

## Material Safety Data Sheet: geneMAG-Sequence; MSDS 3601

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### 1. Chemical Product and Company Identification

Product Name: SiMAG-Sequence Particle Solution  
Cat. No: 3601-100, 3601-500, 3601-1000

Manufacturer: chemicell GmbH  
Eresburgstrasse 22-23  
12103 Berlin  
Germany  
Tel.: +49-30-2141481  
Fax: +49-30-21913737

Chemical Formula: suspension of superparamagnetic silica particles

### 2. Composition / Information on Ingredients

#### Chemical characterization

**Description:** Mixture of substances listed below with nonhazardous additions

#### Dangerous components:

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67-63-0	2-Propanol (CH <sub>3</sub> ) <sub>2</sub> CHOH	100%
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#### Product Description:

Magnetic core:	Magnetite (Fe <sub>3</sub> O <sub>4</sub> )
Matrix:	Silica
Terminal groups:	Silanol
Suspension media:	100% 2-Propanol
CAS No:	None

### 3. Hazard Identification



Xi Irritant

F Highly flammable

#### · Information concerning particular hazards for human and environment:

R: 11-36-67

S: 7-16-24 / 25-26

#### · Classification system:

The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

**HMIS Rating (scale 0-4):** Health=1; Fire=3; Reactivity=0; PPE=Goggles or Safety Glasses, Lab Coat, proper Gloves

#### **Hazardous Material Identification System (HMIS Ratings scale 0-4)**

Health = 1; Flammability = 3; Reactivity = 0

#### **OSHA Hazard Overview (Criteria according to 29CFR1910.1200):**

Irritant; Flammable

#### **Primary route(s) of entry:**

Dermal; Inhalation; Oral

#### **Target Organ(s):**

May affect Nervous system (Neurotoxin)

May cause Kidney damage (Nephrotoxin)

**Additional information:** Keep away from sources of ignition.

### 4. First Aid

**After inhalation:** Supply fresh air; consult doctor in case of complaints.

**After skin contact:** Generally the product does not irritate the skin.

#### **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.

### 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:	82°C
Flash Point:	≤21°C
Explosion Limit:	
Lower:	2.0 Vol %
Upper:	12.0 Vol %
Density:	2.25 g/cm <sup>3</sup>

## 10. Stability and Reactivity

Stable under normal temperatures and pressures.

**Incompatibilities:** Is incompatible with strong oxidizing agents, aluminum, 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

**Acute toxicity:**

**LD/LC50 values that are relevant for classification:**

**67-63-0 2-Propanol**

Oral	LD50 4570 mg/kg (Rat)
Dermal	LD50 13400 mg/kg (rab)
Inhalative	LC50/4 h 30 mg/l (Rat)

**Primary irritant effect**

**on the skin:** No irritating effect.

**on the eye:** Irritating effect.

**Sensitization:** No sensitizing effects known.

**Additional toxicological information:**

The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:  
Irritant

## 12. Ecological Information

**General notes:**

Water hazard class 1 (Self-assessment): slightly hazardous for water.

Do not allow undiluted product or large quantities of it to reach ground water, water

## 13. Disposal Information

**Product**

**Recommendation:**

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

**Uncleaned packagings**

**Recommendation:** Disposal must be made according to official regulations.

**Recommended cleansing agent:** Water, if necessary with cleansing agents.

## 14. Transport Information

### DOT regulations:

**Hazard class:** 3  
**Identification number:** UN1219  
**Packing group:** II  
**Proper shipping name:** ISOPROPANOL (ISOPROPYL ALCOHOL)  
**Label** 3

### Land transport ADR/RID (cross-border)

**ADR/RID class:** 3 (F1) Flammable liquids  
**Danger code (Kemler):** 33  
**UN-Number:** 1219  
**Packaging group:** II  
**Description of goods:** 1219 ISOPROPANOL (ISOPROPYL ALCOHOL)

### Maritime transport IMDG:

**IMDG Class:** 3  
**UN Number:** 1219  
**Label** 3  
**Packaging group:** II  
**EMS Number:** F-E,S-D  
**Marine pollutant:** No  
**Proper shipping name:** ISOPROPANOL (ISOPROPYL ALCOHOL)

### Air transport ICAO-TI and IATA-DGR:

**ICAO/IATA Class:** 3  
**UN/ID Number:** 1219  
**Label** 3  
**Packaging group:** II  
**Proper shipping name:** ISOPROPANOL (ISOPROPYL ALCOHOL)

## 15. Regulatory Information

### **SARA (Superfund Amendment and Reauthorization Act):**

#### **Section 302/304(355.30/355.40-Extremely Hazardous Substances):**

None of the ingredients is listed.

#### **Section 313 (40CFR372.65-Specific Toxic Chemicals listing):**

All ingredients are listed.

#### **TSCA (Toxic Substance Control Act):**

All ingredients are listed.

#### **Proposition 65**

##### **Chemicals known to cause cancer:**

None of the ingredients is listed.

##### **Chemicals known to cause reproductive toxicity:**

None of the ingredients is listed.

##### **Carcinogen categories**

##### **EPA (Environmental Protection Agency):**

None of the ingredients is listed.

##### **IARC (International Agency for Research on Cancer):**

67-63-0 propan-2-ol 3

##### **NTP (National Toxicology Program):**

None of the ingredients is listed.

##### **TLV (Threshold Limit Value established by ACGIH):**

None of the ingredients is listed.

##### **MAK (German Maximum Workplace Concentration):**

None of the ingredients is listed.

##### **NIOSH-Ca (National Institute for Occupational Safety and Health):**

None of the ingredients is listed.

##### **OSHA-Ca (Occupational Safety & Health Administration):**

None of the ingredients is listed.

### **Markings:**

The product has been classified and marked in accordance with EU Directives / Ordinance on Hazardous Materials

### **Hazard designation of product:**

Xi Irritant

F Highly flammable

### **Risk phrases:**

11 Highly flammable.

36 Irritating to eyes.

**Safety phrases:**

7/9 Keep container tightly closed and in a well-ventilated place.

16 Keep away from sources of ignition - No smoking.

24/25 Avoid contact with skin and eyes.

26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

35 This material and its container must be disposed of in a safe way.

46 If swallowed, seek medical advice immediately and show this container or label.

**Water hazard class:** Water hazard class 1 (Self-assessment): slightly hazardous for water.

**16. Other Information**

Revised Document Date 11/19/06

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.

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12103 Berlin  
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Chemical Formula: suspension of superparamagnetic silica particles

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### Chemical characterization

**Description:** Mixture of substances listed below with nonhazardous additions

### Dangerous components:

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67-63-0	2-Propanol (CH <sub>3</sub> ) <sub>2</sub> CHOH	70%
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## 3. Hazard Identification



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### · Information concerning particular hazards for human and environment:

R: 11-36-67

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### · Classification system:

The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

**HMIS Rating (scale 0-4):** Health=1; Fire=3; Reaktivty=0; PPE=Goggles or Safety Glasses, Lab Coat, proper Gloves

**Hazardous Material Identification System (HMIS Ratings scale 0-4)**

Health = 1; Flammability = 3; Reactivity = 0

**OSHA Hazard Overview (Criteria according to 29CFR1910.1200):**

Irritant; Flammable

**Primary route(s) of entry:**

Dermal; Inhalation; Oral

**Target Organ(s):**

May affect Nervous system (Neurotoxin)

May cause Kidney damage (Nephrotoxin)

**Additional information:** Keep away from sources of ignition.

**4. First Aid**

**After inhalation:** Supply fresh air; consult doctor in case of complaints.

**After skin contact:** Generally the product does not irritate the skin.

**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.

**5. Fire Fighting Measures**

**Suitable extinguishing agents:**

Dry chemical(extinguishing powder), CO<sub>2</sub>, water or regular foam. Fight larger fires with water spray or alcohol resistant foam.

**6. Accidental Release Measures**

**Person-related safety precautions:** Wear protective equipment. Keep unprotected persons away.

**Measures for environmental protection:**

Prevent seepage into sewage system, workpits and cellars.

Dilute with plenty of water.

Do not allow to enter sewers/surface or ground water.

### **Measures for cleaning/collecting:**

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

## **7. Handling and Storage**

### **Handling**

**Information for safe handling:** No special precautions are necessary if used correctly.

### **Information about protection against explosions and fires:**

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

### **Storage**

**Requirements to be met by storerooms and receptacles:** Store in a cool location.

**Information about storage in one common storage facility:** Not required.

### **Further information about storage conditions:**

Keep receptacle tightly sealed.

Store in cool, dry conditions in well sealed receptacles.

## **8. Exposure Controls / Personal Protection**

### **Personal protective equipment:**

#### **General protective and hygienic measures:**

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

Avoid contact with eyes and skin.

**Breathing equipment:** Not required.

#### **Protection of hands:**

Protective gloves. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.

**Material of gloves:**

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.

**Eye protection:** Tightly sealed goggles.

**9. Physical and Chemical Protection**

<b>Form:</b>	fluid
<b>Appearance:</b>	clear
<b>Solubility in Water:</b>	Fully miscible
<b>Fusing Temperature:</b>	NA
<b>Boiling Point:</b>	82°C
<b>Flash Point:</b>	≤21°C
<b>Explosion Limit:</b>	
<b>Lower:</b>	2.0 Vol %
<b>Upper:</b>	12.0 Vol %
<b>Ignition temperature:</b>	425°C (797°F)
<b>Auto igniting:</b>	Product is not selfigniting.
<b>Danger of explosion:</b>	Product is not explosive. However, formation of explosive air/vapor mixtures are possible.

**10. Stability and Reactivity**

Stable under normal temperatures and pressures.

**Incompatibilities:** Is incompatible with strong oxidizing agents, aluminum, 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.

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Revised Document Date 11/19/06

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