SAFETY DATA SHEET
DT 081 FILLER US

1. Product and company identification

<table>
<thead>
<tr>
<th>Product name</th>
<th>DT 081 FILLER US</th>
</tr>
</thead>
<tbody>
<tr>
<td>Material uses</td>
<td>Filler for tooling systems</td>
</tr>
<tr>
<td>MSDS #</td>
<td>00066640</td>
</tr>
<tr>
<td>Validation date</td>
<td>5/18/2013</td>
</tr>
</tbody>
</table>

Supplier/Manufacturer: Huntsman Advanced Materials Americas LLC
P.O. Box 4980
The Woodlands, TX 77387
Non-Emergency phone: (800) 257-5547

E-mail address of person responsible for this SDS: MSDS@huntsman.com

In case of emergency (24h/7day): Chemtrec: (800) 424-9300 or (703) 527-3887

Section 2. Hazards identification

Physical state: Solid.
Odor: Odorless.
Color: White to grey

OSHA/HCS status: This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture:
- CARCINOGENICITY: INHALATION - Category 1A
- SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE): INHALATION [lungs] - Category 2

Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 98.5%
Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 98.5%

GHS label elements:
Hazard pictograms:

Signal word: Danger

Hazard statements:
- May cause cancer if inhaled.
- May cause damage to organs through prolonged or repeated exposure if inhaled. (lungs)

Precautionary statements:
Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Do not breathe dust. Get medical attention if you feel unwell. IF exposed or concerned: Get medical attention. Store locked up. Dispose of contents and container in accordance with all local, regional, national and international regulations.

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Section 2. Hazards identification

Other hazards which do not result in classification: None known.

Section 3. Composition/information on ingredients

Substance/mixture: Mixture

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>%</th>
<th>CAS number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quartz</td>
<td>1 - 3</td>
<td>14808-60-7</td>
</tr>
</tbody>
</table>

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Eye contact: Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.

Inhalation: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Skin contact: Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion: Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Notes to physician: No specific treatment. Treat symptomatically. Call medical doctor or poison control center immediately if large quantities have been ingested.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Flash point: Not available.

Hazardous thermal decomposition products: Decomposition products may include the following materials: carbon dioxide, carbon monoxide, metal oxide/oxides

Extinguishing media

Suitable extinguishing media: Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media: None known.

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Section 5. Fire-fighting measures

**Specific hazards arising from the chemical**

: No specific fire or explosion hazard.

**Special protective actions for fire-fighters**

: Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

**Special protective equipment for fire-fighters**

: Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

**Personal precautions, protective equipment and emergency procedures**

**For non-emergency personnel**

: No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

**For emergency responders**

: If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

**Environmental precautions**

: Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

**Methods and materials for containment and cleaning up**

: Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

**Precautions for safe handling**

**Protective measures**

: Put on appropriate personal protective equipment (see Section 8). Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not ingest. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

**Advice on general occupational hygiene**

: Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

**Conditions for safe storage, including any incompatibilities**

: Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.
## Section 8. Exposure controls/personal protection

### Control parameters

<table>
<thead>
<tr>
<th>Occupational exposure limits</th>
<th>Exposure limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ingredient name</td>
<td></td>
</tr>
<tr>
<td>Quartz</td>
<td>OSHA PEL Z3 (United States, 9/2005). Notes: 250/(%SiO2+5)</td>
</tr>
<tr>
<td></td>
<td>TWA: 250 mppcf 8 hours. Form: Respirable</td>
</tr>
<tr>
<td></td>
<td>OSHA PEL Z3 (United States, 9/2005). Notes: 10/(SiO2+2)</td>
</tr>
<tr>
<td></td>
<td>TWA: 10 mg/m³ 8 hours. Form: Respirable</td>
</tr>
<tr>
<td>Workplace exposure limits</td>
<td>OSHA PEL Z3 (United States, 9/2005). Notes: 30/(%SiO2+2)</td>
</tr>
<tr>
<td></td>
<td>TWA: 30 mg/m³ 8 hours. Form: Total dust.</td>
</tr>
</tbody>
</table>

Workplace exposure limits (for total dust and inhalable quartz dust) must be complied with. If this is not possible, then suitable dust masks must be worn.

**Warning!** This product contains quartz, which has been classified by IARC as carcinogenic for humans (Group 1), and which can cause silicosis and lung cancer following exposure to respirable dust. It is therefore important to take particular care to avoid inhalation exposure.

### Appropriate engineering controls

- If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

### Environmental exposure controls

- Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

### Individual protection measures

#### Hygiene measures

- Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

#### Eye/face protection

- Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

#### Hand protection

- Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

#### Body protection

- Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
Section 8. Exposure controls/personal protection

Other skin protection: Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection: Use a properly fitted, particulate filter respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Section 9. Physical and chemical properties

Appearance
- Physical state: Solid.
- Color: White to grey
- Odor: Odorless.
- Odor threshold: Not available.
- pH: Not available.
- Melting point/Freezing point: 1200°C (2192°F)
- Boiling/condensation point: Not available.
- Flash point: Not available.
- Evaporation rate: Not available.
- Flammability (solid, gas): Not available.
- Lower and upper explosive (flammable) limits: Not available.
- Vapor pressure: Not available.
- Vapor density: Not available.
- Specific gravity: 0.6 to 0.95
- Water Solubility: Not available.
- Water Solubility: Insoluble
- Partition coefficient: n-octanol/water: Not available.
- Auto-ignition temperature: Not available.
- Decomposition temperature: Not available.
- Viscosity: Not available.

Section 10. Stability and reactivity

Reactivity: No specific test data related to reactivity available for this product or its ingredients.

Chemical stability: The product is stable.

Possibility of hazardous reactions: Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid: No specific data.

Incompatible materials: No specific data.

Hazardous decomposition products: Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Section 11. Toxicological information

Information on toxicological effects

Irritation/Corrosion

Conclusion/Summary

<table>
<thead>
<tr>
<th>Skin</th>
<th>Quartz</th>
<th>No known significant effects or critical hazards.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eyes</td>
<td>Quartz</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td>Respiratory</td>
<td>Quartz</td>
<td>No known significant effects or critical hazards.</td>
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</tbody>
</table>

Carcinogenic class

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>OSHA</th>
<th>IARC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quartz</td>
<td>+</td>
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</tbody>
</table>

Specific target organ toxicity (repeated exposure)

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Category</th>
<th>Route of exposure</th>
<th>Target organs</th>
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</thead>
<tbody>
<tr>
<td>Quartz</td>
<td>Category 2</td>
<td>Inhalation</td>
<td>lungs</td>
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</table>

Potential acute health effects

<table>
<thead>
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<th>Eye contact</th>
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</thead>
<tbody>
<tr>
<td>Inhalation</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td>Skin contact</td>
<td>No known significant effects or critical hazards.</td>
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<tr>
<td>Ingestion</td>
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</table>

Potential chronic health effects

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<th>No known significant effects or critical hazards.</th>
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</thead>
<tbody>
<tr>
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</tr>
<tr>
<td>Mutagenicity</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td>Teratogenicity</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td>Developmental effects</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td>Fertility effects</td>
<td>No known significant effects or critical hazards.</td>
</tr>
</tbody>
</table>

Section 12. Ecological information

Other adverse effects

| Other adverse effects | No known significant effects or critical hazards. |

Other ecological information

| BOD5                   | Not determined. |
|                       |                 |
| COD                    | Not determined. |
| TOC                    | Not determined. |
**Section 13. Disposal considerations**

**Disposal methods**

The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

**Section 14. Transport information**

**Proper shipping name**

| DOT   | Not regulated. |
| TDG   | Not regulated. |
| IMDG  | Not regulated. |
| IATA  | Not regulated. |

**Regulatory information**

<table>
<thead>
<tr>
<th>Regulatory information</th>
<th>UN number</th>
<th>Classes</th>
<th>PG*</th>
<th>Label</th>
<th>Additional information</th>
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<tbody>
<tr>
<td>DOT Classification</td>
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<tr>
<td>TDG Classification</td>
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<td>-</td>
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<tr>
<td>IMDG Classification</td>
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<td>IATA Classification</td>
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<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

PG*: Packing group

**Section 15. Regulatory information**

**United States**

**U.S. Federal regulations**

| TSCA 8(b) inventory   | All components are listed or exempted. |
| TSCA 5(a)2 final significant new use rule (SNUR) | No ingredients listed. |
| TSCA 5(e) substance consent order | No ingredients listed. |
Section 15. Regulatory information

**TSCA 12(b) export notification**  
No ingredients listed.

**SARA 311/312**  
Delayed (chronic) health hazard

**Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs)**  
No ingredients listed.

**Clean Air Act - Ozone Depleting Substances (ODS)**  
This product does not contain nor is it manufactured with ozone depleting substances.

**SARA 313**  
No ingredients listed.

**CERCLA Hazardous substances**  
No ingredients listed.

**State regulations**

**PENNSYLVANIA - RTK**  
Quartz

**California Prop 65**  
**WARNING:** This product contains a chemical known to the State of California to cause cancer.

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>Cancer</th>
<th>Reproductive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quartz</td>
<td>Yes.</td>
<td>No.</td>
</tr>
</tbody>
</table>

**International regulations**

**Canada**

**CEPA DSL**  
All components are listed or exempted.

**WHMIS Classes**  
Class D-2A: Material causing other toxic effects (Very toxic).

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

**Brazil**

**Regulation**  
Decreto Federal n.º 2657 de 3 de novembro de 1998

**International lists**  

- **Australia inventory (AICS):** All components are listed or exempted.
- **China inventory (IECSC):** All components are listed or exempted.
- **Japan inventory:** At least one component is not listed.
- **Korea inventory:** All components are listed or exempted.
- **Malaysia Inventory (EHS Register):** Not determined.
- **New Zealand Inventory of Chemicals (NZIoC):** All components are listed or exempted.
- **Philippines inventory (PICCS):** All components are listed or exempted.
- **Taiwan inventory (CSNN):** Not determined.
Section 16. Other information

Hazardous Material Information System (U.S.A.):

<table>
<thead>
<tr>
<th>Personal protection</th>
<th>Health</th>
<th>Flammability</th>
<th>Physical hazards</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

The customer is responsible for determining the PPE code for this material.

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on SDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

National Fire Protection Association (U.S.A.):

<table>
<thead>
<tr>
<th>Health</th>
<th>Flammability</th>
<th>Instability</th>
<th>Special</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

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Date of issue : 5/18/2013.
Date of previous issue : No previous validation.
Version : 1

Indicates information that has changed from previously issued version.

Notice to reader

While the information and recommendations in this publication are to the best of our knowledge, information and belief accurate at the date of publication, NOTHING HEREIN IS TO BE CONSTRUED AS A WARRANTY, EXPRESS OR OTHERWISE.

IN ALL CASES, IT IS THE RESPONSIBILITY OF THE USER TO DETERMINE THE APPLICABILITY OF SUCH INFORMATION AND RECOMMENDATIONS AND THE SUITABILITY OF ANY PRODUCT FOR ITS OWN PARTICULAR PURPOSE.

THE PRODUCT MAY PRESENT HAZARDS AND SHOULD BE USED WITH CAUTION. WHILE CERTAIN HAZARDS ARE DESCRIBED IN THIS PUBLICATION, NO GUARANTEE IS MADE THAT THESE ARE THE ONLY HAZARDS THAT EXIST.

Hazards, toxicity and behaviour of the products may differ when used with other materials and are dependent upon the manufacturing circumstances or other processes. Such hazards, toxicity and behaviour should be determined by the user and made known to handlers, processors and end users.
Section 16. Other information

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