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

1.1. Product identifier
GVAR BAL D10FH15

Further trade names
Z161642, E1405322.

1.2. Relevant identified uses of the substance or mixture and uses advised against
Use of the substance/mixture
Test/reference sample for MR.

Uses advised against
Not for drug, household or other uses.

1.3. Details of the supplier of the safety data sheet
Company name: Bruker BioSpin GmbH
Street: Silberstreifen 4
Place: D-76287 Rheinstetten
Telephone: +49 721 51 61 0
Telefax: +49 721 51 61 6297
Internet: www.bruker.com
Responsible Department: Responsible for the safety data sheet: sds@gbk-ingelheim.de
(001) 352 323 3500 - Transport, EMTEL ID: 94135
Responsible for the safety data sheet: sds@gbk-ingelheim.de

1.4. Emergency telephone number:
Emergency telephone : +49 (0) 6132 / 84463 (GBK GmbH, Ingelheim)
Giftnotruf Berlin (24 h): Telefon +49 (0) 30 / 19240

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture according to 1272/2008/EC
This substance is not classified as hazardous in accordance with Regulation (EC) No. 1272/2008.

2.2. Label elements

Additional advice on labelling
The product is labeled in accordance with Regulation (EC) no. 1272/2008 (GHS).

2.3. Other hazards
According to Regulation (EC) No 1907/2006 (REACH) none of the substances, contained in this product are a PBT / vPvB substance.

SECTION 3: Composition/information on ingredients

3.1. Substances

SECTION 4: First aid measures

4.1. Description of first aid measures

General information
Self-protection for first-aid personnel required! Ensure adequate ventilation. If patient is not breathing, apply artificial respiration. Do not breathe vapour.

After inhalation
Move to fresh air in case of accidental inhalation of vapours or decomposition products. Refer for medical treatment.

After contact with skin
Wash off immediately with plenty of water for at least 15 minutes. Remove contaminated clothing immediately and dispose of safely. Seek medical treatment immediately.

After contact with eyes
Rinse thoroughly with plenty of water, also under the eyelids. Seek medical treatment immediately.
**Safety Data Sheet** according to Regulation (EC) No 1907/2006

Bruker BioSpin GmbH

Z161642

Revision date: 15.09.2016

Revision No: 1.0

**GVAR BAL D10FH15**

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**After ingestion**
Rinse mouth. Seek medical treatment immediately.

**4.2. Most important symptoms and effects, both acute and delayed**
Health injuries are not known or expected under normal use.

**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.

**5.3. Advice for firefighters**
In case of fire, wear suitable respiratory equipment with positive air supply. Use personal protective clothing.

**Additional information**
Closed NMR sample tubes may rupture when heated and may cause severe injury of eyes and skin. 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**
The appropriate action is to be taken immediately if the product is spilled or leaks. Take affected person away from danger area. Ensure adequate ventilation. Avoid contact with the skin and the eyes. Do not breathe vapour. Wear self-contained breathing apparatus and protective suit.

**6.2. Environmental precautions**
Do not discharge into the drains/surface waters/ground water. Inform competent authority about release into the sewage, ground or into waters.

**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. Ensure adequate ventilation.

**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
Handling should only be allowed by trained personnel.

Further information on handling
Do not open the glass tube. Avoid contact with skin, eyes and clothing. Use only in a chemical fume hood. Do not breathe vapour. Heating will cause pressure rise with risk of bursting. See also chapter: 10

**7.2. Conditions for safe storage, including any incompatibilities**
Requirements for storage rooms and vessels
To be kept tightly closed, in a cool and dry place.

Advice on storage compatibility
Store separately from other hazardous and incompatible substances. See also chapter: 10

**7.3. Specific end use(s)**
NMR Sample

**SECTION 8: Exposure controls/personal protection**
8.1. Control parameters

8.2. Exposure controls

Appropriate engineering controls
Ensure adequate ventilation, especially in confined areas. Use only in a chemical fume hood.

Protective and hygiene measures
Take the usual precautions when handling with chemicals.
Wash hands before breaks and at the end of workday. When using do not eat, drink or smoke. Avoid contact with skin, eyes and clothing. Do not breathe vapour. If you feel unwell, seek medical advice.
Workers should be trained on good working practices and informed on applicable local regulations.

Eye/face protection
In case of eye contact wear safety goggles or face protection Tightly fitting goggles (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
Protective clothing

Respiratory protection
In case of vapour / mist formation use respirator.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Physical state:</th>
<th>Liquid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colour:</td>
<td>Colourless, clear</td>
</tr>
<tr>
<td>Odour:</td>
<td>Odourless</td>
</tr>
<tr>
<td>pH-Value:</td>
<td>~ 7</td>
</tr>
</tbody>
</table>

Changes in the physical state

<table>
<thead>
<tr>
<th>Melting point:</th>
<th>- 50 °C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial boiling point and boiling range:</td>
<td>n.a.</td>
</tr>
<tr>
<td>Decomposition temperature:</td>
<td>&gt; 250 °C</td>
</tr>
<tr>
<td>Flash point:</td>
<td>&gt; 300 °C</td>
</tr>
<tr>
<td>Lower explosion limits:</td>
<td>n.a.</td>
</tr>
<tr>
<td>Upper explosion limits:</td>
<td>n.a.</td>
</tr>
<tr>
<td>Ignition temperature:</td>
<td>410 °C</td>
</tr>
<tr>
<td>Vapour pressure:</td>
<td>n.a.</td>
</tr>
<tr>
<td>Density (at 25 °C):</td>
<td>~ 0.97 g/cm³</td>
</tr>
<tr>
<td>Water solubility:</td>
<td>Insoluble</td>
</tr>
<tr>
<td>Viscosity / dynamic:</td>
<td>1000 mPa·s</td>
</tr>
<tr>
<td>(at 25 °C)</td>
<td></td>
</tr>
<tr>
<td>Viscosity / kinematic:</td>
<td>~ 1000 mm²/s</td>
</tr>
<tr>
<td>(at 25 °C)</td>
<td></td>
</tr>
</tbody>
</table>

9.2. Other information
No data available.

SECTION 10: Stability and reactivity

10.1. Reactivity
No data available.

10.2. Chemical stability
No data available.
Stable under normal conditions.

10.3. **Possibility of hazardous reactions**
No data available.

10.4. **Conditions to avoid**
To avoid thermal decomposition, do not overheat.

10.5. **Incompatible materials**
No data available.

10.6. **Hazardous decomposition products**
No data available.

**SECTION 11: Toxicological information**

11.1. **Information on toxicological effects**
Toxicokinetics, metabolism and distribution
LD50/oral/rat: > 5000 mg/kg
LD50/dermal/rat: > 2008 mg/kg

Acute toxicity
Based on available data, the classification criteria are not met.

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

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**
No data available.

12.3. **Bioaccumulative potential**
No data available.

12.4. **Mobility in soil**
No data available.

12.5. **Results of PBT and vPvB assessment**
According to Regulation (EC) No 1907/2006 (REACH) none of the substances, contained in this product are a PBT / vPvB substance.

12.6. **Other adverse effects**
No data available.

**SECTION 13: Disposal considerations**

13.1. **Waste treatment methods**

Advice on disposal
Do not flush into surface water or sanitary sewer system. This product is to be brought to a properly certified waste site approved to handle energy wastes.

Waste disposal number of waste from residues/unused products
160509 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; discarded chemicals other than those mentioned in 16 05 06, 16 05 07 or 16 05 08

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

Contaminated packaging
Disposal in accordance with local regulations.

SECTION 14: Transport information

Land transport (ADR/RID); Marine transport (IMDG); Air transport (ICAO-TI/IATA-DGR); Inland waterways transport (ADN):

14.1. UN number:
Not applicable. No hazardous material as defined by the transport regulations.

14.2. UN proper shipping name:
Not applicable. No hazardous material as defined by the transport regulations.

14.3. Transport hazard class(es):
Not applicable. No hazardous material as defined by the transport regulations.

14.4. Packing group:
Not applicable. No hazardous material as defined by the transport regulations.

14.5. Environmental hazards
Not applicable. No hazardous material as defined by the transport regulations.

14.6. Special precautions for user
Not applicable. No hazardous material as defined by the transport regulations.

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code
Not applicable. 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

EU regulatory information

Additional information
The product is labeled in accordance with Regulation (EC) no. 1272/2008 (GHS).

National regulatory information
Water contaminating class (D): 1 - slightly water contaminating

15.2. Chemical safety assessment
For this substance a chemical safety assessment has not been 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
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
tPvB = Very Persistent and very Bio-accumulative
LD = Lethal dose
LC = Lethal concentration
EC = Effect concentration
IC = Median immobilisation concentration or median inhibitory concentration

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)

(Information about the composition are based on information from the sub-contractor)