Safety Data Sheet

TNT Simulant - XM-101-T

Section 1 - Chemical Product and Company Identification

**MSDS Name:** XM-101-T TNT SIMULANT  
**Synonyms:** None  
**Company Identification:**  
XM Division-Van Aken International  
3265 Fortune Drive  
North Charleston, SC 29418  
For information, call: 843-767-8272  
For CHEMTREC assistance, call: 888-222-3089

Section 2 - Hazards Identification

**EMERGENCY OVERVIEW**

Appearance: White granular powder.

**Caution!** The toxicological properties of this material have not been fully investigated. May cause eye and skin irritation. May cause respiratory and digestive tract irritation.

**Potential Health Effects**

**Eye:** May cause eye irritation. Particulate matter may scratch the cornea or cause other mechanical injury to the eye.  
**Skin:** None  
**Ingestion:** None  
**Inhalation:** High intraperitoneal, intratracheal, intravenous. Cause pulmonary dust disease.  
**Chronic:** No information found.

Section 3 - Composition, Information on Ingredients

<table>
<thead>
<tr>
<th>CAS#</th>
<th>Chemical Name</th>
<th>Percent</th>
<th>EINECS/ELINCS</th>
</tr>
</thead>
<tbody>
<tr>
<td>60676-86-0</td>
<td>Silica, fused</td>
<td>&gt;92 %</td>
<td></td>
</tr>
<tr>
<td>118-96-7</td>
<td>2,4,6-Trinitrotoluene</td>
<td>&lt;8 %</td>
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</tbody>
</table>

**Hazard Symbols:** 2,4,6-Trinitrotoluene- XI O  
**Risk Phrases:** 2,4,6-Trinitrotoluene- 36/37

Section 4 - First Aid Measures

**Eyes:** Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids.
**Skin:** Get medical aid. Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.

**Ingestion:** Never give anything by mouth to an unconscious person. Induce Vomiting.

**Inhalation:** Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

**Notes to Physician:** Treat symptomatically and supportively.

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### Section 5 - Fire Fighting Measures

**General Information:** None flammable substance. Use appropriate firefighting techniques.

**Extinguishing Media:** Use agent most appropriate to extinguish fire. Use dry chemical, carbon dioxide, or appropriate foam.

**Flash Point:** Not applicable.

**Autoignition Temperature:** Not determined

**Explosion Limits, Lower:** Not available.

**Upper:** Not available.

**NFPA Rating:** (estimated) Health: 1; Flammability: 0; Instability: 0

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### Section 6 - Accidental Release Measures

**General Information:** Use proper personal protective equipment as indicated in Section 8.

**Spills/Leaks:** Vacuum or sweep up material and place into a suitable disposal container. Clean up spills immediately, observing precautions in the Protective Equipment section. Avoid generating dusty conditions. Provide ventilation.

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### Section 7 - Handling and Storage

**Handling:** Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Minimize dust generation and accumulation. Avoid contact with eyes, skin, and clothing. Keep container tightly closed. Avoid ingestion and inhalation.

**Storage:** Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances. Store protected from moisture.

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### Section 8 - Exposure Controls, Personal Protection

**Engineering Controls:** Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.

**Exposure Limits**

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH</th>
<th>NIOSH</th>
<th>OSHA - Final PELs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Silica, fused</td>
<td>none listed</td>
<td>none listed</td>
<td>80 mg/m³</td>
</tr>
<tr>
<td>2,4,6-Trinitrotoluene</td>
<td>none listed</td>
<td>none listed</td>
<td>1500 mg/m³ (SKIN)</td>
</tr>
</tbody>
</table>
OSHA Vacated PELs: none listed

Personal Protective Equipment

**Eyes:** Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

**Skin:** Wear appropriate protective gloves to prevent skin exposure.

**Clothing:** Wear appropriate protective clothing to prevent skin exposure.

**Respirators:** Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Always use a NIOSH or European Standard EN 149 approved respirator when necessary.

### Section 9 - Physical and Chemical Properties

**Physical State:** Granular powder

**Appearance:** White to light brown.

**Odor:** None.

**pH:** Not available.

**Vapor Pressure:** Not available.

**Vapor Density:** Not available.

**Evaporation Rate:** Not available.

**Viscosity:** Not available.

**Boiling Point:** Not available.

**Freezing/Melting Point:** 80.35°C for TNT

**Decomposition Temperature:** Not available.

**Solubility:** 0.5 g/100ml (25°C)

**Specific Gravity/Density:** Approx. 1.1 g/cc

**Molecular Formula:** Not available

**Molecular Weight:** Not available

### Section 10 - Stability and Reactivity

**Chemical Stability:** Stable under normal temperatures and pressures.

**Conditions to Avoid:** Incompatible materials, dust generation, excess heat, strong oxidants, exposure to moist air or water.

**Incompatibilities with Other Materials:** Oxidizing agents, moisture.

**Hazardous Decomposition Products:** Nitrogen oxides, carbon monoxide, carbon dioxide, nitrogen.

**Hazardous Polymerization:** Has not been reported.

### Section 11 - Toxicological Information

**RTECS#:**

**CAS#** Mixture
Carcinogenicity:
All components in this product are not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.

Epidemiology: No information available.

Teratogenicity: No information available.

Reproductive Effects: No information available.

Neurotoxicity: No information available.

Mutagenicity: No information available.

Other Studies: See actual entry in RTECS for complete information.

Section 12 - Ecological Information

No information available

Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

RCRA P-Series: None listed.

RCRA U-Series: None listed.

Section 14 - Transport Information

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<tr>
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<th>US DOT</th>
<th>IATA</th>
<th>RID/ADR</th>
<th>IMO</th>
<th>Canada TDG</th>
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</thead>
<tbody>
<tr>
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<tr>
<td>Hazard Class:</td>
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<td>UN Number:</td>
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<tr>
<td>Packing Group:</td>
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Section 15 - Regulatory Information

**US FEDERAL**

**TSCA**
All components in this product are listed on the TSCA inventory.

**Health & Safety Reporting List**
None of the chemicals are on the Health & Safety Reporting List.

**Chemical Test Rules**
None of the chemicals in this product are under a Chemical Test Rule.

**Section 12b**
None of the chemicals are listed under TSCA Section 12b.

**TSCA Significant New Use Rule**
None of the chemicals in this material have a SNUR under TSCA.

**SARA**

**CERCLA Hazardous Substances and corresponding RQs**
None of the chemicals in this material have an RQ.

**SARA Section 302 Extremely Hazardous Substances**
None of the chemicals in this product have a TPQ

**Section 313**
No chemicals are reportable under Section 313

**Clean Air Act:**
This material does not contain any hazardous air pollutants. This material does not contain any Class 1 Ozone depleters. This material does not contain any Class 2 Ozone depleters.

**Clean Water Act:**
None of the chemicals in this product are listed as Hazardous Substances under the CWA. None of the chemicals in this product are listed as Priority Pollutants under the CWA. None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

**OSHA:**
None of the chemicals in this product are considered highly hazardous by OSHA.

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**Section 16 - Additional Information**

**MSDS/SDS Creation Date:** 3/22/04  
**Revision #6 Date:** 7/06/15

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall the XM Division of Van Aken International be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if the XM Division of Van Aken International has been advised of the possibility of such damages.