

## 1 Identification

- **Trade name:** Tulsion T-4090 H
- **Relevant identified uses of the substance or mixture and uses advised against**  
No further relevant information available.
- **Application of the substance / the mixture**  
Industrial water treatment, Condensate Polishing Unit, Demineralization, Ultrapure water production
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Thermax Limited, Chemical Division,  
97-E, General Block, MIDC Industrial Area,  
Bhosari, Pune 411 026  
India
- **Information department:**  
Tel: 91-20-66128100/66128226/66128224  
Off. No.: +91 -20-66128100/200  
Fax No. 020-27120206
- **Emergency telephone number:** +91 20-66128100/200  
24 hour emergency assistance: 00 91-20-66128100/200

## 2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS05 Corrosion

Eye Dam. 1 H318 Causes serious eye damage.

- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**



Irritant

Risk of serious damage to eyes.

- **Information concerning particular hazards for human and environment:**

The product has to be labeled due to the calculation procedure of international guidelines.

- **Classification system:**

The classification was made according to the latest editions of international substances lists, and expanded upon from company and literature data.

- **Label elements**

- **Labelling according to EU guidelines:**

The product has been classified and marked in accordance with directives on hazardous materials.

- **Code letter and hazard designation of product:**



Irritant

- **Risk phrases:**

Risk of serious damage to eyes.

- **Safety phrases:**

Keep out of the reach of children.

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Wear eye/face protection.

If swallowed, seek medical advice immediately and show this container or label.

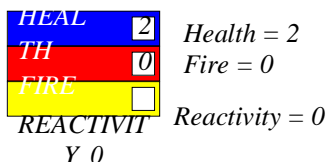
Dispose of this material and its container to hazardous or special waste collection point.

**Trade name:** *Tulsion T-4090 H*

- **Classification system:**
- **NFPA ratings (scale 0 - 4)**



- **HMIS-ratings (scale 0 - 4)**



- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** *Not applicable.*
- **vPvB:** *Not applicable.*

**3 Composition/information on ingredients**

- **Chemical characterization:** *Mixtures*
- **Description:** *Mixture of the substances listed below with nonhazardous additions.*

- **Dangerous components:**

69011 – 20 – 7	Sulfonated copolymer of Styrene and divinylbenzene in the Hydrogen form	40-50
7732 – 18 – 5	water	50-60

**4 First-aid measures**

- **Description of first aid measures**
- **After inhalation:** *Supply fresh air; consult doctor in case of complaints.*
- **After skin contact:** *Generally the product does not irritate the skin.*
- **After eye contact:** *Rinse opened eye for several minutes under running water. Then consult a doctor.*
- **After swallowing:**  
*If swallowed, wash out mouth with water provided person is conscious.*  
*If symptoms persist consult doctor.*
- **Most important symptoms and effects, both acute and delayed** *No further relevant information available.*
- **Indication of any immediate medical attention and special treatment needed**  
*No further relevant information available.*

**5 Fire-fighting measures**

- **Extinguishing media**
- **Suitable extinguishing agents:**  
*CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.*
- **Special hazards arising from the substance or mixture** *Emits toxic fumes under fire conditions.*
- **Advice for firefighters**
- **Protective equipment:**  
*No special measures required.*  
*Wear positive pressure self contained breathing apparatus (SCBA) and protective fire fighting clothing.*
- **Additional information**  
*Keep people away. Isolate fire and deny unnecessary entry. Cool surroundings with water to localize fire zone.*

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#### 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
  - Evacuate personnel to safe areas.
  - Ensure adequate ventilation.
  - Avoid contact with the skin and the eyes.
  - Wear protective gloves/protective clothing/eye protection/face protection.
  - Take off contaminated clothing and shoes immediately.
  - Wash contaminated clothing before re-use.
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
  - Pick up mechanically.
  - Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
  - Ensure adequate ventilation.
- **Reference to other sections**
  - See Section 7 for information on safe handling.
  - See Section 8 for information on personal protection equipment.
  - See Section 13 for disposal information.

#### 7 Handling and storage

- **Precautions for safe handling**
  - Avoid contact with eyes and skin.
  - Ensure good ventilation/exhaustion at the workplace.
  - Prevent formation of aerosols.
- **Information about protection against explosions and fires:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
  - **Requirements to be met by storerooms and receptacles:** No special requirements.
  - **Information about storage in one common storage facility:** Store at 0-50 degree C (32-122 degree F)
  - **Further information about storage conditions:** None.
- **Specific end use(s)**
  - Industrial water treatment,
  - Condensate Polishing Unit, Demineralization,
  - Ultrapure water production

#### 8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**
- **Components with limit values that require monitoring at the workplace:**
  - The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
  - Immediately remove all soiled and contaminated clothing.
  - Wash hands before breaks and at the end of work.
  - Avoid contact with the eyes.
- **Breathing equipment:**
  - In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

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· **Protection of hands:**

*The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.  
 Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/  
 the chemical mixture.  
 Selection of the glove material on consideration of the penetration times, rates of diffusion and the  
 degradation*

· **Material of gloves**

*The selection of the suitable gloves does not only depend on the material, but also on further marks of quality  
 and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the  
 resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the  
 application.*

· **Penetration time of glove material**

*The exact break through time has to be found out by the manufacturer of the protective gloves and has to be  
 observed.*

· **Eye protection:**



*Tightly sealed goggles*

*Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved  
 under appropriate government standards such as NIOSH (US) or EN 166(EU).*

· **Body protection:**

*Impervious clothing, The type of protective equipment must be selected according to the concentration and  
 amount of the dangerous substance at the specific workplace.*

**9 Physical and chemical properties**

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

**Form:** Solid  
**Color:** Dark brown coloured spherical beads  
**Odor:** ABSENT  
**Odour threshold:** Not determined.

· **pH-value:** Not applicable.

· **Change in condition**

**Melting point/Melting range:** Undetermined.  
**Boiling point/Boiling range:** 100 °C (212 °F)

· **Flash point:** Not applicable.

· **Flammability (solid, gaseous):** Not determined.

· **Ignition temperature:**

**Decomposition temperature:** Not determined.

· **Auto igniting:** Auto ignition temperature: 427 Deg. C [ 800 Deg. F ]

· **Danger of explosion:** Product does not present an explosion hazard.

· **Explosion limits:**

**Lower:** Not determined.  
**Upper:** Not determined.

· **Vapor pressure at 20 °C (68 °F):** 23 hPa (17 mm Hg)

· **Density:** Not determined.  
 · **Relative density at 20 °C (68 °F)** 0.690 g/cm<sup>3</sup> (5.758 lbs/gal)  
 · **Vapour density** Not applicable.

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· <b>Evaporation rate</b>	<i>Not applicable.</i>
· <b>Solubility in / Miscibility with Water:</b>	<i>Insoluble.</i>
· <b>Partition coefficient (n-octanol/water):</b>	<i>Not determined.</i>
· <b>Viscosity:</b>	
<b>Dynamic:</b>	<i>Not applicable.</i>
<b>Kinematic:</b>	<i>Not applicable.</i>
· <b>Solvent content:</b>	
<b>Organic solvents:</b>	<i>0.0 %</i>
<b>Water:</b>	<i>50-60</i>
· <b>Solids content:</b>	<i>45-50</i>
· <b>Other information</b>	<i>No further relevant information available.</i>

**10 Stability and reactivity**

- **Reactivity**
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** *No decomposition if used according to specifications.*
- **Possibility of hazardous reactions** *No dangerous reactions known.*
- **Conditions to avoid** *No further relevant information available.*
- **Incompatible materials:** *No further relevant information available.*
- **Hazardous decomposition products:** *No dangerous decomposition products known.*

**11 Toxicological information**

- **Information on toxicological effects**
- **Acute toxicity:**
- **Primary irritant effect:**
- **on the skin:** *No irritant effect.*
- **on the eye:** *Strong irritant with the danger of severe eye injury.*
- **Sensitization:** *No sensitizing effects known.*
- **Additional toxicological information:**  
*The product shows the following dangers according to internally approved calculation methods for preparations:*  
*Irritant*
- **Carcinogenic categories**

· **IARC (International Agency for Research on Cancer)**

*None of the ingredients is listed.*

· **NTP (National Toxicology Program)**

*None of the ingredients is listed.*

· **OSHA-Ca (Occupational Safety & Health Administration)**

*None of the ingredients is listed.*

**12 Ecological information**

- **Toxicity**
- **Aquatic toxicity:** *No further relevant information available.*
- **Persistence and degradability** *No further relevant information available.*
- **Bioaccumulative potential** *No further relevant information available.*
- **Mobility in soil** *No further relevant information available.*

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- **Additional ecological information:**
- **General notes:**  
*Water hazard class 1 (Self-assessment): slightly hazardous for water*  
*Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.*
- **Results of PBT and vPvB assessment**
- **PBT:** *Not applicable.*
- **vPvB:** *Not applicable.*
- **Other adverse effects** *No further relevant information available.*

**13 Disposal considerations**

- **Waste treatment methods**
- **Recommendation:**  
*Must not be disposed of together with household garbage. Do not allow product to reach sewage system.*
- **Uncleaned packagings:**
- **Recommendation:** *Disposal must be made according to official regulations.*

**14 Transport information**

- |  |                        |
|--|------------------------|
| · <b>UN-Number</b>   |                        |
| · <b>DOT, ADR, ADN, IMDG, IATA</b>   | <i>Void</i>            |
| · <b>UN proper shipping name</b>   |                        |
| · <b>DOT, ADR, ADN, IMDG, IATA</b>   | <i>Void</i>            |
| · <b>Transport hazard class(es)</b>  |                        |
| · <b>DOT, ADR, ADN, IMDG, IATA</b>   |                        |
| · <b>Class</b>   | <i>Void</i>            |
| · <b>Packing group</b>   |                        |
| · <b>DOT, ADR, IMDG, IATA</b>  | <i>Void</i>            |
| · <b>Environmental hazards:</b>  |                        |
| · <b>Marine pollutant:</b>   | <i>No</i>              |
| · <b>Special precautions for user</b>  | <i>Not applicable.</i> |
| · <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b> | <i>Not applicable.</i> |
| · <b>UN "Model Regulation":</b>  | <i>-</i>               |

**15 Regulatory information**

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Sara**

· **Section 355 (extremely hazardous substances):**

*None of the ingredients is listed.*

· **Section 313 (Specific toxic chemical listings):**

*None of the ingredients is listed.*

· **TSCA (Toxic Substances Control Act):**

*All ingredients are listed.*

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· **Proposition 65**

· **Chemicals known to cause cancer:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

· **Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**

None of the ingredients is listed.

· **TLV (Threshold Limit Value established by ACGIH)**

TLV (ACGIH): 1000 ppm.

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

· **Product related hazard informations:**

The product has been classified and marked in accordance with directives on hazardous materials.

· **Hazard symbols:**



Irritant

· **Risk phrases:**

Risk of serious damage to eyes.

· **Safety phrases:**

Keep out of the reach of children.

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Wear eye/face protection.

If swallowed, seek medical advice immediately and show this container or label.

Dispose of this material and its container to hazardous or special waste collection point.

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing

Commercial Chemical Substances ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society) NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

Eye Dam. 1: Serious eye damage/eye irritation, Hazard Category 1