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

1.1. Product identifier
NMR-SAMPLE   80% Glycol in DMSO-d6  (TEMP. CALIBRATION)

Further trade names
Z10733, Z10044, Z10129, Z10130
Z100936, Z10100

1.2. Relevant identified uses of the substance or mixture and uses advised against
Use of the substance/mixture
For R&D use only.

1.3. Details of the supplier of the safety data sheet
Company name: Bruker BioSpin AG
Street: Industriestrasse 26
Place: CH-8117 Fällanden
Telephone: +41 44 825 9111 / 9622
Telefax: +41 44 825 96 96
Internet: www.bruker.com
Responsible Department: Responsible for the safety data sheet: sds@gbk-ingelheim.de
(001) 352 323 3500 - Transport, EMTEL ID: 94135
Emergency telephone: +49 (0) 6132 / 84463 (GBK GmbH, Ingelheim)
+41 44 251 51 51 - Swiss Toxicological Information Center (24 h)

1.4. Emergency telephone number:

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture according to 1272/2008/EC
Hazard categories:
Acute toxicity: Acute Tox. 4
Specific target organ toxicity - repeated exposure: STOT RE 2

Hazard Statements:
Harmful if swallowed.
May cause damage to organs through prolonged or repeated exposure.

2.2. Label elements
Hazard components for labelling
ethanediol, ethylene glycol
Signal word:
Warning
Pictograms:

Hazard statements
H302    Harmful if swallowed.
H373    May cause damage to organs through prolonged or repeated exposure.

Precautionary statements
P260    Do not breathe mist/vapor/spray.
P270    Do not eat, drink or smoke when using this product.
P301+P312  IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
P330    Rinse mouth.
P314    Get medical advice/attention if you feel unwell.

2.3. Other hazards
High risk of slipping due to leakage/spillage of product.

SECTION 3: Composition/information on ingredients

3.2. Mixtures
Chemical characterization
CPID 288685-59
The product contains: Dimethylsulfoxide-d6, CAS-No.: 2206-27-1

Hazardous components

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Chemical name</th>
<th>EC No</th>
<th>Index No</th>
<th>REACH No</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>107-21-1</td>
<td>ethanediol, ethylene glycol</td>
<td></td>
<td></td>
<td></td>
<td>80 %</td>
</tr>
<tr>
<td></td>
<td></td>
<td>203-473-3</td>
<td></td>
<td></td>
<td>01-2119456816-28</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Acute Tox. 4, STOT RE 2; H302 H373</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Full text of H and EUH statements: see section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information
Remove contaminated soaked clothing immediately. In the event of persistent symptoms receive medical treatment.

After inhalation
Move to fresh air in case of accidental inhalation of vapours. In the event of symptoms refer for medical treatment.

After contact with skin
Wash off immediately with soap and plenty of water. Consult a doctor if skin irritation persists.

After contact with eyes
Rinse immediately with plenty of water, also under the eyelids. If eye irritation persists consult a physician.

After ingestion
Never give anything by mouth to an unconscious person. Do not induce vomiting. Rinse out mouth and give plenty of water to drink. Seek medical treatment immediately. Symptoms of poisoning may not occur for many hours, therefore keep under medical supervision for at least 48 hours.

4.2. Most important symptoms and effects, both acute and delayed
May cause damage to organs through prolonged or repeated exposure. (kidney, oral)
Harmful if swallowed.

4.3. Indication of any immediate medical attention and special treatment needed
Treat symptoms.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media
Alcohol-resistant foam, dry chemical, carbon dioxide (CO2), water-spray.

Unsuitable extinguishing media
Full water jet.

5.2. Special hazards arising from the substance or mixture
Fire may produce: Carbon monoxide and carbon dioxide, formaldehyde, methyl mercaptan, dimethyl sulfide, sulfur oxides. Under certain fire conditions traces of other toxic substances cannot be excluded. Vapours may form explosive mixture with air.

5.3. Advice for firefighters
Cool containers at risk with water spray jet. Use breathing apparatus with independent air supply. Wear full protective suit. Suppress escaping gasses/vapours with directed water spray jet.

Additional information
Collect contaminated fire-fighting water, avoid any release into the sewerage. Fire residues and contaminated firefighting water must be disposed of in accordance with the local regulations.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
In case of vapour formation use respirator. Ensure adequate ventilation. Avoid contact with eyes, skin or mucous membrane.
Use personal protective clothing.

6.2. Environmental precautions
Do not discharge into the drains/surface waters/ground water.

6.3. Methods and material for containment and cleaning up
Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder).
Shovel into suitable container for disposal.

6.4. Reference to other sections
Information for disposal see section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling
Advice on safe handling
Use only in thoroughly ventilated areas. Avoid contact with eyes, skin or mucous membrane. Care for thoroughly room ventilation, if necessary suck off at workplace.

Advice on protection against fire and explosion
Keep away from sources of ignition - No smoking. Take measures against electrostatically charging. Vapours can form an explosive mixture with air.

Further information on handling
Avoid formation of aerosols. Do not inhale vapour/aerosol. In case of insufficient ventilation, especially in confined areas.

7.2. Conditions for safe storage, including any incompatibilities
Requirements for storage rooms and vessels
Store only in original container at cool and aired place.
Keep in a dry place.

Advice on storage compatibility
Keep away from food, drink and animal feeding stuffs.

Further information on storage conditions
Keep container tightly closed.

7.3. Specific end use(s)
No data available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters
Exposure limits (EH40)

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Substance</th>
<th>ppm</th>
<th>mg/m³</th>
<th>fibres/ml</th>
<th>Category</th>
<th>Origin</th>
</tr>
</thead>
<tbody>
<tr>
<td>107-21-1</td>
<td>Ethane-1,2-diol, vapour</td>
<td>20</td>
<td>52</td>
<td></td>
<td>TWA (8 h)</td>
<td>WEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>40</td>
<td>104</td>
<td></td>
<td>STEL (15 min)</td>
<td>WEL</td>
</tr>
</tbody>
</table>

8.2. Exposure controls

Appropriate engineering controls
Ensure adequate ventilation, especially in confined areas.

Protective and hygiene measures
Wash hands before breaks and immediately after handling the product. When using do not eat, drink or smoke. Avoid contact with skin, eyes and clothing. Take off immediately all contaminated clothing.

Eye/face protection
In case of eye contact wear safety goggles or face protection (EN 166).
Eye wash bottle with pure water (EN 15154).

Hand protection
Chemical-resistant gloves (EN 374). PVA gloves (recommended: minimum protection index 2, corresponding to a permeation
rate > 30 minutes according to EN 374).
Follow the recommendations of the glove manufacturer for breakthrough properties especially for workplace conditions involving mechanical stress and contact duration.

**Skin protection**
Long sleeved clothing (EN 368).

**Respiratory protection**
No personal respiratory protective equipment normally required. Breathing apparatus in the event of aerosol or mist formation.

### SECTION 9: Physical and chemical properties

#### 9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Liquid</td>
</tr>
<tr>
<td>Colour</td>
<td>Yellow, clear</td>
</tr>
<tr>
<td>Odour</td>
<td>Odourless</td>
</tr>
<tr>
<td>pH-Value (at 20 °C):</td>
<td>Not determined *)</td>
</tr>
<tr>
<td>Changes in the physical state</td>
<td></td>
</tr>
<tr>
<td>Melting point</td>
<td>Not determined *)</td>
</tr>
<tr>
<td>Initial boiling point and boiling range:</td>
<td>Not determined *)</td>
</tr>
<tr>
<td>Flash point</td>
<td>Not determined *)</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>The product is not explosive.</td>
</tr>
<tr>
<td>Ignition temperature</td>
<td>Not determined *)</td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td>Non oxidizing.</td>
</tr>
<tr>
<td>Vapour pressure: (at 20 °C)</td>
<td>Not determined *)</td>
</tr>
<tr>
<td>Density (at 20 °C):</td>
<td>Not determined *)</td>
</tr>
<tr>
<td>Water solubility: (at 20 °C)</td>
<td>Completely miscible *)</td>
</tr>
<tr>
<td>Viscosity / dynamic:</td>
<td>Not determined *)</td>
</tr>
<tr>
<td>Viscosity / kinematic:</td>
<td>Not determined *)</td>
</tr>
</tbody>
</table>

*) All data refer to the solution

### 9.2. Other information

### SECTION 10: Stability and reactivity

#### 10.1. Reactivity
No data available.

#### 10.2. Chemical stability
Stable under normal conditions.

#### 10.3. Possibility of hazardous reactions
Reactions with strong oxidizing agents. In use formation of flammable/explosive vapour-air mixtures possible.

#### 10.4. Conditions to avoid
No decomposition if used as directed.

#### 10.5. Incompatible materials
Strong oxidizing agents, Bases, halogen compounds, hydrides, fluorination compounds.

#### 10.6. Hazardous decomposition products
Carbon monoxide and carbon dioxide, formaldehyde, methyl mercaptan, dimethyl sulfide, sulfur oxides.

### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

**Acute toxicity**
Harmful if swallowed.
ATEmix calculated
ATE (oral) 625,0 mg/kg

Irritation and corrosivity
Based on available data, the classification criteria are not met.

Sensitising effects
Based on available data, the classification criteria are not met.

STOT-single exposure
Based on available data, the classification criteria are not met.

Severe effects after repeated or prolonged exposure
May cause damage to organs through prolonged or repeated exposure. (ethanediol, ethylene glycol)

Carcinogenic/mutagenic/toxic effects for reproduction
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
No data available.

12.2. Persistence and degradability
Readily biodegradable.

12.3. Bioaccumulative potential
No data available.

12.4. Mobility in soil
No data available.

12.5. Results of PBT and vPvB assessment
Not determined.

12.6. Other adverse effects
Not determined.

Further information
Do not release undiluted or in higher quantities into the groundwater, sewerage or waters.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Advice on disposal
Should not be disposed of with household waste. Do not flush into surface water or sanitary sewer system. Where possible recycling is preferred to disposal. The waste code number must be agreed with the disposer / manufacturer / competent authority.

Waste disposal number of waste from residues/unused products
160508 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; discarded organic chemicals consisting of or containing hazardous substances
Classified as hazardous waste.

Waste disposal number of contaminated packaging
150107 WASTE PACKAGING; ABSORBENTS, WIPE CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED; packaging (including separately collected municipal packaging waste); glass packaging

Contaminated packaging
Empty containers should be taken for local recycling, recovery or waste disposal. Contaminated packaging should be emptied as far as possible and after appropriate cleansing may be taken for reuse. Packaging that cannot be cleaned should be disposed of like the product.

Cleaning agent: Water

SECTION 14: Transport information

Land transport (ADR/RID); Marine transport (IMDG); Air transport (ICAO); Inland waterways transport (ADN):
14.1. UN number:
No hazardous material as defined by the transport regulations.

14.2. UN proper shipping name:
No hazardous material as defined by the transport regulations.

14.3. Transport hazard class(es):
No hazardous material as defined by the transport regulations.

14.4. Packing group:
No hazardous material as defined by the transport regulations.

14.5. Environmental hazards
No hazardous material as defined by the transport regulations.

14.6. Special precautions for user
No hazardous material as defined by the transport regulations.

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code
No hazardous material as defined by the transport regulations.

Marine transport (IMDG)
No hazardous material as defined by the transport regulations.

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

National regulatory information
Employment restrictions:
Observe restrictions to employment for juvenils according to the 'juvenile work protection guideline' (94/33/EC).

15.2. Chemical safety assessment
Chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information

Abbreviations and acronyms
ADR = Accord européen relatif au transport international des marchandises Dangereuses par Route
RID = Règlement concernant le transport international ferroviaire de marchandises dangereuses
ADN = Accord européen relatif au transport international des marchandises dangereuses par voie de navigation intérieure
IMDG = International Maritime Code for Dangerous Goods
IMDG = International Maritime Code for Dangerous Goods
IATA/ICAO = International Air Transport Association / International Civil Aviation Organization
MARPOL = International Convention for the Prevention of Pollution from Ships
IBC-Code = International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
REACH = Registration, Evaluation, Authorization and Restriction of Chemicals
CAS = Chemical Abstract Service
EN = European norm
ISO = International Organization for Standardization
DIN = Deutsche Industrie Norm
PBT = Persistent Bioaccumulative and Toxic
vPvB = Very Persistent and very Bio-accumulative
LD = Lethal dose
LC = Lethal concentration
EC = Effect concentration
IC = Median immobilisation concentration or median inhibitory concentration

Relevant H and EUH statements (number and full text)
H302 Harmful if swallowed.
H373 May cause damage to organs through prolonged or repeated exposure.

Further Information
Data of items 4 to 8, as well as 10 to 12, do partly not refer to the use and the regular employing of the product (in this sense consult information on use and on product), but to liberation of major amounts in case of accidents and irregularities. The information describes exclusively the safety requirements for the product(s) and is based on the present level of our knowledge.
The delivery specifications are contained in the corresponding product sheet.
This data does not constitute a guarantee for the characteristics of the product(s) as defined by the legal warranty regulations.
(n.a. = not applicable; n.d. = not determined)

(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)