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|                 |                      |
|-----------------|----------------------|
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| Date updated    | 11/17/2008           |

## Section 1-Product Information

|                  |         |
|------------------|---------|
| Product name     | TMB HCl |
| Product Cat. No. | C01602  |

## Section 2-Composition / Information on Ingredients

|                        |  |
|------------------------|--|
| Substance/Preparation: | Substance  |
| Ingredient Name        | 3,3',5,5'-Tetramethylbenzidine dihydrochloride dihydrate;<br>TMB dihydrochloride hydrate |
| SARA 313               | No   |
| CAS                    | 64285-73-0   |
| Formula                | C <sub>16</sub> H <sub>26</sub> Cl <sub>2</sub> N <sub>2</sub> O <sub>2</sub>            |

## Section 3- Hazards Identification

|                    |  |
|--------------------|--|
| Emergency Overview |  |
| Caution            | The chemical, physical, and toxicological properties of this product have not been thoroughly investigated. Exercise due care. |
| HMIS Rating        |  |
| Health             | 1  |
| Flammability       | 0  |
| Reactivity         | 0  |
| NFPA Rating        |  |
| Health             | 1  |
| Flammability       | 0  |
| Reactivity         | 0  |

For additional information on toxicity, please refer to Section 11.

## Section 4- First Aid Measures

|                     |   |
|---------------------|---|
| Oral Exposure       | If swallowed, wash out mouth with water provided person is conscious. Call a physician.   |
| Inhalation Exposure | If inhaled, remove to fresh air. If breathing becomes difficult, call a physician.  |
| Dermal Exposure     | In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. Call a physician.                               |
| Eye Exposure        | In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician. |

## Section 5- Fire Fighting Measures

|                      |  |
|----------------------|--|
| Flash Point          | Not available  |
| Autoignition Temp    | Not available  |
| Flammability         | Not available  |
| Extinguishing Media  |  |
| Suitable             | Carbon dioxide, dry chemical powder, or appropriate foam.<br>Water spray                               |
| Fire Fighting        |  |
| Protective Equipment | Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes. |
| Specific Hazard(s)   | Emits toxic fumes under fire conditions.   |

## Section 6- Accidental Release Measures

|  |   |
|--|---|
| Procedure(s) of Personal Precaution(s) | Wear respirator, chemical safety goggles, rubber boots, and heavy rubber gloves   |
| Methods for Cleaning up                | Sweep up, place in a bag and hold for waste disposal. Avoid raising dust. Ventilate area and wash spill site after material pickup is complete. |

## Section 7-Handling and Storage

|                |  |
|----------------|--|
| Handling       |  |
| User Exposure  | Avoid inhalation. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure. |
| Storage        |  |
| Suitable       | Keep tightly closed.   |
| Store at 2-8°C |  |

## Section 8-Exposure Controls/Personal Protection Equipment

|                               |   |
|-------------------------------|---|
| Engineering Controls          | Mechanical exhaust required   |
| Personal Protective equipment |   |
| Respiratory                   | Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Respiratory protection is not required. Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN 143) respirator. |
| Other                         | Wear appropriate government approved respirator, chemical-resistant gloves, safety goggles, other protective clothing.  |
| General Hygiene Measures      | Wash thoroughly after handling  |

## Section 9- Physical and Chemical Properties

|                       |               |
|-----------------------|---------------|
| Appearance            |               |
| Physical State        | White powder  |
| Property              |               |
| Molecular Weight      | 349.3 AMU     |
| pH                    | Not available |
| BP/BP Range           | Not available |
| MP/MP Range           | Not available |
| Freezing Point        | Not available |
| Vapor Pressure        | Not available |
| Vapor Density         | Not available |
| Saturated Vapor Conc. | Not available |
| SG/Density            | Not available |
| Bulk Density          | Not available |
| Odor Threshold        | Not available |
| Volatile%             | Not available |
| VOC Content           | Not available |
| Water Content         | Not available |
| Solvent Content       | Not available |
| Evaporation Rate      | Not available |
| Viscosity             | Not available |
| Surface Tension       | Not available |
| Partition Coefficient | Not available |
| Decomposition Temp.   | Not available |
| Flash Point           | Not available |
| Explosion Limits      | Not available |
| Flammability          | Not available |
| Autoignition Temp     | Not available |
| Refractive Index      | Not available |
| Optical Rotation      | Not available |
| Miscellaneous Data    | Not available |

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Solubility 100 mg/10 ml water.

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## Section 10- Stability and Reactivity

### Stability

Stable Stable  
Conditions to Avoid Air, light, and moisture sensitive.  
Materials to Avoid Strong oxidizing agents.

### Hazardous Decomposition Products

Hazardous Decomposition Products Carbon oxides, Nitrogen oxides, Hydrogen chloride gas

### Hazardous Polymerization

Hazardous Polymerization Will not occur

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## Section 11- Toxicological Information

### Route of Exposure

Inhalation Material is irritating to mucous membranes and upper respiratory tract.

Multiple Routes Causes eye and skin irritation. Harmful if swallowed, inhaled, or absorbed through skin.

### Conditions Aggravated by Exposure

The toxicological properties have not been thoroughly investigated.

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## Section 12- Ecological Information

No data available.

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## Section 13- Disposal Considerations

### Appropriate Method of Disposal of Substance or Preparation

Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state, and local environmental regulations.

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## Section 14- Transport Information

### EU Additional Classification

S 22-24/25

Safety Statements: Do not breathe dust. Avoid contact with skin and eyes.

### DOT

Proper Shipping Name None

Non-Hazardous for Transport This substance is considered to be non-hazardous for transport.

### IATA

Non-Hazardous for Air Transport Non-hazardous for air transport

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## Section 15- Regulatory Information

### US Classification and Label Text

US Statements Caution: Avoid contact and inhalation.

### United States Regulatory information

SARA Listed No

### Canada Regulatory information

WHMIS Classification This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.

DSL No

NDSL No

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## Section 16- Other Information

GenScript corporation MSDS is believed to be correct but only used as a guide for experienced personnel, GenScript shall not be held liable for any damage resulting from the handling or from contact with the above product.

