Safety data sheet
according to 1907/2006/EC, Article 31

1. Product identifier
   - Trade name: CERETAN® MF 5715

2. Classification of the substance or mixture
   - Classification according to Regulation (EC) No 1272/2008
     The product is not classified, according to the CLP regulation.

3. Physical and chemical properties
   - Form: Solid
   - State: Powder
   - Colour: White
   - Odour: Odourless
   - Odour threshold: Not applicable.
   - Specific gravity: 0.985
   - Melting point: 210°C
   - Boiling point: 300°C

4. First aid measures
   - 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.
     - 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: Do not induce vomiting; call for medical help immediately.

5. Fire-fighting measures
   - Extinguishing media: Water, dry chemical, foam
   - Special hazards: Risk of dust explosion
   - Fire and explosion characteristics: Risk of thermal decomposition may lead to release of toxic and corrosive gases.

6. Handling and storage
   - Handling: Store in a cool, dry place.
   - Storage: Keep out of reach of children.

7. Exposure controls/Personal protective equipment
   - Control parameters: Not applicable.
   - Eye protection: Not applicable.
   - Respiratory protection: Not applicable.
   - Hand protection: Not applicable.

8. Transport information
   - UN Class: 4.1
   - UN Number: 2664
   - Packing group: III
   - Special requirements: Not applicable.

9. Physical and chemical stability
   - Stability: Stable.
   - Hazardous decomposition: Not applicable.

10. Reactivity and incompatibility
    - Reactivity: Not applicable.
    - Incompatibility: Not applicable.

11. Toxicological information
    - Acute toxicity: Not applicable.
    - Chronic toxicity: Not applicable.
    - Carcinogenicity: Not applicable.
    - Mutagenicity: Not applicable.
    - Reproductive toxicity: Not applicable.

12. Ecotoxicological information
    - Toxic to aquatic organisms: Not applicable.
    - Persistence and bioaccumulation: Not applicable.

13. Disposal considerations
    - Disposal method: Not applicable.

14. Transport information
    - UN Class: Not applicable.
    - UN Number: Not applicable.

15. Regulatory information
    - Regulation: Not applicable.

16. Additional information
    - Additional precautions: Not applicable.
    - Safety precautions: Not applicable.

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E-mail (MSDS): msds@munzing.com

Emergency telephone number: For Chemical Emergencies: CHEMTREC: +1 703 741 5970
7.3 Specific end use(s)  
- Protect against electrostatic charges.
- Keep away from heat and direct sunlight.

(Contd. of page 1)

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)
  - Hydrogen fluoride (HF)
  - Fluorosulfure (COF₂)

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.

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:
 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.

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 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.

(Contd. on page 3)
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 °C
  - Initial boiling point and boiling range: Undetermined.

- Flash point: > 100 °C

- Flammability (solid, gas): Product is not flammable.
Inhalation of vapours in high concentrations may lead to headache, giddiness and nausea.

- Auto-ignition temperature: Product is not selfigniting.
- Explosive properties: Product is not explosive. However, formation of explosive dust/vapour mixtures are possible.
- Explosion limits: Not determined.
  - Lower: Not determined.
  - Upper: Not determined.
- Vapour pressure: Not applicable.
- Density: Not determined.
  - Bulk density: \( \geq 0.3 \, \text{g/cm}^3 \)
  - Relative density: \(< 1.0 \, \text{g/cm}^3 \)
- Vapour density: Not applicable.
- Evaporation rate: Not applicable.
- Solubility in / Miscibility with water: Insoluble.
- Partition coefficient: n-octanol/water: Not determined.
- Viscosity: Dynamic: Not applicable.
- Solvent content:
  - 9.2 Other information: ST-class = 2

### 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:
  - Carbon monoxide
  - Hydrogen fluoride
  - Fluorophosphene
  - Carbonyl fluoride
  - Tetrafluoroethylene
  - Hexafluoropropylene
  - Perfluorobutylene
- Additional information:
  When heated, gaseous decomposition products may be generated from PTFE, which can cause "fluoropolymer fever" on inhalation. Inhalation/eye contact: in high concentrations irritating to the mucous membranes, narcotic effect and influence on power of reaction and loss of coordination possible. Prolonged inhalation of vapours in high concentrations may lead to headache, giddiness and nausea.
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:
    - Oral LD50 >5,000 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.

- Ecotoxicological effects:
  - 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 1 (German Regulation) (Self-assessment): slightly hazardous for water
    - Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

- 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
Abbreviations and acronyms:

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

14.2 UN proper shipping name

· ADR/RID/ADN, ADN, IMDG, IATA Void

· ADR/RID/ADN, ADN, IMDG, IATA Void

· ADR/RID/ADN, ADN, IMDG, IATA Void

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: Water hazard class 1 (German AwSV, Self-assessment): slightly 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
Trade name: CERETAN® MF 5715

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