1. Product and company identification

Product name: T 1777
Company: Freudenberg Performance Materials L.P.
Address: 3500 Industrial Dr. Durham, NC 27704
Telephone: (919) 620-3900
Fax: (919) 620-3992
Website: www.freudenberg-pm.com

2. Possible hazards

EMERGENCY OVERVIEW: No hazardous product under normal conditions

POTENTIAL HEALTH EFFECTS:

Acute Eye: No known effects, not tested.
Acute Skin: No known effects, not tested.
Acute Inhalation: No known effects, not tested.
Acute Ingestion: No known effects, not tested.

Special hazard reference: Thermal composition and/or (partially) melting state can present hazards, see pt. 10

3. Composition / information on ingredients

Description: Wet-laid nonwoven, chemically bonded.

Main components: Fibre type(s): C-glass
Binder type(s): Polyacrylate

Side components, additives: Fibre additives (e.g. spin finishes, etc.) Process auxiliaries (e.g. dispersing agents, defoamer, etc.)

Finishings: None
Further information: None

4. First-aid measures

EYES: no specific measures to be taken.

SKIN EXPOSURE: no specific measures to be taken

INHALATION: no specific measures to be taken.

INGESTION: no specific measures to be taken.

NOTES TO PHYSICIAN: no specific measures to be taken

5. Firefighting measures
FLASH POINT: 350-400°C (for PET)
EXPLOSIVE LIMITS (EL): N/A
Lower EL: N/A
Upper EL: N/A
EXTINGUISHING MEDIA: All common extinguishing media (e.g. water, CO2, sand)
PERSONAL PROTECTIVE EQUIPMENT: Self-contained breathing apparatus is recommended.
SPECIAL PROCEDURES: Ref. to formation of flammable and toxic combustion products, as well as skin contact with molten material, see pt. 10.
UNUSUAL FIRE AND EXPLOSION HAZARDS: None known. Product will burn under fire conditions.
HAZARDOUS DECOMPOSITION MATERIALS (UNDER FIRE CONDITIONS): None.

6. Measures if released unintentionally

Personal precautions: No specific measures to be taken
Environmental precautions: No specific measure to be taken
Methods for cleaning up: No specific measure to be taken
Further information: None

7. Handling and storage

Handling: Ref. to exposure controls and personal protection in case of mechanical-thermal treatment / processing, see part. 8, otherwise no specific measures to be taken.
explosion: None Known

Storage: Storage under cool, dry and light-protected conditions is recommended (storage temperature max. 40°C, avoidance of high relative air humidity, formation of condensed water and direct solar radiation).

8. Expose controls and personal protective equipment

Technical protective measure: During mechanical-thermal processing (e.g. grinding, cutting, laminating), irritant (fibre) dusts and traces of irritant volatile components may possibly be released. In these cases vacuum equipment should be present or at least proper ventilation should be implemented.

Exposure control limits at work stations: No Specified Control Limits

Personal protective equipment
### Respiratory protection
To avoid breathing dust, use Respirator.

### Hand protection
To avoid skin contact, wear rubber gloves or, cotton gloves specific measures to be taken.

### Eye protection
To avoid eye contact, wear safety glasses with side shields.

### Skin protection
Avoidance of intense skin contact is recommended, otherwise no specific measures to be taken.

### General safety and hygiene measures
Precautions similar to handling of chemicals are recommend 

### 9. Physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Appearance</strong></td>
<td>Solid</td>
</tr>
<tr>
<td><strong>Color</strong></td>
<td>White</td>
</tr>
<tr>
<td><strong>Odor</strong></td>
<td>No specific odor</td>
</tr>
<tr>
<td><strong>Boiling point/Boiling range</strong></td>
<td>Some parts may evaporate above 85°C</td>
</tr>
<tr>
<td><strong>Melting point</strong></td>
<td>not tested</td>
</tr>
<tr>
<td><strong>Freezing temperature</strong></td>
<td>Can stiffen and freeze below 0 deg C</td>
</tr>
<tr>
<td><strong>Flash point</strong></td>
<td>Not Tested</td>
</tr>
<tr>
<td><strong>Ignition temperature</strong></td>
<td>Not Tested</td>
</tr>
<tr>
<td><strong>Auto ignition</strong></td>
<td>Not applicable</td>
</tr>
<tr>
<td><strong>Explosion hazard</strong></td>
<td>Not applicable</td>
</tr>
<tr>
<td><strong>Explosion limits</strong></td>
<td>Not applicable</td>
</tr>
<tr>
<td><strong>Vapour pressure(mbar)</strong></td>
<td>Not applicable</td>
</tr>
<tr>
<td><strong>Density</strong></td>
<td>not tested</td>
</tr>
<tr>
<td><strong>Bulk density</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Solubility in water</strong></td>
<td>Insoluble in water</td>
</tr>
<tr>
<td><strong>Solubility in other solvents</strong></td>
<td>Insoluble in most organic solvents</td>
</tr>
<tr>
<td><strong>pH-value</strong></td>
<td>Not applicable</td>
</tr>
<tr>
<td><strong>Viscosity</strong></td>
<td>Not applicable Solid State</td>
</tr>
</tbody>
</table>

### 10. Stability and reactivity

**CHEMICAL STABILITY:** Stable at normal temperatures and storage conditions.

**HAZARDOUS POLYMERIZATION:** None known. Should not occur.

**CONDITIONS TO AVOID:** Product may (at least partially) melt and / or decompose at temperatures above ca. 250°C. Decomposition is enhanced resp. accelerated in case of contact with below mentioned substances to avoid.

**Substances to avoid:** Strong alkalis, strong (oxidizing) acids

**CHEMICAL INCOMPATIBILITY:** Avoid strong acids and bases. Avoid oxidizing agents.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Under thermal-chemical decomposition resp. in case of fire flammable and toxic fumes may be generated (as e.g. carbon-monoxide (CO)). Type and amount of decomposition and oxidation products are subjected to specific (fire) conditions.

### 11. Toxicological information

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Acute toxicity</strong></td>
<td>Not tested</td>
</tr>
<tr>
<td><strong>Specific symptoms in animal experiments</strong></td>
<td>Not tested</td>
</tr>
<tr>
<td><strong>Irritation effects</strong></td>
<td>Not tested</td>
</tr>
</tbody>
</table>
### Sensitization
- Not tested

### Subacute to chronic toxicity
- Not tested

### Carcinogenicity, mutagenicity, teratogenicity
- Not tested

### Information from practical experience
- Not tested

### Additional information
- Under thermal-chemical decomposition resp. in case of fire toxic substances may be generated, see pt. 10.

### 12. Ecological information

<table>
<thead>
<tr>
<th>Biodegradability</th>
<th>Not tested</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ecotoxicity</td>
<td>Not tested</td>
</tr>
<tr>
<td>Further ecological information</td>
<td>In event of fire, unburned residues as well as contaminated extinguishing media must be disposed of in compliance with existing regulations.</td>
</tr>
</tbody>
</table>

### 13. Disposal considerations

<table>
<thead>
<tr>
<th>Product</th>
<th>Product can be disposed of as a non-Hazardous solid waste.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disposal code number</td>
<td>040222</td>
</tr>
</tbody>
</table>

### 14. Transport information

Not classified as dangerous in terms of transport regulations.

### 15. Regulatory information

<table>
<thead>
<tr>
<th>Labeling according to EC-regulation</th>
<th>Not regulated (Nonwoven material).</th>
</tr>
</thead>
<tbody>
<tr>
<td>national directives</td>
<td>Not regulated (Nonwoven material).</td>
</tr>
</tbody>
</table>

### 16. Other information

The information contained herein is based on the present state of knowledge and does not therefore guarantee certain properties. The safety data sheet only describes the products in aspect to their safety requirements. Recipients of our products must take on responsibility for observing existing laws and regulations.

09/18/2015 Rev2: Updated Company Name