chemicell

Material Safety Data Sheet: geneMAG-DNA / Blood; MSDS 3001

1. Chemical Product an Company Identification

Product Name:	geneMAG-DNA / Blood
Cat. No:	3001-15, 3001-100, 3001-500
Name of part component:	SiMAG-DNA

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

Product Discription

Magnetic core:	Magnetite (Fe_3O_4)
Matrix:	Silica
Terminal groups:	Silanol
Suspension media:	water, 20% ethanol
CAS No:	None

3. Hazard Identification

Xi Irritant

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

R 36 Irritating to eyes.

· **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=0; Reaktivity=0; PPE=Goggles or Safety Glasses, Lab Coat, proper Gloves
Routes of Exposure:	Inhalation=yes, Ingestion=yes, Skin=no
Accute 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. Ifnot 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:	2.25 g/cm^3

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

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 11/09/07

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.

1. Chemical Product an Company Identification

Product Name: geneMAG-DNA / Blood
Name of part component: Lysis & Binding Buffer

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

2. Composition / Data on components

· **Chemical characterization**

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

· **Dangerous components:**

9002-93-1 Polyethylene glycol tert-octylphenyl ether	2 - 5%

3. Hazard description:

Xn Harmful

Information pertaining to particular dangers for man and environment:

R 22 Harmful if swallowed.

R 41 Risk of serious damage to eyes.

National Fire Protection Association (NFPA ratings scale 0-4):

Health = 1

Fire = 1

Reactivity = 0

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

Health = 1

Flammability = 1

Reactivity = 0

OSHA Hazard Overview (Criteria according to 29CFR1910.1200): Not applicable

Primary route(s) of entry:

Oral

Inhalation

Dermal

Target Organ(s): Risk of damage to Eyes

4. First Aid

General information

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

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.

After swallowing: Immediately call a doctor.

5. Fire Fighting Measures

Suitable extinguishing agents: Use fire fighting measures that suit the environment.

6. Accidental Release Measures

Person-related safety precautions: Not required.

Measures for environmental protection:

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:

Keep receptacles tightly sealed.

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of aerosols.

No special precautions are necessary if used correctly.

Information about protection against explosions and fires:

No special measures required.

Storage

Requirements to be met by storerooms and receptacles: No special requirements.

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

Further information about storage conditions: None.

8. Exposure Controls / Personal Protection

Components with Occupational Exposure Limits:

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 that were valid during the creation were used as basis.

Personal protective equipment

General protective and hygienic measures

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

Avoid contact with the eyes.

Breathing equipment:

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use

respiratory protective device that is independent of circulating air.

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

Appearance of solution:	clear, colourless
pH-value(1M, H_2O):	6,0 – 8,0
Boiling Point:	undetermined
Flash Point:	NA
Explosion Limit:	NA
Density:	NA
Solubility in / Miscibility with Water:	Fully miscible

10. Stability and Reactivity

Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.

Dangerous reactions:

Reacts with strong oxidizing agents

Reacts with strong alkali

Reacts with strong acids

Dangerous products of decomposition: Carbon monoxide and carbon dioxide

11. Toxicological Information

Primary irritant effect

on the skin: No irritating effect.

on the eye: Strong irritant with the danger of severe eye injury. 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:

Harmful

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 course or sewage system.

13. Disposal Considerations

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: -

Land transport ADR/RID (cross-border)

ADR/RID class: -

Maritime transport IMDG:

IMDG Class: -

Marine pollutant: No

Air transport ICAO-TI and IATA-DGR:

ICAO/IATA Class: -

15. Regulatory Information

Markings:

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

Hazard designation of product:

Xn Harmful

Hazard-determining components of labelling:

Polyethylene glycol tert-octylphenyl ether

Risk phrases:

22 Harmful if swallowed.

41 Risk of serious damage to eyes.

Safety phrases:

23 Do not breathe gas/fumes/vapour/spray (appropriate wording to be specified by the manufacturer).

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.

36 Wear suitable protective clothing.

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

National regulations

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

16. Other Information

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1. Chemical Product an Company Identification

Product Name: geneMAG-DNA / Blood
Name of part component: Wash Buffer I

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

Chemical Formula: $C_2H_6N_4S$

2. Composition / Data on components

· **Chemical characterization**

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

· **Dangerous components:**

593-84-0 guanidinium thiocyanate	50 - 100%

3. Hazard description:

R: 20/21/22-32

S: 13

Information pertaining to particular dangers for man and environment:

Harmful by inhalation, in contact with skin and if swallowed.

Irritating to eyes and skin.

NFPA ratings (scale 0 - 4):

Health = 2

Fire = 0

Reactivity = 0

HMIS-ratings (scale 0 - 4):

Health = 2

Fire = 0

Reactivity = 0

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

Toxic

Irritant

Primary route(s) of entry:

Dermal

Inhalation

Oral

Target Organ(s): Risk of damage to eyes

Additional information:

Product has been observed to have sensitizing effects.

Product contains a toxic substance in greater than 1% and may exibit toxicological properties similar to the pure substance.

4. First Aid

General information:

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hoursafter the accident.

After inhalation:

Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.

In case of unconsciousness place patient stably in side position for transportation.

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: Immediately call a doctor.

5. Fire Fighting Measures

Suitable extinguishing agents:
CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

Protective equipment: Mouth respiratory protective device.

6. Accidental Release Measures

Person-related safety precautions: Not required.

Measures for environmental protection: Do not allow to enter sewers/ surface or ground water.

Measures for cleaning/collecting:

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

7. Handling and Storage

Handling:

Information for safe handling:

Thorough dedusting. Keep receptacles tightly sealed.

Ensure good ventilation/exhaustion at the workplace.

No special precautions are necessary if used correctly.

Information about protection against explosions and fires:

No special measures required.

Storage:

Requirements to be met by storerooms and receptacles:

No special requirements.

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

Further information about storage conditions: Keep receptacle tightly sealed.

8. Exposure Controls / Personal Protection

Components 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 that were valid during the creation were used as basis.

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 the eyes and skin.

Breathing equipment:

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

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

Appearance:	colourless crystals
Appearance of solution:	clear, colourless
pH-value(1M, H_2O):	5,0 – 7,0
Boiling Point:	undetermined
Flash Point:	NA
Explosion Limit:	NA
Density:	NA

10. Stability and Reactivity

Thermal decomposition / conditions to be avoided:

No decomposition if used according to specifications.

Dangerous reactions

Reacts with acids.

Reacts with oxidizing agents.

Dangerous products of decomposition:

Carbon monoxide and carbon dioxide

Nitrogen oxides (NOx)

Sulfur oxides (SOx)

11. Toxicological information

Primary irritant effect:

on the skin: Irritant to skin and mucous membranes.
on the eye: Irritating effect.

Sensitization: Sensitization possible through inhalation.

Additional toxicological information:

The product shows the following dangers according to internally approved calculation methods for preparations:
Harmful
Irritant

12. Ecological Information

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 course or sewage system.

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: 8
Identification number: UN1760
Packing group: III
Proper shipping name: CORRESIVE LIQUID, N.O.S. (guanidium thiocyanate)
Label: 8

Land transport ADR/RID (cross-border):
ADR/RID class: 8 Corresive substances
Danger code (Kemler): 80
UN-Number: 1760
Packaging group: III
Description of goods: 1760 Corresive liquid, n.o.s. (guanidium thiocyanate)

Maritime transport IMDG:
IMDG class: 8
UN-Number: 1760
Label: 8
Packaging group: III
Marine pollutant: No
Proper shipping name: CORRESIVE LIQUID, N.O.S. (guanidium thiocyanate)

Air transport ICAO-TI and IATA-DGR:
ICAO/IATA class: 8
UN/ID Number: 1760
Label: 8
Packaging group: III
Proper shipping name: CORRESIVE LIQUID, N.O.S. (guanidium thiocyanate)

15. Regulatory Information

Product related hazard informations:
The product has been classified and marked in accordance with directives on hazardous materials.
Hazard symbols: Xn Harmful
Hazard-determining components of labelling: guanidinium thiocyanate

Risk phrases:
Harmful by inhalation, in contact with skin and if swallowed.
Irritating to eyes and skin.

Safety phrases:
Keep container in a well-ventilated place. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. This material and its container must be disposed of in a safe way. Wear suitable protective clothing and gloves.
If swallowed, seek medical advice immediately and show this container or label.

Water hazard class: Water hazard class 2 (Self-assessment): slightly hazardous for water.

16. Other Information

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