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

1.1 Product identifier

1.2 Relevant identified uses of the substance or mixture and uses advised against
No further relevant information available.

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier:
MÜNZING Micro Technologies GmbH
Dr.-Bergius-Straße 16-24
06729 Elsterau, Germany
E-Mail: cerelan@munzing.com
Tel.: +49 3441 829 10-22

Further information obtainable from:
Product Safety Department
E-mail (MSDS): mnds@munzing.com

1.4 Emergency telephone number: For Chemical Emergencies: CHEMTREC: +1 703 741 5970

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008
Skin Sens. 1 H317 May cause an allergic skin reaction.
Aquatic Chronic 2 H411 Toxic to aquatic life with long lasting effects.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008
The product is classified and labelled according to the CLP regulation.

Hazard pictograms

GHS07 GHS09

Signal word Warning

Hazard-determining components of labelling:
zinc di(benzothiazol-2-yl) disulphide
benzothiazole-2-thiol

Hazard statements
H317 May cause an allergic skin reaction.
H411 Toxic to aquatic life with long lasting effects.

Precautionary statements
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P273 Avoid release to the environment.
P280 Wear protective gloves.
P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
P321 Specific treatment (see on this label).
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

2.3 Other hazards
Results of PBT and vPvB assessment Not applicable.
PBT: None.
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

EINECS: 205-840-3

SECTION 3: Composition/information on ingredients

According to 1907/2006/EC, Article 31

· 3.2 Chemical characterisation: Mixtures
· Description:
  Mixture: consisting of the following components.
  micronized Fischer-Tropsch wax coated with zinc

· Dangerous components:

<table>
<thead>
<tr>
<th>CAS</th>
<th>EINECS</th>
<th>Substance</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>135-04-4</td>
<td>205-840-3</td>
<td>Zinc di(benzothiazol-2-yl) disulphide</td>
<td>10-20%</td>
</tr>
<tr>
<td>149-30-4</td>
<td>205-736-8</td>
<td>Benzo[b]thiophene-2-thiol</td>
<td>3-5%</td>
</tr>
</tbody>
</table>

· Additional information: For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures

· 4.1 Description of first aid measures
· General information: Immediately remove any clothing soiled by the product.
· After inhalation:
  Supply fresh air; consult doctor in case of complaints.
  Take affected persons into fresh air and keep quiet.
· After skin contact: Immediately wash with water and soap and rinse thoroughly.
· After eye contact:
  Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
· After swallowing: If symptoms persist consult doctor.
· 4.2 Most important symptoms and effects, both acute and delayed No further relevant information available.
· 4.3 Indication of any immediate medical attention and special treatment needed
  No further relevant information available.

SECTION 5: Firefighting measures

· 5.1 Extinguishing media
· Suitable extinguishing agents: CO2, powder or water spray. Fight larger fire with alcohol resistant foam.
· For safety reasons unsuitable extinguishing agents: Water with full jet
· 5.2 Special hazards arising from the substance or mixture
  Formation of toxic gases is possible during heating or in case of fire.
  In case of fire, the following can be released:
  Carbon monoxide (CO)
  Sulphur dioxide (SO2)
  Nitrogen oxides (NOx)
· 5.3 Advice for firefighters
· Protective equipment: Do not inhale explosion gases or combustion gases.
· Additional information
  Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.
SECTION 6: Accidental release measures

- 6.1 Personal precautions, protective equipment and emergency procedures
  Wear protective clothing.
  Avoid formation of dust.
  Use respiratory protective device against the effects of fumes/dust/aerosol.
  Particular danger of slipping on leaked/spilled product.
- 6.2 Environmental precautions:
  Inform respective authorities in case of seepage into water course or sewage system.
  Do not allow to enter sewers/ surface or ground water.
- 6.3 Methods and material for containment and cleaning up: Pick up mechanically.
- 6.4 Reference to other sections
  See Section 7 for information on safe handling.
  See Section 8 for information on personal protection equipment.
  See Section 13 for disposal information.

SECTION 7: Handling and storage

- 7.1 Precautions for safe handling
  Keep away from heat and direct sunlight.
  Prevent formation of dust.
  Ensure good ventilation/exhaustion at the workplace.
- 7.2 Information about fire - and explosion protection:
  Protect against electrostatic charges.
  Dust can combine with air to form an explosive mixture.
  Keep ignition sources away - Do not smoke.
- 7.2 Conditions for safe storage, including any incompatibilities
  Storage:
  Requirements to be met by storerooms and receptacles: Store in a cool location.
  Information about storage in one common storage facility:
  Store away from oxidising agents.
  Do not store together with acids.
  Further information about storage conditions: Store in cool, dry conditions in well sealed receptacles.
- 7.3 Specific end use(s) No further relevant information available.

SECTION 8: Exposure controls/personal protection

- Additional information about design of technical facilities: No further data; see item 7.
- 8.1 Control parameters
  Ingredients with limit values that require monitoring at the workplace:
  The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
  Additional information: The lists valid during the making were used as basis.
- 8.2 Exposure controls
  Personal protective equipment:
  General protective and hygienic measures:
  Avoid contact with the eyes and skin.
  The usual precautionary measures are to be adhered to when handling chemicals.
  Do not inhale dust / smoke / mist.
Trade name: CERETAN® MTZ 9335

(Contd. of page 3)

- Respiratory protection:
  In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

- Protection of hands:
  Only use chemical-protective gloves with CE-labelling of category III.
  The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

- Material of gloves
  Nitrile rubber, NBR
  Recommended thickness of the material: ≥ 0.4 mm
  The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

- Penetration time of glove material
  The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

- Eye protection: Safety glasses
- Body protection: Protective work clothing

(Contd. on page 5)
SECTION 10: Stability and reactivity

10.1 Reactivity No further relevant information available.
10.2 Chemical stability
Thermal decomposition / conditions to be avoided: No decomposition if used and stored according to specifications.
10.3 Possibility of hazardous reactions Risk of dust explosion.
10.4 Conditions to avoid No further relevant information available.
10.5 Incompatible materials: No further relevant information available.
10.6 Hazardous decomposition products: No dangerous decomposition products known.

SECTION 11: Toxicological information

11.1 Information on toxicological effects
Acute toxicity Based on available data, the classification criteria are not met.

LD/LC50 values relevant for classification:

<table>
<thead>
<tr>
<th>CAS: 149-30-4 benzothiazole-2-thiol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral</td>
</tr>
<tr>
<td>Dermal</td>
</tr>
</tbody>
</table>

Primary irritant effect:
Skin corrosion/irritation Based on available data, the classification criteria are not met.
Serious eye damage/irritation Based on available data, the classification criteria are not met.
Respiratory or skin sensitisation
May cause an allergic skin reaction.
CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)
Germ cell mutagenicity Based on available data, the classification criteria are not met.
Carcinogenicity Based on available data, the classification criteria are not met.
Reproductive toxicity Based on available data, the classification criteria are not met.
STOT-single exposure Based on available data, the classification criteria are not met.
STOT-repeated exposure Based on available data, the classification criteria are not met.
Aspiration hazard Based on available data, the classification criteria are not met.
SECTION 12: Ecological information

12.1 Toxicity

Aquatic toxicity:

<table>
<thead>
<tr>
<th>CAS: 149-30-4 benzothiazole-2-thiol</th>
</tr>
</thead>
<tbody>
<tr>
<td>EC50 0.25 mg/l (alga) (Selenastrum capricornutum / 96 h, OECD 201)</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>10 mg/l (bacteria) (Tetrahymena sp. / 24 h)</td>
</tr>
<tr>
<td>4.1 mg/l (daphnia) (Daphnia magna / 48 h, OECD 202)</td>
</tr>
<tr>
<td>LC50 0.5 mg/l (fish) (Onchorhynchus mykiss / 96 h)</td>
</tr>
</tbody>
</table>

12.2 Persistence and degradability: No further relevant information available.

12.3 Bioaccumulative potential: No further relevant information available.

12.4 Mobility in soil: No further relevant information available.

Ecotoxicological effects:

- Remark: Toxic for fish
- Behaviour in sewage processing plants:
  Inhibition of degradation activity in activated sludge is not to be anticipated during correct introduction of low concentrations. Do not release untreated into natural waters.

Additional ecological information:

- General notes:
  - Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water
  - Do not allow product to reach ground water, water course or sewage system.
  - Also poisonous for fish and plankton in water bodies.
  - Toxic for aquatic organisms

12.5 Results of PBT and vPvB assessment:

According to Annex XIV of Regulation (EC) No.1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH): The product does not contain a substance fulfilling the PBT (persistent/bioaccumulative/toxic) criteria or the vPvB (very persistent/very bioaccumulative) criteria.

12.6 Other adverse effects: No further relevant information available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

- Recommendation
  - Must not be disposed together with household garbage. Do not allow product to reach sewage system.

European waste catalogue

16 03 05* organic wastes containing dangerous substances

- Uncleaned packaging:
  - Recommendation: Disposal must be made according to official regulations.
  - Recommended cleansing agents: Water, if necessary together with cleansing agents.

SECTION 14: Transport information

14.1 UN-Number

- ADR/RID/ADN, IMDG, IATA: UN3077

(Contd. on page 7)
Trade name: CERETAN® MTZ 9335

### 14.2 UN proper shipping name
- **ADR/RID/ADN**: 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (zinc di(benzothiazol-2-yl) disulphide, benzothiazole-2-thiol)
- **IMDG**: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (zinc di(benzothiazol-2-yl) disulphide, benzothiazole-2-thiol), MARINE POLLUTANT
- **IATA**: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (zinc di(benzothiazol-2-yl) disulphide, benzothiazole-2-thiol)

### 14.3 Transport hazard class(es)
- **ADR/RID/ADN, IMDG, IATA**: 9 Miscellaneous dangerous substances and articles.

### 14.4 Packing group
- **ADR/RID/ADN, IMDG, IATA**: III

### 14.5 Environmental hazards:
- **Marine pollutant**: Symbol (fish and tree)
- **Special marking (ADR/RID/ADN)**: Symbol (fish and tree)
- **Special marking (IATA)**: Symbol (fish and tree)

### 14.6 Special precautions for user
- **Danger code (Kemler)**: 90
- **EMS Number**: F-A,S-F
- **Stowage Category**: A
- **Stowage Code**: SW23 When transported in BK3 bulk container, see 7.6.2.12 and 7.7.3.9.

### 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code
- **Transport/Additional information**: Not applicable.

### ADR/RID/ADN
- **Limited quantities (LQ)**: 5 kg
- **Transport category**: 3
- **Tunnel restriction code**: -

### UN "Model Regulation":
- **3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (ZINC DI(BENZOTHIAZOL-2-YL) DISULPHIDE, BENZOTHIAZOLE-2-THIOL), 9, III
SECTION 15: Regulatory information

· Directive 2012/18/EU
  · Named dangerous substances - ANNEX I None of the ingredients is listed.
  · Seveso category E2 Hazardous to the Aquatic Environment
  · Qualifying quantity (tonnes) for the application of lower-tier requirements 200 t
  · Qualifying quantity (tonnes) for the application of upper-tier requirements 500 t
  · National regulations:

· Information about limitation of use:
  Employment restrictions concerning juveniles must be observed.
  Employment restrictions concerning pregnant and lactating women must be observed.
· Waterhazard class: Water hazard class 2 (Self-assessment): hazardous for water.
· 15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· Relevant phrases
  H301 Toxic if swallowed.
  H317 May cause an allergic skin reaction.
  H400 Very toxic to aquatic life.
  H410 Very toxic to aquatic life with long lasting effects.

· Department issuing SDS:
  Product Safety Department
  E-Mail: msds@munzing.com

· Abbreviations and acronyms:
  ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
  IMDG: International Maritime Code for Dangerous Goods
  IATA: International Air Transport Association
  GHS: Globally Harmonised System of Classification and Labelling of Chemicals
  EINECS: European Inventory of Existing Commercial Chemical Substances
  ELINCS: European List of Notified Chemical Substances
  CAS: Chemical Abstracts Service (division of the American Chemical Society)
  LC50: Lethal concentration, 50 percent
  LD50: Lethal dose, 50 percent
  PBT: Persistent, Bioaccumulative and Toxic
  vPvB: very Persistent and very Bioaccumulative
  Acute Tox. 3: Acute toxicity – Category 3
  Skin Sens. 1: Skin sensitisation – Category 1
  Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1
  Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1
  Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2