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

· 1.1 Product identifier
  · Trade name: CERETAN® MO 3220

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

· 1.3 Details of the supplier of the safety data sheet
  · Manufacturer/Supplier:
    · MÜNZING Micro Technologies GmbH
    · Dr.-Bergius-Straße 16-24
    · 06729 Elsterlau, Germany
    · E-Mail: ceretan@munzing.com
    · Tel.: +49 3441 829 10-22

  · Further information obtainable from:
    · Product Safety Department
    · E-mail (MSDS): mds@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
    · The product is not classified, according to the CLP regulation.

· 2.2 Label elements
  · Labelling according to Regulation (EC) No 1272/2008 Void
  · Hazard pictograms Void
  · Signal word Void
  · Hazard statements Void
  · 2.3 Other hazards Risk of dust explosion
  · Results of PBT and vPvB assessment Not applicable.
  · PBT: None.
  · vPvB: None.

SECTION 3: Composition/information on ingredients

· 3.2 Chemical characterisation: Mixtures
  · Description: polar, oxidized polyethylene wax
  · Dangerous components: Void

SECTION 4: First aid measures

· 4.1 Description of first aid measures
  · General information: No special measures required.
  · After inhalation: Supply fresh air; consult doctor in case of complaints.
  · 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.

(Contd. on page 2)
SECTION 5: Firefighting measures

- 5.1 Extinguishing media
  - Suitable extinguishing agents: CO₂, powder or water spray. Fight larger fire with alcohol resistant foam.
- 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)
    - 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
  - 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: No special measures required.
- 6.3 Methods and material for containment and cleaning up: Pick up mechanically.
- 6.4 Reference to other sections
  - No dangerous substances are released.
  - 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.
  - 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.
  - 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.
  - 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

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties
- General Information
  - Appearance:
    Form: Powder
    Colour: White
    Odour: Specific type
    Odour threshold: Not determined.
  - pH-value: Not applicable.
  - Change in condition
    Melting point/freezing point: > 100 ºC
    Initial boiling point and boiling range: Undetermined.
    Drip point: ≈ 108 ºC (DGF-M-III 3)
  - Flash point: > 100 ºC
  - Flammability (solid, gas): Product is not flammable.
Safety data sheet
according to 1907/2006/EC, Article 31

Trade name: CERETAN® MO 3220

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<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ignition temperature</td>
<td>&gt; 200 °C</td>
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<tr>
<td>Decomposition temperature</td>
<td>Not determined</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>Product is not selfigniting</td>
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<tr>
<td>Explosive properties</td>
<td>Product is not explosive. However, formation of explosive dust/vapour mixtures are possible.</td>
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<tr>
<td>Explosion limits:</td>
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<td>Lower</td>
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<td>Upper</td>
<td>Not determined</td>
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<tr>
<td>Oxidising properties</td>
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<td>Vapour pressure</td>
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<tr>
<td>Density at 20 °C:</td>
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<tr>
<td>Relative density</td>
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<tr>
<td>Vapour density</td>
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</tr>
<tr>
<td>Evaporation rate</td>
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<tr>
<td>Solubility in / Miscibility with water</td>
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<tr>
<td>Partition coefficient: n-octanol/water</td>
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<td>Viscosity:</td>
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<tr>
<td>Solids content</td>
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<tr>
<td>9.2 Other information</td>
<td>ST-class = 1</td>
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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.
  Oral LD50 | >15,000 mg/kg (rat)
- 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 | Based on available data, the classification criteria are not met.
· 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: No further relevant information available.
· 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.
· Ecotoxicity:
  · 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: Not hazardous for water.
· 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. Self classification.
· 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 06 organic wastes other than those mentioned in 16 03 05
· 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, ADN, IMDG, IATA Void
· 14.2 UN proper shipping name
  · ADR/RID/ADN, ADN, IMDG, IATA Void
· 14.3 Transport hazard class(es)
  · ADR/RID/ADN, ADN, IMDG, IATA
    · Class Void
Safety data sheet
according to 1907/2006/EC, Article 31

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- 14.4 Packing group
  - ADR/RID/ADN, IMDG, IATA: Void
- 14.5 Environmental hazards:
  - Marine pollutant: No
- 14.6 Special precautions for user: Not applicable.
- 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code: Not applicable.
- Transport/Additional information: Not a dangerous good to the above specifications.
- UN "Model Regulation": Void

SECTION 15: Regulatory information

- 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
- Directive 2012/18/EU
- Named dangerous substances - ANNEX I: None of the ingredients is listed.
- National regulations:
- Water hazard class: Not 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.

- 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