

---

## Material Safety Data Sheet: nano-screenMAG-Chitosan; MSDS 4418

---

### 1. Chemical Product and Company Identification

Product Name: nano-screenMAG-Chitosan

Product Number: 4418-1; 4418-5

Manufacturer: chemicell GmbH  
Eresburgstrasse 22-23  
12103 Berlin  
Germany

Tel.: +49-30-214 14 81

Fax: +49-30-2191 37 37

Chemical Formula: Sterile, aqueous dispersion of magnetic-fluorescent nanoparticles

### 2. Composition / Information on Ingredients

#### Product Description

Magnetic core: Magnetite (Fe<sub>3</sub>O<sub>4</sub>), Perylene fluorescence dye  
Matrix: Polysaccharide, linear randomly distributed  
β-(1-4)-linked D-glucosamine and N-acetyl-D-glucosamine  
Terminal groups: Amine group (-NH<sub>2</sub>)  
Suspensions Media: double distilled water  
Sterility: Yes, by autoclaving

**CAS No:** None

**Hazardous Ingredients:** None

### 3. Hazard Identification

Low hazard for usual industrial or commercial handling.

**HMIS Rating (scale 0-4):** Health=0; Fire=0; Reactivity=0; PPE=Goggles or Safety Glasses, Lab Coat, proper Gloves

**Routes of Exposure:** Inhalation=yes, Ingestion=yes, Skin=no

**Acute Effects:** Could cause eye and skin irritation. Exposure may cause irritation to mucous membranes and upper respiratory tract. May be harmful if swallowed.

**Chronic Effects:** Prolonged or repeated exposure to reagents may cause adverse reproductive effects. May cause fetal effects.

### 4. First Aid

In case of contact, immediately flush eyes or skin with water for at least 15 min while removing contaminated clothing and shoes. If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. If swallowed, wash out mouth with water provided person is conscious. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Seek medical attention. Wash contaminated clothing before reuse.

### 5. Fire Fighting Measures

Negligible fire hazard when exposed to heat or flame.

**Extinguishing Media:** Water spray, carbon dioxide, dry chemical powder or appropriate foam.

**Special Fire Fighting Procedures:** May emit toxic fumes under fire conditions. Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

### 6. Accidental Release Measures

Evacuate unnecessary personnel from area. Provide adequate general or local exhaust ventilation. If adequate ventilation is unavailable, wear self-contained breathing apparatus.

Wear appropriate protective eyeglasses or chemical safety goggles. Wear appropriate protective gloves and protective clothing to prevent skin exposure, absorb on sand, vermiculite or chemical absorbing material and place in containers for disposal. Ventilate area and wash spill site after material pickup is complete.

## 7. Handling and Storage

Slight irritant. Keep container closed. Store in a cool dry place, +2° C to +8° C. Wear lab coat, gloves and eye protection and provide adequate ventilation. Avoid contact with skin, eyes and clothing. Ensure proximity to safety shower and eye bath. Wash thoroughly after handling. Avoid prolonged or repeated exposure.

## 8. Exposure Controls / Personal Protection

For routine operations wear lab coat, gloves and safety glasses to avoid contact with eyes, skin and clothing. Any protective lab wear's chemical resistance should be verified by supplier. Ensure proximity to eyewash and safety shower. Contaminated clothes should be changed immediately. Wash hands thoroughly after handling. Avoid prolonged or repeated inhalation and skin exposure.

## 9. Physical and Chemical Protection

Appearance:	brown
Solubility:	No
pH (+20 °C):	NA
Fusing Temperature:	NA
Boiling Point:	NA
Flash Point:	NA
Explosion Limit:	NA
Density:	1.25 g/cm <sup>3</sup>

## 10. Stability and Reactivity

Stable under normal temperatures and pressures.

**Incompatibilities:** Is incompatible with strong oxidizing agents, aluminium, acids, bases, calcium nitrate, pyridine, iodine, and sulfur trioxide.

**Hazardous Combustion or Decomposition Products:** Toxic fumes of carbon monoxide, carbon dioxide, nitrogen oxides, ammonia and chlorine may be released.

## 11. Toxicological Information

The material are may be harmful by inhalation or ingestion. Material may be irritating to mucous membranes and upper respiratory tract. The product may be harmful if swallowed. To the best of our knowledge, the chemical, physical, and toxicological properties of this formulation have not been thoroughly investigated. The product should be handled and treated with the usual caution of any unknown chemical.

## 12. Ecological Information

No data available. In the case of appropriate handling and use there is no expected ecological problem.

## 13. Disposal Information

Dissolve or mix with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state and local environmental regulations. Dispose of material packaging in accordance of federal, state and local environmental regulations. Any contaminated material or packaging should be treated the same as the material.

Notes to disposal: No uniform regulations are present for the disposal of chemicals in the member States of the European Union. In Germany disposal requirements should be handled differentiating "wastes for utilization" and "wastes for removal".

## 14. Transport Information

No data available.

## 15. Regulatory Information

None known.

## 16. Other Information

Revised Document Date 2009-09

This information is believed to be accurate and represents the information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes.