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

1.1. Product identifier
Graphite

1.2. Relevant identified uses of the substance or mixture and uses advised against
Uses advised against
Reserved for industrial and professional use.

1.3. Details of the supplier of the safety data sheet
Company name: ITW LLC & Co. KG
Street: Mühlackerstrasse 147
Place: D-75417 Mühlacker
Telephone: ++49(0)7041-96340 Telefax: ++49(0)7041-963429
e-mail: info@itwcp.de
Internet: www.itwcp.de
Responsibility Department: Produktsicherheit

1.4. Emergency telephone number:
++49(0)7041-96340
Mo. - Do. 8.00 - 16.30  Fr. 8.00 - 14.00

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture
Classification according to Directive 67/548/EEC or 1999/45/EC
Indications of danger: F+ - Extremely flammable, Xi - Irritant
R phrases:
Extremely flammable.
Irritating to eyes.
Repeated exposure may cause skin dryness or cracking.
Vapours may cause drowsiness and dizziness.

Classification according to Regulation (EC) No. 1272/2008 [CLP]
Hazard categories:
Flammable gas: Flam. Gas 1
Hazard Statements:
Extremely flammable aerosol.
Pressurised container: May burst if heated.
Causes serious eye irritation.
May cause drowsiness or dizziness.

2.2. Label elements
Hazardous components which must be listed on the label
n-butyl acetate, Acetone, Isopropanol
Signal word: Danger
Pictograms: GHS02-GHS07

Hazard statements
H222 Extremely flammable aerosol.
H229 Pressurised container: May burst if heated.
### SECTION 3: Composition/information on ingredients

<table>
<thead>
<tr>
<th>Hazardous components</th>
<th>Chemical name</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>EC No</td>
<td>Classification according to Directive 67/548/EEC</td>
<td></td>
</tr>
<tr>
<td>CAS No</td>
<td>Classification according to Regulation (EC) No. 1272/2008 [CLP]</td>
<td></td>
</tr>
<tr>
<td>Index No</td>
<td>Classification according to Directive 67/548/EEC</td>
<td></td>
</tr>
<tr>
<td>REACH No</td>
<td>Classification according to Regulation (EC) No. 1272/2008 [CLP]</td>
<td></td>
</tr>
<tr>
<td>204-658-1</td>
<td>n-butyl acetate</td>
<td>25-50%</td>
</tr>
<tr>
<td>123-86-4</td>
<td>R10-66-67</td>
<td></td>
</tr>
<tr>
<td>607-025-00-1</td>
<td>Flam. Liq. 3; STOT SE 3; H226 H336 EUH066</td>
<td></td>
</tr>
<tr>
<td>200-661-7</td>
<td>propan-2-ol; isopropyl alcohol; isopropanol</td>
<td>5-20%</td>
</tr>
<tr>
<td>67-63-0</td>
<td>Flam. Gas 1; H220</td>
<td></td>
</tr>
<tr>
<td>603-117-00-0</td>
<td>Flam. Liq. 2; Eye Irrit. 2; STOT SE 3; H225 H319 H336</td>
<td></td>
</tr>
<tr>
<td>203-448-7</td>
<td>butane</td>
<td>10-25%</td>
</tr>
<tr>
<td>106-97-8</td>
<td>F+ - Extremely flammable R12</td>
<td></td>
</tr>
<tr>
<td>601-004-00-0</td>
<td>Flam. Gas 1; H220</td>
<td></td>
</tr>
<tr>
<td>200-827-9</td>
<td>propane</td>
<td>10-25%</td>
</tr>
<tr>
<td>74-98-6</td>
<td>F+ - Extremely flammable R12</td>
<td></td>
</tr>
<tr>
<td>601-003-00-5</td>
<td>Flam. Gas 1; H220</td>
<td></td>
</tr>
</tbody>
</table>

Full text of R-, H- and EUH-phrases: see section 16.

### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

- **After inhalation**
  Provide fresh air. In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

- **After contact with skin**
  After contact with skin, wash immediately with: Water. Change contaminated clothing.

- **After contact with eyes**
  If product gets into the eye, keep eyelid open and rinse immediately with large quantities of water, for at least 5 minutes. Subsequently consult an ophthalmologist.

- **After ingestion**
  If swallowed, immediately drink: Water.

#### 4.2. Most important symptoms and effects, both acute and delayed

No data available

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

No data available
SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media
Carbon dioxide (CO2). Foam. Extinguishing powder.

Unsuitable extinguishing media
Water with tenside additive. Water.

5.2. Special hazards arising from the substance or mixture

Combustible. Vapours may form explosive mixtures with air. Heating causes rise in pressure with risk of bursting.

5.3. Advice for firefighters

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

Additional information
Use water spray jet to protect personnel and to cool endangered containers. Suppress gases/vapours/mists with water spray jet.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Remove all sources of ignition. Provide adequate ventilation. Wear a self-contained breathing apparatus and chemical protective clothing.

6.2. Environmental precautions

Do not allow to enter into surface water or drains. Explosion hazard.

6.3. Methods and material for containment and cleaning up

Ventilate affected area.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling
If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe gas/fumes/vapour/spray.

Advice on protection against fire and explosion
Keep away from sources of ignition. - No smoking.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels
Keep container tightly closed. Keep in a cool, well-ventilated place. Keep away from sources of ignition.
- No smoking.

Advice on storage compatibility
Do not store together with: Material, rich in oxygen, oxidizing.

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>123-86-4</td>
<td>Butyl acetate</td>
<td>150</td>
<td>724</td>
<td></td>
<td>TWA (8 h)</td>
<td>WEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>200</td>
<td>966</td>
<td></td>
<td>STEL (15 min)</td>
<td>WEL</td>
</tr>
<tr>
<td>67-63-0</td>
<td>Propan-2-ol</td>
<td>400</td>
<td>999</td>
<td></td>
<td>TWA (8 h)</td>
<td>WEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>500</td>
<td>1250</td>
<td></td>
<td>STEL (15 min)</td>
<td>WEL</td>
</tr>
</tbody>
</table>

8.2. Exposure controls

**Appropriate engineering controls**
If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe
gas/fumes/vapour/spray.

**Protective and hygiene measures**
Remove contaminated, saturated clothing immediately. Protect skin by using skin protective cream.
After work, wash hands and face. When using do not eat or drink.

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

**Hand protection**
DIN EN 374 Tested protective gloves are to be worn: Butyl rubber. For special purposes, it is
recommended to check the resistance to chemicals of the protective gloves mentioned above together
with the supplier of these gloves.

**Skin protection**
Protective clothing:

**Respiratory protection**
In case of inadequate ventilation wear respiratory protection.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

| Physical state: | Aerosol          |
| Colours:        | black            |
| Odour:          | characteristic   |

**Test method**

**Changes in the physical state**

- Initial boiling point and boiling range: -0.5 °C
- Flash point: <0 °C
- Lower explosion limits: 1.4 vol. %
- Upper explosion limits: 9.4 vol. %
- Ignition temperature: 365 °C
- Vapour pressure: 2100 hPa
  (at 20 °C)
SECTION 10: Stability and reactivity

10.1. Reactivity
No data available

10.2. Chemical stability
No data available

10.3. Possibility of hazardous reactions
No data available

10.4. Conditions to avoid
Keep away from heat. Ignition hazard.

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

Acute toxicity

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Chemical name</th>
<th>Exposure routes</th>
<th>Method</th>
<th>Dose</th>
<th>Species</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>106-97-8</td>
<td>butane</td>
<td>inhalative (4 h) gas</td>
<td>LC50</td>
<td>273000 ppm</td>
<td>Rat</td>
<td>GESTIS</td>
</tr>
</tbody>
</table>

Irritation and corrosivity
Irritating to eyes. Vapours may cause drowsiness and dizziness.

Severe effects after repeated or prolonged exposure
Has degreasing effect on the skin. Frequently or prolonged contact with skin may cause dermal irritation.

Additional information on tests
The classification was carried out according to the calculation method of the Preparations Directive (1999/45/EC).

SECTION 12: Ecological information

12.3. Bioaccumulative potential

Partition coefficient n-octanol/water

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Chemical name</th>
<th>Log Pow</th>
</tr>
</thead>
<tbody>
<tr>
<td>106-97-8</td>
<td>butane</td>
<td>2.89</td>
</tr>
<tr>
<td>74-98-6</td>
<td>propane</td>
<td>2.36</td>
</tr>
</tbody>
</table>

Further information
Do not allow to enter into surface water or drains. The classification was carried out according to the calculation method of the Preparations Directive (1999/45/EC).

SECTION 13: Disposal considerations
13.1. Waste treatment methods

Advice on disposal
Dispose of waste according to applicable legislation.

Waste disposal number of waste from residues/unused products
160504 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; gases in pressure containers (including halons) containing dangerous substances
Classified as hazardous waste.

Waste disposal number of contaminated packaging
150104 WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED; packaging (including separately collected municipal packaging waste); metallic packaging

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: UN1950
14.2. UN proper shipping name: AEROSOLS
14.3. Transport hazard class(es): 2
   Hazard label: 2.1
   Classification code: 5F
   Special Provisions: 190 327 625
   Limited quantity: 1 L
   Transport category: 2
   Tunnel restriction code: D

Other applicable information (land transport)
E0

Inland waterways transport (ADN)

14.1. UN number: UN1950
14.2. UN proper shipping name: AEROSOLS
14.3. Transport hazard class(es): 2
   Hazard label: 2.1
   Classification code: 5F
   Special Provisions: 190 344 625
   Limited quantity: 1 L

Other applicable information (inland waterways transport)
E0

Marine transport (IMDG)

14.1. UN number: UN1950
### Safety Data Sheet

**Graphite**

**Product code:** 128  
**Print date:** 20.05.2015  
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<table>
<thead>
<tr>
<th>14.2. UN proper shipping name:</th>
<th>AEROSOLS</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.3. Transport hazard class(es):</td>
<td>2</td>
</tr>
<tr>
<td>14.4. Packing group:</td>
<td>-</td>
</tr>
<tr>
<td>Hazard label:</td>
<td>2, see SP63</td>
</tr>
</tbody>
</table>

**Special Provisions:** 63, 190, 277, 327, 344, 959  
**Limited quantity:** See SP277  
**EmS:** F-D, S-U  

**Other applicable information (marine transport)**  
E0

**Air transport (ICAO)**

<table>
<thead>
<tr>
<th>14.1. UN number:</th>
<th>UN1950</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.2. UN proper shipping name:</td>
<td>AEROSOLS, flammable</td>
</tr>
<tr>
<td>14.3. Transport hazard class(es):</td>
<td>2.1</td>
</tr>
<tr>
<td>Hazard label:</td>
<td>2.1</td>
</tr>
</tbody>
</table>

**Special Provisions:** A145 A167  
**Limited quantity Passenger:** 30 kg G  
**IATA-packing instructions - Passenger:** 203  
**IATA-max. quantity - Passenger:** 75 kg  
**IATA-packing instructions - Cargo:** 203  
**IATA-max. quantity - Cargo:** 150 kg

**Other applicable information (air transport)**  
E0  
: Y203

**14.5. Environmental hazards**

ENVIRONMENTALLY HAZARDOUS: no

### SECTION 15: Regulatory information

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

**EU regulatory information**

2004/42/EC (VOC): 16,67 % (146,696 g/l)

**National regulatory information**

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

### SECTION 16: Other information

**Relevant R-phrases (Number and full text)**

10 Flammable.  
11 Highly flammable.  
12 Extremely flammable.  
36 Irritating to eyes.  
66 Repeated exposure may cause skin dryness or cracking.  
67 Vapours may cause drowsiness and dizziness.
<table>
<thead>
<tr>
<th>H- and EUH-phrases (Number and full text)</th>
<th>Full text</th>
</tr>
</thead>
<tbody>
<tr>
<td>H220</td>
<td>Extremely flammable gas.</td>
</tr>
<tr>
<td>H222</td>
<td>Extremely flammable aerosol.</td>
</tr>
<tr>
<td>H225</td>
<td>Highly flammable liquid and vapour.</td>
</tr>
<tr>
<td>H226</td>
<td>Flammable liquid and vapour.</td>
</tr>
<tr>
<td>H229</td>
<td>Pressurised container. May burst if heated.</td>
</tr>
<tr>
<td>H319</td>
<td>Causes serious eye irritation.</td>
</tr>
<tr>
<td>H336</td>
<td>May cause drowsiness or dizziness.</td>
</tr>
<tr>
<td>EUH066</td>
<td>Repeated exposure may cause skin dryness or cracking.</td>
</tr>
</tbody>
</table>

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