

# SAFETY DATA SHEET

North American Version

## UDEL® GF-110, GF-120, AND GF-130

### 1. PRODUCT AND COMPANY IDENTIFICATION

#### 1.1. Identification of the substance or preparation

Product name : UDEL® GF-110, GF-120, AND GF-130  
Product grade(s) : Udel® GF-110 BK 937  
Udel® GF-110 GY 8057  
Udel® GF-110 NT  
Udel® GF-110 NT LF  
Udel® GF-120 BG 943  
Udel® GF-120 BK 937  
Udel® GF-120 GY 1234  
Udel® GF-120 NT  
Udel® GF-120 NT 20  
Udel® GF-130 NT  
Udel® GF-130 BK 937  
Chemical Name : Polysulfone

#### 1.2. Use of the Substance/Preparation

Recommended use : - For further information, please contact: Supplier

#### 1.3. Company/Undertaking Identification

Address : SOLVAY ADVANCED POLYMERS, LLC  
4500 MCGINNIS FERRY ROAD  
ALPHARETTA GA 30005-3914  
United States

#### 1.4. Emergency and contact telephone numbers

Emergency telephone : 1 (800) 621-4590 [Health Information]  
1 (800) 424-9300 CHEMTREC® (USA & Canada)  
1 (800) 621-4557 [Other Product Information]  
1 (770) 772-8880

### 2. HAZARDS IDENTIFICATION

#### 2.1. Emergency Overview:

##### *General Information*

Appearance : pellets  
Colour : various colours  
Odour : odourless

##### *Main effects*

- Product dust may be irritating to eyes, skin and respiratory system.
- Hazardous decomposition products formed under fire conditions.

## 2.2. Potential Health Effects:

### *Inhalation*

- Mechanical irritation from the particulates generated by the product.
- In case of repeated or prolonged exposure: risk of bronchitis (fiber glass).
- Thermal decomposition can lead to release of hazardous gases and vapors

### *Eye contact*

- Mechanical irritation from the particulates generated by the product.

### *Skin contact*

- Mechanical irritation from the particulates generated by the product.
- Risk of itching of the skin/dermatitis (fiber glass).

### *Ingestion*

- Low ingestion hazard.

### *Other toxicity effects*

- See section 11: Toxicological Information

## 2.3. Environmental Effects:

- See section 12: Ecological Information

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

### Polysulfone

CAS-No. : 25154-01-2  
Concentration :  $\geq 65.0 - \leq 95.0$  %

### Fiberglass

CAS-No. : 65997-17-3  
Concentration :  $\geq 5.0 - \leq 35.0$  %

### Titanium dioxide

CAS-No. : 13463-67-7  
Concentration :  $\geq 0.0 - \leq 5.0$  %

### Carbon black

CAS-No. : 1333-86-4  
Concentration :  $\geq 0.0 - \leq 1.0$  %

### Zinc compounds

CAS-No. : Proprietary  
Concentration :  $\geq 0.0 - \leq 4.0$  %

## 4. FIRST AID MEASURES

### 4.1. Inhalation

- Remove to fresh air.
- If symptoms persist, call a physician.

### 4.2. Eye contact

- Flush eyes with running water for several minutes, while keeping the eyelids wide open.
- If eye irritation persists, consult a specialist.

### 4.3. Skin contact

- Wash off with soap and water.
- Wash contaminated clothing before re-use.
- If symptoms persist, call a physician.
- Cool skin rapidly with cold water after contact with hot polymer.

- Do not peel polymer from the skin.
- Obtain medical attention.

#### 4.4. Ingestion

- Never give anything by mouth to an unconscious person.
- If a large amount is swallowed, get medical attention.

## 5. FIRE-FIGHTING MEASURES

### 5.1. Suitable extinguishing media

- powder
- Foam
- Water
- Water spray
- Carbon dioxide (CO<sub>2</sub>)

### 5.2. Extinguishing media which shall not be used for safety reasons

- None.

### 5.3. Special exposure hazards in a fire

- Combustible material
- In a fire, the polymer melts, producing droplets which may propagate fire.
- Once started, a fire will tend to self extinguish (see section 9).
- Risk of dust explosion.
- Heating can release hazardous gases.

### 5.4. Hazardous decomposition products

- Carbon monoxide
- Sulphur oxides
- Hydrocarbons
- The release of other hazardous decomposition products is possible.

### 5.5. Special protective equipment for fire-fighters

- In the event of fire, wear self-contained breathing apparatus.
- Fire fighters must wear fire resistant personnel protective equipment.

### 5.6. Other information

- Avoid dust formation.

## 6. ACCIDENTAL RELEASE MEASURES

### 6.1. Personal precautions

- Sweep up to prevent slipping hazard.
- Avoid dust formation.
- Refer to protective measures listed in sections 7 and 8.

### 6.2. Environmental precautions

- Should not be released into the environment.
- The product should not be allowed to enter drains, water courses or the soil.
- In case of accidental release or spill, immediately notify the appropriate authorities if required by Federal, State/Provincial and local laws and regulations.

### 6.3. Methods for cleaning up

- Sweep up and shovel into suitable containers for disposal.
- Avoid dust formation.
- Keep in properly labelled containers.

- Keep in suitable, closed containers for disposal.
- Treat recovered material as described in the section "Disposal considerations".

## 7. HANDLING AND STORAGE

### 7.1. Handling

- Take measures to prevent the build up of electrostatic charge.
- Ensure all equipment is electrically grounded before beginning transfer operations.
- Use only equipment and materials which are compatible with the product.
- To avoid thermal decomposition, do not overheat.
- Avoid prolonged or repeated contact with skin.

### 7.2. Storage

- Keep container closed.
- Keep away from heat and sources of ignition.

### 7.3. Other information

- Keep away from open flames, hot surfaces and sources of ignition.
- To avoid thermal decomposition, do not overheat.
- Avoid dust formation.
- Refer to protective measures listed in sections 7 and 8.
- Do not smoke.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1. Exposure Limit Values

#### Polysulfone

- US. ACGIH Threshold Limit Values  
Remarks: none established

#### Fiberglass

- US. ACGIH Threshold Limit Values 01 2006  
time weighted average = 5 mg/m<sup>3</sup>  
Remarks: Alveolar dust fraction

#### Titanium dioxide

- US. ACGIH Threshold Limit Values 01 2006  
time weighted average = 10 mg/m<sup>3</sup>
- US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) 02 2006  
Permissible exposure limit = 15 mg/m<sup>3</sup>  
Remarks: Total dust
- US. OSHA Table Z-1-A (29 CFR 1910.1000) 1989  
time weighted average = 10 mg/m<sup>3</sup>  
Remarks: Total dust
- US. Tennessee. OELs. Occupational Exposure Limits, Table Z1A 06 2008  
time weighted average = 10 mg/m<sup>3</sup>  
Remarks: Total dust

#### Carbon black

- US. ACGIH Threshold Limit Values 01 2006  
time weighted average = 3.5 mg/m<sup>3</sup>
- US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) 02 2006  
Permissible exposure limit = 3.5 mg/m<sup>3</sup>
- US. OSHA Table Z-1-A (29 CFR 1910.1000) 1989  
time weighted average = 3.5 mg/m<sup>3</sup>

- US. Tennessee. OELs. Occupational Exposure Limits, Table Z1A. 06 2008  
time weighted average = 3.5 mg/m<sup>3</sup>

#### **Zinc compounds**

- US. ACGIH Threshold Limit Values  
Remarks: none established

ACGIH® and TLV® are registered trademarks of the American Conference of Governmental Industrial Hygienists.  
SAEL = Solvay Acceptable Exposure Limit, Time Weighted Average for 8 hour workdays. No Specific TLV STEL (Short Term Exposure Level) has been set. Excursions in exposure level may exceed 3 times the TLV TWA for no more than a total of 30 minutes during a workday and under no circumstances should they exceed 5 times the TLV TWA.

### **8.2. Engineering controls**

- Provide local ventilation appropriate to the product decomposition risk (see section 10).
- Provide appropriate exhaust ventilation at places where dust is formed.
- Refer to protective measures listed in sections 7 and 8.

### **8.3. Personal protective equipment**

#### **8.3.1. Respiratory protection**

- In case of insufficient ventilation, wear suitable respiratory equipment.
- When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.
- Use only respiratory protection that conforms to international/ national standards.
- Use NIOSH approved respiratory protection.
- Respirator with combination filter for vapour/particulate (EN 141).

#### **8.3.2. Hand protection**

- For prolonged or repeated contact use protective gloves.
- When handling hot material, use heat resistant gloves.

#### **8.3.3. Eye protection**

- Safety glasses with side-shields
- Dust proof goggles, if dusty.

#### **8.3.4. Skin and body protection**

- long sleeved clothing

#### **8.3.5. Hygiene measures**

- When using do not eat, drink or smoke.
- Wash hands before breaks and at the end of workday.

## **9. PHYSICAL AND CHEMICAL PROPERTIES**

### **9.1. General Information**

<b>Appearance</b>	: pellets
<b>Colour</b>	: various colours
<b>Odour</b>	: odourless

### **9.2. Important health safety and environmental information**

<b>pH</b>	: <i>Remarks: not applicable</i>
<b>Boiling point/boiling range</b>	: <i>Remarks: not applicable</i>
<b>Flash point</b>	: <i>Remarks: not applicable</i>
<b>Flammability</b>	: <u>Upper explosion limit:</u> <i>Remarks: no data available</i>

		<u>Lower explosion limit:</u> Remarks: no data available
<b>Explosive properties</b>	:	<u>Explosion danger:</u> Remarks: Risk of dust explosion.
<b>Vapour pressure</b>	:	Remarks: not applicable
<b>Relative density / Density</b>	:	1.3 - 1.6
<b>Solubility</b>	:	Water
<b>Partition coefficient: n-octanol/water</b>	:	Remarks: not applicable
<b>Vapour density</b>	:	Remarks: not applicable

### 9.3. Other data

<b>Melting point/range</b>	:	190 - 240 °C ( 374 - 464 °F )
<b>Decomposition temperature</b>	:	> 219 °C ( 427 °F ) Remarks: Extended period of exposure (ca. 1 hour).

## 10. STABILITY AND REACTIVITY

### 10.1. Stability

- Stable under normal conditions.
- Hazardous Polymerisation/Polymerization: no

### 10.2. Conditions to avoid

- Heat, flames and sparks.
- To avoid thermal decomposition, do not overheat.
- Avoid dust formation.
- The normal temperature for processing this resin exceeds the decomposition and/or ignition temperature of some other polymeric resins, such as polyacetal, polyvinyl chloride (PVC), polypropylene, etc. If PVC or any other resin with a decomposition temperature below 371°C / 700°F is molded or handled in your equipment, these materials can rapidly decompose and/or react with this resin at the temperatures used to process this resin. Inadvertent contamination of this resin with these materials from the material handling system or other equipment can result in a rapid, possibly violent release of decomposition fumes, when the contaminated material is brought to processing temperature. To avoid, thoroughly clean molding and other processing equipment prior to changeover and prevent cross contamination of material handling systems.
- Keep at temperature not exceeding: 219 °C ( 427 °F )

### 10.3. Materials to avoid

- Polymeric resins

### 10.4. Hazardous decomposition products

- Carbon monoxide, Sulphur oxides, Hydrocarbons, The release of other hazardous decomposition products is possible.

## 11. TOXICOLOGICAL INFORMATION

### Toxicological data

#### Remarks

- Because the components are encapsulated in the resin and may not be bioavailable in the body, they may not exert the above mentioned health effects.

- Product dust may be irritating to eyes, skin and respiratory system.
- Description of possible hazardous to health effects is based on experience and/or toxicological characteristics of several components.
- This product may contain carbon black. Carbon black has been shown to cause lung tumors in rats at high exposure concentrations. These concentrations exceed the capacity of the lung to clear the carbon black particles, thus resulting in significant toxicity. The International Agency for Research on Cancer (IARC) has evaluated carbon black found it to be possibly carcinogenic to humans. (Group 2B).
- IARC Group 2B Carcinogen; (Titanium Dioxide)

## 12. ECOLOGICAL INFORMATION

### 12.1. Ecotoxicity effects

#### *Acute toxicity*

- Remarks: no data available

#### *Chronic toxicity*

- Remarks: no data available

### 12.2. Mobility

- Remarks: no data available

### 12.3. Persistence and degradability

#### *Abiotic degradation*

- Result: no data available

#### *Biodegradation*

- Remarks: no data available

### 12.4. Bioaccumulative potential

- Result: no data available

### 12.5. Other adverse effects

- no data available

### 12.6. Remarks

- Contains a(many) hazardous substance(s) for the environment.
- Under massive form, product is biologically inert and non-degradable.
- Ingestion of solids may cause harm to wildlife due to intestinal mechanical blockage or starvation from false feeling of satiation.

## 13. DISPOSAL CONSIDERATIONS

### 13.1. Waste from residues / unused products

- Do not dump into any sewers, on the ground, or into any body of water. All disposal methods must be in compliance with all Federal, State/Provincial and local laws and regulations. Regulations may vary in different locations.
- Waste characterizations and compliance with applicable laws and regulations are the responsibility of the waste generator.

### 13.2. Packaging treatment

- Empty containers.
- Dispose of as unused product.
- Can be landfilled or incinerated, when in compliance with local regulations.
- Where possible recycling is preferred to disposal or incineration.

### 13.3. RCRA Hazardous Waste

- Listed RCRA Hazardous Waste (40 CFR 302) - No

## 14. TRANSPORT INFORMATION

- Sea (IMO/IMDG)
- not regulated
- Air (ICAO/IATA)
- not regulated
- U.S. Dept of Transportation
- not regulated
- It is recommended that ERG Guide number 111 be used for all non-regulated material.
- Canadian Transportation of Dangerous Goods
- not regulated

## 15. REGULATORY INFORMATION

### 15.1. Inventory Information

<b>Toxic Substance Control Act list (TSCA)</b>	: -	In compliance with inventory.
<b>Canadian Domestic Substances List (DSL)</b>	: -	Listed on inventory.
<b>Australian Inventory of Chemical Substances (AICS)</b>	: -	Listed on inventory.
<b>Japanese Existing and New Chemical Substances (MITI List) (ENCS)</b>	: -	Listed on inventory.
<b>Korean Existing Chemicals List (ECL)</b>	: -	Listed on inventory.
<b>Philippine Inventory of Chemicals and Chemical Substances (PICCS)</b>	: -	Listed on inventory.
<b>Inventory of Existing Chemical Substances (China) (IECS)</b>	: -	Listed on inventory.
<b>EU list of existing chemical substances (EINECS)</b>	: -	In compliance with inventory.

### 15.2. Other regulations

**US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 302 Extremely Hazardous Substance (40 CFR 355, Appendix A)**

- not regulated.

**US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 313 Toxic Chemicals (40 CFR 372.65) - Supplier Notification Required**

- not regulated.

**US. EPA CERCLA Hazardous Substances (40 CFR 302)**

This product is reportable under 40 CFR Part 302.4 because it contains the following substance(s) :

Components	CAS-No.	
Zinc compounds	Proprietary	



**US. New Jersey Worker and Community Right-to-Know Act (New Jersey Statute Annotated Section 34:5A-5)**

Components	CAS-No.	Concentration
Carbon black	1333-86-4	>= 0.0 - <= 1.0 %
Zinc compounds	Proprietary	>= 0.0 - <= 4.0 %
Titanium dioxide	13463-67-7	>= 0.0 - <= 5.0 %

**US. Pennsylvania Worker and Community Right-to-Know Law (34 Pa. Code Chap. 301-323)**

Components	CAS-No.	Concentration
Carbon black	1333-86-4	>= 0.0 - <= 1.0 %
Titanium dioxide	13463-67-7	>= 0.0 - <= 5.0 %

**US. California Safe Drinking Water & Toxic Enforcement Act (Proposition 65)**

This product contains a chemical known in the State of California to cause cancer and/or to cause birth defects or other reproductive harm. :

Components	CAS-No.	Concentration
Carbon black	1333-86-4	>= 0.0 - <= 1.0 %

## 16. OTHER INFORMATION

### Further information

- Update
- Supersedes version dated: 01/22/2008

Material Safety Data Sheets contain country specific regulatory information; therefore, the MSDS's provided are for use only by customers of the company mentioned in section 1 in North America. If you are located in a country other than Canada, Mexico or the United States, please contact the Solvay Group company in your country for MSDS information applicable to your location. The previous information is based upon our current knowledge and experience of our product and is not exhaustive. It applies to the product as defined by the specifications. In case of combinations or mixtures, one must confirm that no new hazards are likely to exist. In any case, the user is not exempt from observing all legal, administrative and regulatory procedures relating to the product, personal hygiene, and integrity of the work environment. (Unless noted to the contrary, the technical information applies only to pure product). To our actual knowledge, the information contained herein is accurate as of the date of this document. However, neither the company mentioned in section 1 nor any of its affiliates makes any warranty, express or implied, including merchantability or fitness for use, or accepts any liability in connection with this information or its use. This information is for use by technically skilled persons at their own discretion and risk and does not relate to the use of this product in combination with any other substance or any other process. This is not a license under any patent or other proprietary right. The user alone must finally determine suitability of any information or material for any contemplated use in compliance with applicable law, the manner of use and whether any patents are infringed. This information gives typical properties only and is not to be used for specification purposes. The company mentioned in section 1 reserves the right to make additions, deletions or modifications to the information at any time without prior notification. Trademarks and/or other products of the company mentioned in section 1 referenced herein are either trademarks or registered trademarks of the company mentioned in section 1 or its affiliates, unless otherwise indicated.

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