
<td>Aquatic Acute 1, H400 (M=10000) Aquatic Chronic 1, H410 (M=100)</td>
<td>[1][2]</td>
</tr>
<tr>
<td>Zinc oxide</td>
<td>EC: 215-222-5, CAS: 1314-13-2 Index: 030-013-00-7</td>
<td>≥10 - ≤25</td>
<td>Aquatic Acute 1, H400 (M=10) Aquatic Chronic 1, H410 (M=10)</td>
<td>[1]</td>
</tr>
<tr>
<td>Calcium oxide</td>
<td>EC: 215-138-9, CAS: 1305-78-8</td>
<td>≤10</td>
<td>Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT SE 3, H335 EUH014</td>
<td>[1][2]</td>
</tr>
</tbody>
</table>

See Section 16 for the full text of the H statements declared above.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Type
1 Substance classified with a health or environmental hazard
2 Substance with a workplace exposure limit
3 Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII
4 Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII
5 Substance of equivalent concern
6 Additional disclosure due to company policy

SECTION 4: First aid measures

4.1 Description of first aid measures

**Eye contact**: Get medical attention immediately. Call a poison center or physician. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician.

**Inhalation**: Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

**Skin contact**: Get medical attention immediately. Call a poison center or physician. Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.

**Ingestion**: Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in
SECTION 4: First aid measures

recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Protection of first-aiders: No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

4.2 Most important symptoms and effects, both acute and delayed

Potential acute health effects

Eye contact: Causes serious eye damage.
Inhalation: No known significant effects or critical hazards.
Skin contact: Causes skin irritation.
Ingestion: Corrosive to the digestive tract. Causes burns.

Over-exposure signs/symptoms

Eye contact: Adverse symptoms may include the following:
- pain
- watering
- redness

Inhalation: No specific data.

Skin contact: Adverse symptoms may include the following:
- pain or irritation
- redness
- blistering may occur

Ingestion: Adverse symptoms may include the following:
- stomach pains

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician: Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments: No specific treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media: Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media: None known.

5.2 Special hazards arising from the substance or mixture

Hazardous combustion products: Decomposition products may include the following materials:
- metal oxide/oxides

5.3 Advice for firefighters

Special precautions for fire-fighters: Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
SECTION 5: Firefighting measures

**Special protective equipment for firefighters**

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

SECTION 6: Accidental release measures

**6.1 Personal precautions, protective equipment and emergency procedures**

**For non-emergency personnel**

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

**For emergency responders**

If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

**6.2 Environmental precautions**

Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.

**6.3 Methods and material for containment and cleaning up**

**Methods for cleaning up**

Move containers from spill area. Avoid dust generation. Using a vacuum with HEPA filter will reduce dust dispersal. Place spilled material in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.

**6.4 Reference to other sections**

See Section 1 for emergency contact information. See Section 8 for information on appropriate personal protective equipment. See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

**7.1 Precautions for safe handling**

**Protective measures**

Put on appropriate personal protective equipment (see Section 8). Do not get in eyes or on skin or clothing. Do not ingest. Avoid release to the environment. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container. Do not open cartridge. Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

**Advice on general occupational hygiene**

Do not open cartridge. Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

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

**Storage**

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

**Seveso Directive - Reporting thresholds (in tonnes)**

**Danger criteria**
SECTION 7: Handling and storage

7.3 Specific end use(s)

Recommendations: Industrial applications, Professional applications.
Industrial sector specific solutions: Not applicable.

SECTION 8: Exposure controls/personal protection

Since the hazardous ingredient in this article is encapsulated, the risk of exposure by inhalation, ingestion, skin contact and eyes contact is minimum.

8.1 Control parameters

Occupational exposure limits

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Exposure limit values</th>
</tr>
</thead>
</table>
| Silicon dioxide         | EH40/2005 WELs (United Kingdom (UK), 12/2011).  
                          | TWA: 6 mg/m³ 8 hours. Form: inhalable dust  
                          | TWA: 2.4 mg/m³ 8 hours. Form: respirable dust |
| aluminium oxide         | EH40/2005 WELs (United Kingdom (UK), 12/2011).  
                          | TWA: 10 mg/m³ 8 hours. Form: inhalable dust |
| Copper                  | EH40/2005 WELs (United Kingdom (UK), 12/2011). Notes: as Cu  
                          | STEL: 2 mg/m³, (as Cu) 15 minutes. Form: Dusts and Mists  
                          | TWA: 1 mg/m³, (as Cu) 8 hours. Form: Dusts and Mists  
                          | TWA: 0.2 mg/m³, (as Cu) 8 hours. Form: Fume |
| Calcium oxide           | EH40/2005 WELs (United Kingdom (UK), 12/2011).  
                          | TWA: 2 mg/m³ 8 hours. |

Recommended monitoring procedures: If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

DNELs/DMELs
No DNELs/DMELs available.

PNECs
No PNECs available

8.2 Exposure controls

Appropriate engineering controls: If user operations generate dust, fumes, gas, vapour or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Individual protection measures
SECTION 8: Exposure controls/personal protection

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead.

Skin protection Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state : Solid.

Colour : Not available.

Odour : Not available.

Odour threshold : Not available.

pH : Not available.

Melting point/freezing point : Not available.

Initial boiling point and boiling range : Not available.

Flash point : Not available.

Evaporation rate : Not available.

Flammability (solid, gas) : Not available.

Upper/lower flammability or explosive limits : Not available.

Vapour pressure : Not available.

Vapour density : Not available.

Relative density : Not available.

Solubility(ies) : Not available.

Date of issue/Date of revision : 12/09/2017
SECTION 9: Physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>Not available.</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>Not available.</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>Not available.</td>
</tr>
<tr>
<td>Viscosity</td>
<td>Not available.</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>Not available.</td>
</tr>
<tr>
<td>Oxidising properties</td>
<td>Not available.</td>
</tr>
</tbody>
</table>

9.2 Other information

Physical/chemical properties comments:
- Maximum inlet pressure: 6895 kPa (1000 psi)
- Maximum recommended flow: 500 ml / min
- Pressure drop [827 kPa (120 psi) inlet (flow of 0 to 500 ml / min)]: < 0.20 psi
- Compression end fittings: 1/8” or 1/4”

SECTION 10: Stability and reactivity

10.1 Reactivity:
No specific test data related to reactivity available for this product or its ingredients.

10.2 Chemical stability:
The product is stable.

10.3 Possibility of hazardous reactions:
Under normal conditions of storage and use, hazardous reactions will not occur.

10.4 Conditions to avoid:
No specific data.

10.5 Incompatible materials:
May react or be incompatible with oxidising materials. Reactive or incompatible with the following materials: acids and moisture.

10.6 Hazardous decomposition products:
Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Dose</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zinc oxide</td>
<td>LC50 Inhalation Dusts and mists</td>
<td>Rat</td>
<td>&gt;5.7 mg/l</td>
<td>4 hours</td>
</tr>
<tr>
<td>Calcium oxide</td>
<td>LD50 Dermal</td>
<td>Rat</td>
<td>&gt;2000 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>LC50 Inhalation Dusts and mists</td>
<td>Rat - Male, Female</td>
<td>&gt;6040 mg/m³</td>
<td>4 hours</td>
</tr>
<tr>
<td></td>
<td>LD50 Oral</td>
<td>Rat - Female</td>
<td>&gt;2000 mg/kg</td>
<td>-</td>
</tr>
</tbody>
</table>

Acute toxicity estimates
Not available.

Irritation/Corrosion

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Score</th>
<th>Exposure</th>
<th>Observation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zinc oxide</td>
<td>Eyes - Mild irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 500 milligrams</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Skin - Mild irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 500 milligrams</td>
<td>-</td>
</tr>
</tbody>
</table>

Sensitiser

Conclusion/Summary:
Not available.
SECTION 11: Toxicological information

Specific target organ toxicity (single exposure)

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Category</th>
<th>Route of exposure</th>
<th>Target organs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calcium oxide</td>
<td>Category 3</td>
<td>Not applicable.</td>
<td>Respiratory tract irritation</td>
</tr>
</tbody>
</table>

Specific target organ toxicity (repeated exposure)

Aspiration hazard
Not available.

Information on likely routes of exposure
Routes of entry anticipated: Oral, Dermal, Inhalation.

Potential acute health effects

Inhalation
No known significant effects or critical hazards.

Ingestion
Corrosive to the digestive tract. Causes burns.

Skin contact
Causes skin irritation.

Eye contact
Causes serious eye damage.

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation
No specific data.

Ingestion
Adverse symptoms may include the following:
- stomach pains

Skin contact
Adverse symptoms may include the following:
- pain or irritation
- redness
- blistering may occur

Eye contact
Adverse symptoms may include the following:
- pain
- watering
- redness

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Short term exposure

Potential immediate effects
Not available.

Potential delayed effects
Not available.

Long term exposure

Potential immediate effects
Not available.

Potential delayed effects
Not available.

Potential chronic health effects

General
No known significant effects or critical hazards.

Carcinogenicity
No known significant effects or critical hazards.

Mutagenicity
No known significant effects or critical hazards.

Teratogenicity
No known significant effects or critical hazards.

Developmental effects
No known significant effects or critical hazards.

Fertility effects
No known significant effects or critical hazards.
12.1 Toxicity

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copper</td>
<td>Acute EC50 1100 µg/l Fresh water</td>
<td>Aquatic plants - Lemna minor Daphnia - Daphnia longispina - Juvenile (Fledgling, Hatchling, Weanling)</td>
<td>4 days 48 hours</td>
</tr>
<tr>
<td></td>
<td>Acute EC50 2.1 µg/l Fresh water</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Acute IC50 13 µg/l Fresh water</td>
<td>Algae - Pseudokirchneriella subcapitata - Exponential growth phase</td>
<td>72 hours</td>
</tr>
<tr>
<td></td>
<td>Acute IC50 5.4 mg/l Marine water</td>
<td>Aquatic plants - Plantae - Exponential growth phase</td>
<td>72 hours</td>
</tr>
<tr>
<td></td>
<td>Acute LC50 0.072 µg/l Marine water</td>
<td>Crustaceans - Amphipoda - Adult</td>
<td>48 hours</td>
</tr>
<tr>
<td></td>
<td>Acute LC50 7.56 µg/l Marine water</td>
<td>Fish - Periophthalmus waltoni - Adult</td>
<td>96 hours</td>
</tr>
<tr>
<td></td>
<td>Chronic NOEC 2.5 µg/l Marine water</td>
<td>Algae - Nitzschia closterium - Exponential growth phase</td>
<td>72 hours</td>
</tr>
<tr>
<td></td>
<td>Chronic NOEC 7 mg/l Fresh water</td>
<td>Aquatic plants - Ceratophyllum demersum</td>
<td>3 days</td>
</tr>
<tr>
<td></td>
<td>Chronic NOEC 0.02 mg/l Fresh water</td>
<td>Crustaceans - Cambarus bartonii - Mature</td>
<td>21 days</td>
</tr>
<tr>
<td></td>
<td>Chronic NOEC 2 µg/l Fresh water</td>
<td>Fish - Oreochromis niloticus - Juvenile (Fledgling, Hatchling, Weanling)</td>
<td>21 days</td>
</tr>
<tr>
<td></td>
<td>Chronic NOEC 0.8 µg/l Fresh water</td>
<td></td>
<td>6 weeks</td>
</tr>
<tr>
<td>Zinc oxide</td>
<td>Acute IC50 1.85 mg/l Marine water</td>
<td>Algae - Skeletonema costatum subcapitata - Exponential growth phase</td>
<td>96 hours</td>
</tr>
<tr>
<td></td>
<td>Acute IC50 46 µg/l Fresh water</td>
<td>Algae - Pseudokirchneriella subcapitata - Exponential growth phase</td>
<td>72 hours</td>
</tr>
<tr>
<td></td>
<td>Acute LC50 98 µg/l Fresh water</td>
<td>Daphnia - Daphnia magna - Neonate</td>
<td>48 hours</td>
</tr>
<tr>
<td></td>
<td>Acute LC50 1.1 ppm Fresh water</td>
<td>Fish - Oncorhynchus mykiss</td>
<td>96 hours</td>
</tr>
<tr>
<td></td>
<td>Chronic NOEC 0.058 mg/l Fresh water</td>
<td>Daphnia</td>
<td>21 days</td>
</tr>
<tr>
<td></td>
<td>Chronic LC50 ≥1070 mg/l Fresh water</td>
<td>Fish</td>
<td>96 hours</td>
</tr>
<tr>
<td></td>
<td>Chronic NOEC 100 mg/l Fresh water</td>
<td>Fish - Oreochromis niloticus - Juvenile (Fledgling, Hatchling, Weanling)</td>
<td>46 days</td>
</tr>
<tr>
<td>Calcium oxide</td>
<td>Acute IC50 46 µg/l Fresh water</td>
<td>Algae - Pseudokirchneriella subcapitata - Exponential growth phase</td>
<td>48 hours</td>
</tr>
</tbody>
</table>

12.2 Persistence and degradability

Not available.

12.3 Bioaccumulative potential

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>LogPow</th>
<th>BCF</th>
<th>Potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zinc oxide</td>
<td>-</td>
<td>60960</td>
<td>high</td>
</tr>
<tr>
<td>Calcium oxide</td>
<td>-</td>
<td>2.34</td>
<td>low</td>
</tr>
</tbody>
</table>

12.4 Mobility in soil

| Soil/water partition coefficient (Koc) | Not available. |
| Mobility                              | Not available. |

12.5 Results of PBT and vPvB assessment

| PBT | Not applicable. |
| vPvB | Not applicable. |
SECTION 12: Ecological information

12.6 Other adverse effects: No known significant effects or critical hazards.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

Methods of disposal: The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

Hazardous waste

Packaging

Methods of disposal: The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

Special precautions: This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

This Safety Data Sheet is written based on the encapsulated substance or mixture in this article. Since the hazardous ingredient is encapsulated, the risk of exposure by inhalation, ingestion, skin contact and eyes contact is minimum.

ADR/RID / IMDG / IATA: Not regulated.

14.6 Special precautions for user: Transport within user’s premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code: Not available.

SECTION 15: Regulatory information

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

EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV - List of substances subject to authorisation

Annex XIV

None of the components are listed.

Substances of very high concern

None of the components are listed.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles: Not applicable.

Other EU regulations

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SECTION 15: Regulatory information

Industrial emissions (integrated pollution prevention and control) - Air
Listed

Industrial emissions (integrated pollution prevention and control) - Water
Listed

Ozone depleting substances (1005/2009/EU)
Not listed.

Prior Informed Consent (PIC) (649/2012/EU)
Not listed.

Seveso Directive
This product is controlled under the Seveso Directive.

Danger criteria

**Category**

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>E1:</td>
<td>Hazardous to the aquatic environment - Acute 1 or Chronic 1</td>
</tr>
</tbody>
</table>

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals
Not listed.

Montreal Protocol (Annexes A, B, C, E)
Not listed.

Stockholm Convention on Persistent Organic Pollutants
Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)
Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals
Not listed.

Inventory list

- **Australia**: All components are listed or exempted.
- **Canada**: All components are listed or exempted.
- **China**: All components are listed or exempted.
- **Europe**: All components are listed or exempted.
- **Japan**: 
  - Japan inventory (ENCS): All components are listed or exempted.
  - Japan inventory (ISHL): All components are listed or exempted.
- **Malaysia**: Not determined.
- **New Zealand**: All components are listed or exempted.
- **Philippines**: All components are listed or exempted.
- **Republic of Korea**: All components are listed or exempted.
- **Taiwan**: All components are listed or exempted.
- **Thailand**: Not determined.
- **Turkey**: All components are listed or exempted.
- **United States**: All components are listed or exempted.
- **Viet Nam**: Not determined.

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SECTION 15: Regulatory information

15.2 Chemical safety assessment

This product contains substances for which Chemical Safety Assessments might still be required.

SECTION 16: Other information

Indicates information that has changed from previously issued version.

Abbreviations and acronyms:

- ATE = Acute Toxicity Estimate
- CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
- DNEL = Derived No Effect Level
- EUH statement = CLP-specific Hazard statement
- PNEC = Predicted No Effect Concentration
- RRN = REACH Registration Number

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

<table>
<thead>
<tr>
<th>Classification</th>
<th>Justification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin Irrit. 2, H315</td>
<td>Calculation method</td>
</tr>
<tr>
<td>Eye Dam. 1, H318</td>
<td>Calculation method</td>
</tr>
<tr>
<td>Aquatic Acute 1, H400</td>
<td>Calculation method</td>
</tr>
<tr>
<td>Aquatic Chronic 1, H410</td>
<td>Calculation method</td>
</tr>
</tbody>
</table>

Full text of abbreviated H statements

- H314: Causes severe skin burns and eye damage.
- H315: Causes skin irritation.
- H318: Causes serious eye damage.
- H335: May cause respiratory irritation.
- H400: Very toxic to aquatic life.
- H410: Very toxic to aquatic life with long lasting effects.

Full text of classifications [CLP/GHS]

Aquatic Acute 1, H400
Aquatic Chronic 1, H410
EUH014
Eye Dam. 1, H318
Skin Corr. 1B, H314
Skin Irrit. 2, H315
STOT SE 3, H335

SHORT-TERM (ACUTE) AQUATIC HAZARD - Category 1
LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 1
Reacts violently with water.
SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1
SKIN CORROSION/IRRITATION - Category 1B
SKIN CORROSION/IRRITATION - Category 2
SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (Respiratory tract irritation) - Category 3

Notice to reader

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