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

1.1. **Product identifier**
Adhesive Spray KK 100

1.2. **Relevant identified uses of the substance or mixture and uses advised against**

**Use of the substance/mixture**
- adhesives

**Uses advised against**
- Only use for the intended purpose. In case of doubt please contact our responsible department.

1.3. **Details of the supplier of the safety data sheet**

| Company name: | GUNOLD GmbH |
| Street:       | Oberburger Straße 125 |
| Place:        | GB-63811 Stockstadt |
| Telephone:    | +49 (0)6027 - 2 00 80 |
| e-mail:       | service@gunold.de |
| Contact person: | Christoph Gunold |
| e-mail:       | c.gunold@gunold.de |
| Internet:     | www.gunold.de |
| Responsible Department: | Quality Control and Environment |

1.4. **Emergency telephone number**
- Poison Control Center (Mayence, GER) +49 (0)6131-19240 (24h)

**SECTION 2: Hazards identification**

2.1. **Classification of the substance or mixture**

Regulation (EC) No. 1272/2008

**Hazard categories:**
- Aerosol: Aerosol 1
- Pressurised container: May burst if heated.

2.2. **Label elements**

Regulation (EC) No. 1272/2008

**Signal word:** Danger

**Pictograms:**

<table>
<thead>
<tr>
<th>Hazard statements</th>
</tr>
</thead>
<tbody>
<tr>
<td>H222</td>
</tr>
<tr>
<td>H229</td>
</tr>
</tbody>
</table>

**Precautionary statements**

- P102 Keep out of reach of children.
- P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- P211 Do not spray on an open flame or other ignition source.
- P251 Do not pierce or burn, even after use.
- P410/P412 Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.
- P261 Avoid breathing Aerosol.
- P271 Use only outdoors or in a well-ventilated area.
2.3. Other hazards

Prolonged/repetitive product contact may cause mucosa and skin irritation like redness, blistering, dermatitis etc.
The components in this mixture do not meet the criteria for classification as PBT or vPvB.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Hazardous components

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Chemical name</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>115-10-6</td>
<td>dimethyl ether</td>
<td>50 - 70 %</td>
</tr>
<tr>
<td>204-065-8</td>
<td>603-019-00-8</td>
<td>01-2119472128-37</td>
</tr>
<tr>
<td></td>
<td>Flam. Gas 1, Compressed gas; H220 H280</td>
<td></td>
</tr>
<tr>
<td>109-87-5</td>
<td>dimethoxymethane</td>
<td>5 - 7 %</td>
</tr>
<tr>
<td>203-714-2</td>
<td>01-2119664781-31</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Flam. Liq. 2; H225</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
In case of troubles or persistent symptoms, consult a doctor/physician.
Remove persons from danger area and lie them down. Never orally infuse something to an unconscious person. No special first aid measures necessary. A vomiting, supine person must be brought into recovery position.
In case of irregular breathing or respiratory arrest, perform artificial respiration.

After inhalation
Provide fresh air.

After contact with skin
After contact with skin, wash immediately with plenty of water and soap. Change contaminated clothing.

After contact with eyes
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

After ingestion
Call a physician immediately. Do NOT induce vomiting.

4.2. Most important symptoms and effects, both acute and delayed
Prolonged/repetitive product contact may cause mucosa and skin irritation like redness, blistering, dermatitis etc.

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

SECTION 5: Firefighting measures

5.1. Extinguishing media
Suitable extinguishing media
Foam. Water fog. Carbon dioxide (CO2).
5.2. Special hazards arising from the substance or mixture

- Heating causes rise in pressure with risk of bursting.
- Thermal decomposition can lead to harmful gases and vapours.

5.3. Advice for firefighters

In case of fire: Wear self-contained breathing apparatus.

Additional information

Co-ordinate fire-fighting measures to the fire surroundings. Use water spray jet to protect personnel and to cool endangered containers. Contaminated fire-fighting water must be collected separately. Do not allow to enter into surface water or drains.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

See protective measures under point 7 and 8.

6.2. Environmental precautions

Do not allow to enter into surface water or drains. In case of product being released into lakes, rivers or the drainage system, appropriate authorities must be informed.

6.3. Methods and material for containment and cleaning up

Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents). Treat the recovered material as prescribed in the section on waste disposal.

6.4. Reference to other sections

For waste disposal see section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

Consider the usual precautions for handling chemicals.

Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50 °C. Do not pierce or burn, even after use.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep container tightly closed. Keep only in the original container in a cool, well-ventilated place. Ensure adequate ventilation of the storage area.

7.3. Specific end use(s)

- adhesives

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>106-97-8</td>
<td>Butane</td>
<td>600</td>
<td>1450</td>
<td></td>
<td>TWA (8 h)</td>
<td>WEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>750</td>
<td>1810</td>
<td></td>
<td>STEL (15 min)</td>
<td>WEL</td>
</tr>
<tr>
<td>109-87-5</td>
<td>Dimethoxymethane</td>
<td>1000</td>
<td>3160</td>
<td></td>
<td>TWA (8 h)</td>
<td>WEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1250</td>
<td>3950</td>
<td></td>
<td>STEL (15 min)</td>
<td>WEL</td>
</tr>
<tr>
<td>115-10-6</td>
<td>Dimethyl ether</td>
<td>400</td>
<td>766</td>
<td></td>
<td>TWA (8 h)</td>
<td>WEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>500</td>
<td>958</td>
<td></td>
<td>STEL (15 min)</td>
<td>WEL</td>
</tr>
</tbody>
</table>

8.2. Exposure controls

**Appropriate engineering controls**
Provide adequate ventilation as well as local exhaustion at critical locations. If technical exhaust or ventilation measures are not possible or insufficient, respiratory protection must be worn.

**Protective and hygiene measures**
Change contaminated clothing. Wash hands before breaks and after work. When using do not eat or drink. Avoid skin, eye and clothing contact. After contact with skin, wash immediately with plenty of water and soap or a suitable cleaning agent.

**Eye/face protection**
Tightly sealed safety glasses.

**Hand protection**
Chemical resistant safety gloves, e.g. made out of nitrile.
Recommendation splash contact: Protection index 2, penetration time >30 min, e.g. butyl rubber 0,4 mm.
Recommendation direct, prolonged contact: Protective index 6, penetration time > 480 min, e.g. nitrile rubber 0.4 mm

**Skin protection**
Wear anti-static footwear and clothing

**Respiratory protection**
Not required if used properly.

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>various</td>
</tr>
<tr>
<td>Odour:</td>
<td>characteristic</td>
</tr>
<tr>
<td>pH-Value:</td>
<td>not applicable</td>
</tr>
</tbody>
</table>

**Changes in the physical state**

<table>
<thead>
<tr>
<th>Melting point:</th>
<th>No data available</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial boiling point and boiling range:</td>
<td>-42 °C</td>
</tr>
<tr>
<td>Flash point:</td>
<td>-45 °C DIN 53213</td>
</tr>
</tbody>
</table>

**Flammability**

<table>
<thead>
<tr>
<th>Solid:</th>
<th>No data available</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gas:</td>
<td>not applicable</td>
</tr>
</tbody>
</table>

**Explosive properties**

No data available
1,4 vol. %

Upper explosion limits: 19,9 vol. %

Ignition temperature: 235 °C

**Auto-ignition temperature**

- **Solid:** No data available
- **Gas:** No data available

**Decomposition temperature:** No data available

**Oxidizing properties**

- **Vapour pressure:** No data available
  (at 20 °C) 344,3697 hPa
- **Density (at 20 °C):** 0,80 g/cm³
- **Water solubility:** practically insoluble

**Solubility in other solvents**

- **Partition coefficient:** No data available
- **Viscosity / dynamic:** not applicable
- **Vapour density:** No data available
- **Evaporation rate:** No data available
- **Solvent content:** 93 %

**9.2. Other information**

- **Solid content:** 7,09 %

---

**SECTION 10: Stability and reactivity**

**10.1. Reactivity**

No information available.

**10.2. Chemical stability**

The product is stable when stored and handled appropriately.

**10.3. Possibility of hazardous reactions**

Keep away from strong acids, strong bases and strong oxidisers to avoid exothermic reactions.

**10.4. Conditions to avoid**

- high temperature (above the decomposition temperature) For further information concerning storage: see section 7.

**10.5. Incompatible materials**

No information available.

**10.6. Hazardous decomposition products**

No information available.

---

**SECTION 11: Toxicological information**

**11.1. Information on toxicological effects**

**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.
Prolonged/repetitive product contact may cause mucosa and skin irritation like redness, blistering, dermatitis etc.

Sensitising effects
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.
The components in this formulation do not meet the criteria for classification as CMR category 1 or 2.

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

STOT-repeated exposure
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
The components in this mixture do not meet the criteria for classification as PBT or vPvB.

12.6. Other adverse effects
No data available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Advice on disposal
Do not allow to enter into surface water or drains. Dispose of waste according to applicable legislation.

Waste disposal number of waste from residues/unused products
080111 WASTES FROM THE MANUFACTURE, FORMULATION, SUPPLY AND USE (MFSU) OF COATINGS (PAINTS, VARNISHES AND VITREOUS ENAMELS), ADHESIVES, SEALANTS AND PRINTING INKS; wastes from MFSU and removal of paint and varnish; waste paint and varnish containing organic solvents or other hazardous substances; hazardous waste

Contaminated packaging
Non-contaminated packages may be recycled. Handle contaminated packages in the same way as the substance itself.
SECTION 14: Transport information

Land transport (ADR/RID)

14.1. UN number: UN 1950
14.2. UN proper shipping name: AEROSOLS, flammable
14.3. Transport hazard class(es): 2
14.4. Packing group: -
Hazard label: 2.1

Classification code: 5F
Special Provisions: 190 327 344 625
Limited quantity: 1 L
Excepted quantity: E0
Transport category: 2
Tunnel restriction code: D

Inland waterways transport (ADN)

14.1. UN number: UN 1950
14.2. UN proper shipping name: AEROSOLS, flammable
14.3. Transport hazard class(es): 2
14.4. Packing group: -
Hazard label: 2.1

Classification code: 5F
Special Provisions: 190 327 344 625
Limited quantity: 1 L
Excepted quantity: E0

Marine transport (IMDG)

14.1. UN number: UN 1950
14.2. UN proper shipping name: AEROSOLS, flammable
14.3. Transport hazard class(es): 2.1
14.4. Packing group: -
Hazard label: 2.1

Special Provisions: 63, 190, 277, 327, 344, 381,959
Limited quantity: 1000 mL
Excepted quantity: E0
EmS: F-D, S-U

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number: UN 1950
14.2. UN proper shipping name: AEROSOLS, flammable
14.3. Transport hazard class(es): 2.1
14.4. Packing group:

Hazard label: 2.1

Special Provisions: A145 A167 A802
Limited quantity Passenger: 30 kg G
Passenger LQ: Y203
Excepted quantity: E0
IATA-packing instructions - Passenger: 203
IATA-max. quantity - Passenger: 75 kg
IATA-packing instructions - Cargo: 203
IATA-max. quantity - Cargo: 150 kg

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: no

14.6. Special precautions for user

No special precautions known.

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

not applicable

SECTION 15: Regulatory information

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

EU regulatory information

Restrictions on use (REACH, annex XVII):
Entry 28: butane; isobutane
2004/42/EC (VOC): 743,599 g/l

Additional information

Regulation (EC) No. 648/2004 (Detergents regulation): not applicable
Regulation (EC) No. 1005/2009 on substances that lead to the depletion of the ozone layer: not applicable
Regulation (EC) No 850/2004 on persistent organic pollutants: not applicable
Regulation (EC) No 689/2008 of the European Parliament and of the Council concerning the export and import of dangerous chemicals: This mix contains no chemicals that are subject to the export notification procedures (annex 1).
This mixture contains the following substances of very high concern (SVHC) which are included in the Candidate List according to Article 59 of REACH: none
This mixture contains the following substances of very high concern (SVHC) which are subject to authorisation according to Annex XIV of REACH: none

National regulatory information

Employment restrictions: Observe restrictions to employment for juvenils according to the "juvenile work protection guideline" (94/33/EC). Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

Water contaminating class (D): 1 - slightly water contaminating

15.2. Chemical safety assessment

For the following substances of this mixture a chemical safety assessment has been carried out: dimethyl ether

SECTION 16: Other information

Changes

Revision No: 1,04 - Replaces version: 1,03
GB - EN
Print date: 12.09.2017
This data sheet contains changes from the previous version in section(s): 1,2,3,5,7,8,9,10,11,12,14,15,16.

Version 1.00 - Creation - 29.07.2011
Version 1.01 - changes of S-phrases - 02.08.2012
Version 1.02 - revision of the entire SDS due to new information from the presupplier - 12.02.2013
Version 1.03 - Classification/Labeling according Regulation No.1272/2008 (GHS/CLP) and general revision - 09.06.2015
Version 1.04 - General update - 12.09.2017

Abbreviations and acronyms
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
CAS: Chemical Abstracts Service
DIN: Norm of the Deutsche Institut für Normung (German Institute for Standardization)
EC: Effective Concentration
EG: European Community (Europäische Gemeinschaft)
EN: European Norm
IATA: International Air Transport Association
IBC Code: International Code for the Construction and Equipment of ships carrying Dangerous Chemicals in Bulk
ICAO: International Civil Aviation Organization
IMDG: International Maritime Code for Dangerous Goods
ISO: Norm of the International Standards Organization
CLP: Classification, Labeling, Packaging
IUCLID: International Uniform Chemical Information Database
LC: Lethal concentration
LD: Lethal dose
log Kow: Octanol/water partition coefficient
MARPOL: Maritime Pollution Convention = Convention for the Prevention of Maritime Pollution from Ships
OECD: Organisation for Economic Co-operation and Development
PBT: Persistent, bio-cumulative, toxic
RID: Regulation Concerning the International Transport of Dangerous Goods by Rail
TRGS: Technische Regeln für Gefahrstoffe
UN: United Nations
VOC: Volatile Organic Compounds
vPvB: very persistent and very bio-cumulative
VwVwS: Administrative Regulation for Water Pollutants
WGK: German Water Hazard Class
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
DNEL: Derived No Effect Level
PNEC: Predicted No Effect Concentration
TLV: Threshold Limiting Value
STOT: Specific Target Organ Toxicity

Classification for mixtures and used evaluation method according to Regulation (EC) No. 1272/2008 [CLP]

<table>
<thead>
<tr>
<th>Classification</th>
<th>Classification procedure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aerosol 1; H222-H229</td>
<td>On basis of test data</td>
</tr>
</tbody>
</table>

Relevant H and EUH statements (number and full text)
- **H220**: Extremely flammable gas.
- **H222**: Extremely flammable aerosol.
- **H225**: Highly flammable liquid and vapour.
- **H229**: Pressurised container: May burst if heated.
- **H280**: Contains gas under pressure; may explode if heated.
Further Information

The information given in this safety data sheet is to describe the product's safety regulations. It is not for guaranteeing certain characteristics and is based on today's knowledge. The safety data sheet was generated upon information of pre-suppliers by:

REACHECK Solutions GmbH, Frohsinnstraße 28, 63739 Aschaffenburg, Germany
Phone: +49 (0)6021 - 1 50 86-0, Fax: +49 (0)6021 - 1 50 86-77, E-Mail: eu-sds@reacheck.eu,
www.reacheck.eu

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