

MATERIAL SAFETY DATA SHEET

1. **Chemical Product & Company Identification**

Trade name : T-45 BD  
 Brand name & code : TULSION  
 Validation Date : 23/06/08  
 Company Identification : **M/s. Thermax Limited**, Chemical Division  
 97-E, General Block, MIDC Industrial Area,  
 Bhosari, Pune 411 026 (India)  
 24 hour emergency assistance : 00 91 20 27120181, 00 91 20 27120169  
 Fax : 00 91 20 27120206

2. **Composition / information on ingredients :**

| Component   | CAS           | % by wt. | Exposure guidelines |
|---|---------------|----------|---------------------|
| Sulfonated copolymer of styrene and divinylbenzene in the Hydrogen form |               | 98% min  | None established    |
| Water   | 7732 – 18 – 5 | 2 % max  |                     |

3. **Hazards Identification:**

• **Potential Health Effects:**

- Skin – Prolonged or repeated exposure not likely to cause any significant skin irritation. Skin absorption is unlikely due to physical properties.
- Eyes - Solid or dust may cause irritation or corneal injury due to mechanical action.
- Inhalation – Vapors are unlikely due to physical properties. No adverse effects are anticipated from inhalation.
- Ingestion - Single dose oral LD<sub>50</sub> has not been determined. Single dose oral toxicity is believed to be very low. No hazardous anticipated from ingestion incidental to industrial exposure.

• **Physical / chemical effects:**

These effects have not been studied thoroughly.

4. **First Aid Measures:**

- Skin – Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid if irritation develops or persists.
- Eyes - Flush eyes thoroughly with water for at least 15 minutes occasionally lifting upper and lower eyelids. Get medical aid from preferably an ophthalmologist.
- Inhalation – If inhaled remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.
- Ingestion - If swallowed, wash out mouth with water provided person is conscious. Call a physician.

5. **Fire Fighting Measures:**

Flash point : N / A.  
 Auto ignition temperature : 427 deg. C [ 800 deg. F ]  
 LEL : N / A  
 UEL : N / A  
 Fire extinguishing media : Water spray, Carbon dioxide, dry chemical powder or appropriate foam.

Basic fire fighting procedure :

Keep people away. Isolate fire area and deny unnecessary entry. Cool surroundings with water to localize fire zone. Wear MSHA / NIOSH approved, pressure demand self contained breathing apparatus / equipment.

Unusual fire & explosion hazards :-

Emits toxic fumes under fire conditions.

6. **Accidental Release Measures :**
- Personnel precautions : Spilled material may cause a slipping hazard. Use appropriate safety equipment as indicated in point no. 8, Exposure controls / personnel protection.
  - Environmental precautions : Prevent from entering into soil, ditches, sewers, waterways, and/or groundwater. See point no. 12, Ecological information.
7. **Handling and storage :**
- Handling precautions : Avoid contact with skin / eyes. Avoid prolonged or repeated exposure. Wash thoroughly after handling.
- Storage conditions : Store in a cool enclosed place. Avoid repeated freeze – thaw cycles.
8. **Exposure controls / personnel protection :**
- Eye protection : Use safety eyeglasses or chemical safety goggles as described by OSHA's eye & face protection regulations in 29 CFR 1910.133 or European standard EN166.
  - Skin & body protection : Wear appropriate gloves & clean body covering clothing to prevent skin exposure.
  - Respiratory protection- : No respiratory protection is needed but whenever necessary always use a NIOSH or European standard EN149 approved respirator when necessary.
9. **Physical and chemical properties :**
- Physical state : Solid
  - Appearance : Grey colored dry spherical beads
  - Odor : Odorless
  - Boiling point : N / A
  - Melting point : N / A
  - Freezing point : N / A
  - Vapor density [ Air = 1 ] : N / A
  - Vapor pressure @ 20°C : N / A
  - Solubility in water @ 30°C : Insoluble
  - Specific gravity [ H<sub>2</sub>O = 1 ] : 1.2 to 1.3
  - Evaporation rate [ B. A. = 1 ] : N / A
  - % Volatiles : 2 % Max
10. **Stability and reactivity:**
- Stability / incompatibility – : Stable under recommended storage conditions. See point no. 7, Storage conditions. Product can decompose at elevated temperatures, so avoid temperatures above 220° C / 428 deg. F.
  - Materials to avoid – : Avoid contact with strong oxidizing agents such as Nitric acid. Before using strong oxidizing agents consult sources knowledgeable in handling such materials. The severity of the reaction with oxidizing materials can vary from slight degradation to an explosive reaction.
  - Hazardous de-composition products – : Hazardous decomposition products depend upon temperature, air supply and the presence of other materials. Hazardous decomposition products may include and not limited to carbon monoxide, carbon dioxide, aromatic compounds, hydrocarbons, organic sulfonates and sulfur oxides. Hazardous polymerization will not occur.

11. **Toxicological Information :** :
- Acute – No data available for this material. The information shown is based on profiles of compositionally similar materials.
  - Skin – No relevant information found.
  - Eye – Data not available for this material. Acute dermal toxicity value for LD50rabbit > 5000 mg/Kg based on data for similar compositions. No relevant information found.
  - ingestion– Data not available for this material. Acute oral toxicity value LD50rat > 5000 mg/Kg based on data for similar compositions.
12. **Ecological information :**
- φ Ecotoxicity & bioaccumulation– : Ecotoxicity is not expected to be acutely toxic, but pellets may mechanically cause adverse effects if ingested by waterfowl or aquatic life. No bioconcentration of the polymeric component is expected because of its high molecular weight.
  - φ Environmental mobility - : In the terrestrial environment, material is expected to remain in the soil. In the aquatic environment material will sink and remain in the sediment.
  - φ Environmental degradability – : Based largely / completely on information for copolymer. Surface photodegradation is expected with exposure to sunlight. No appreciable biodegradation is expected.
13. **Disposal considerations :-** :
- For used / uncontaminated product, the preferred options include incineration, landfill etc.
- Used material which has been contaminated with heavy metals or radioactive metals or toxic substances must be treated as per local state and federal regulations.
- THE THERMAX LTD, CHEMICAL DIVISION HAS NO CONTROL, OVER THE MANAGEMENT PRACTISES OR MANUFACTURING PROCESSES OF PARTIES HANDLING OR USING THIS MATERIAL. THE INFORMATION PRESENTED HERE PERTAINS ONLY TO THE PRODUCT AS SHIPPED IN IT'S INTENDED CONDITION AS DESCRIBED IN POINT NO. 2 OF THIS MSDS.
14. **Transport information :-**
- Hazard Label : Non hazardous.
  - ADR : Non hazardous for road transport.
  - IMDG : Non hazardous for sea transport
  - IATA : Non hazardous for Air transport

14. **Regulatory information :-** : The information shown below is based on profiles of compositionally similar materials.
- Label: :
  - Hazard category: : Indication of danger – Xi – Irritant
  - Risk Phrase: : 36 (Irritating to eyes)
  - Safety Phrase: : 26 – 36 (In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing)
15. **Other information :-** : If the material gets wet, while rewetting, resin gets swelled.

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**Disclaimer:**

This information relates specifically to the product designated and may not be valid for the product when used in combination with any other materials or products or in a particular process. The information is, to the best of our knowledge and belief, accurate and reliable as of the date compiled. However, no representation, warranty or guarantee is made as to its accuracy, reliability or completeness. It is the user's responsibility to review this information, satisfy itself as to its suitability and completeness and pass on the information to its employees or customers in accordance with applicable federal, state or local hazard communications requirement. We do not accept responsibility for any loss or damage which may occur from the use of this information. Brand name is a trade mark of Thermax Limited, Chemical Division, Pune, India.

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**Date** : 23/06/08