Material Name: CERAM-KOTE TZM Part B

Manufacturer Information
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GHS Classification:
- Acute Toxicity Dermal - Category 4
- Acute Toxicity Inhalation - Category 2 Skin
- Corrosion/Irritation - Category 1B
- Skin Sensitization - Category 1
- Toxic to Reproduction - Category 2
- Specific Target Organ Toxicity (Single Exposure) - Category 3

GHS LABEL ELEMENTS
Symbol(s)

Signal Word
Danger

Hazard Statements
Harmful in contact with skin.
Causes severe skin burns and eye damage. May cause an allergic skin reaction. Suspected of damaging fertility. May cause respiratory irritation.

Precautionary Statements
Prevention
- Wear protective gloves/protective clothing/eye protection/face protection. Do not breathe vapours.
- Use only outdoors or in a well-ventilated area. Wear respiratory protection.
- Wash thoroughly after handling.
- Contaminated work clothing should not be allowed out of the workplace.
- Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood. Use only outdoors or in a well-ventilated area.

Response
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/physician.
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
IF exposed or concerned: Get medical advice/attention.

Storage
Store locked up.

Disposal
Dispose of contents/container in accordance with local/regional/national/international regulations.

*** Section 3 - Composition / Information on Ingredients ***

<table>
<thead>
<tr>
<th>CAS#</th>
<th>Component</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>111-40-0</td>
<td>Diethylenetriamine</td>
<td>30-60</td>
</tr>
<tr>
<td>80-05-7</td>
<td>Bisphenol A</td>
<td>13-30</td>
</tr>
</tbody>
</table>

*** Section 4 - First Aid Measures ***

First Aid: Eyes
Get medical attention immediately. Call a poison center or physician. 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. Chemical burns must be treated promptly by a physician.

First Aid: Skin
Get medical attention immediately. Call a poison center or physician. Wash with plenty of soap and 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. Chemical burns must be treated promptly by a physician. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.

First Aid: Ingestion
Get medical attention immediately. Call a poison center or physician. 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. Chemical burns must be treated promptly by a physician. 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.
Safety Data Sheet

First Aid: Inhalation
Get medical attention immediately. Call a poison center or physician. 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. 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. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Protection of First-Aiders
No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

*** Section 5 - Fire Fighting Measures ***

General Fire Hazards
See Section 9 for Flammability Properties.
In a fire or if heated, a pressure increase will occur and the container may burst.

Hazardous Combustion Products
Decomposition products may include the following materials: carbon dioxide, carbon monoxide and nitrogen oxides.

Extinguishing Media
Use an extinguishing agent suitable for the surrounding fire.

Unsuitable Extinguishing Media
None

Fire Fighting Equipment/Instructions
Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

*** Section 6 - Accidental Release Measures ***

Recovery and Neutralization
Attempt to reclaim the free product, if this is possible.

Materials and Methods for Clean-Up
Small spill: Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill: Stop leak if without risk. Move containers from spill area. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as spilled product.
**Safety Data Sheet**

**Emergency Measures**
Isolate area. Keep unnecessary personnel away.

**Personal Precautions and Protective Equipment**
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 spilt material. Do not breathe vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

**Environmental Precautions**
Avoid dispersal of spilt 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).

**Prevention of Secondary Hazards**
None.

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**Section 7 - Handling and Storage**

**Handling Procedures**
Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapour or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. 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.

**Storage Procedures**
Store in a dry area under 85°F (29°C). 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.

**Incompatibilities**
Strong acids, strong bases, strong oxidizing agents.
**Section 8 - Exposure Controls / Personal Protection**

## Component Exposure Limits

### Diethylenetriamine (203-865-4)

- **ACGIH:** 1 ppm TWA
- **Austria:** 1 ppm TWA [TMW]; 4 mg/m3 TWA [TMW]
- **Belgium:** 1 ppm TWA; 4.3 mg/m3 TWA
- **Skin:** Potential for cutaneous absorption
  - **Denmark:** 1 ppm TWA; 4 mg/m3 TWA
  - **Finland:** 3 ppm STEL; 13 mg/m3 STEL 1 ppm TWA; 4.3 mg/m3 TWA
  - **France:** 1 ppm TWA [VME]; 4 mg/m3 TWA [VME]
  - **Greece:** 1 ppm TWA; 4 mg/m3 TWA 1 ppm TWA; 4.3 mg/m3 TWA
  - **Ireland:** TWA; 4 mg/m3 TWA
  - **Portugal:** 1 ppm TWA [VLE-MP]
  - **Spain:** 1 ppm TWA [VLA-ED]; 4.3 mg/m3 TWA [VLA-ED] skin - potential for cutaneous exposure sensitiser
  - **Sweden:** 1 ppm LLV; 4.5 mg/m3 LLV 2 ppm STV; 10 mg/m3 STV

### Bisphenol A (201-245-8)

- **Austria:** 5 mg/m3 STEL [KZW] (inhalable fraction) 5 mg/m3 TWA [TMW] (inhalable fraction) Sensitizer
- **Belgium:** 10 mg/m3 TWA
- **Denmark:** 3 mg/m3 TWA (particulate matter)
- **France:** 10 mg/m3 TWA [VME] (inhalable particulates)
- **Germany:** 5 mg/m3 TWA AGW (The risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed, inhalable fraction, exposure factor 1) 5 mg/m3 TWA MAK (inhalable fraction) 5 mg/m3 Peak (inhalable fraction)
- **Netherlands:** 10 mg/m3 TWA (respirable)
- **Spain:** 10 mg/m3 TWA [VLA-ED] (indicative limit value)

### Engineering Measures

Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

### Personal Protective Equipment: Respiratory

In case of inadequate ventilation wear respiratory protection. 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.

### Personal Protective Equipment: Hands

Use gloves approved to relevant standards e.g. EN 374 (Europe), F739 (US). Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material and dexterity. Always seek advice from glove suppliers.
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Personal Protective Equipment: Eyes
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.

Personal Protective Equipment: Skin and Body
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.

*** Section 9 - Physical & Chemical Properties ***

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Yellow, clear</td>
</tr>
<tr>
<td>Physical State</td>
<td>Liquid</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>0.1 kPa (20°C)</td>
</tr>
<tr>
<td>Boiling Point</td>
<td>&gt;200°C</td>
</tr>
<tr>
<td>Solubility (H2O)</td>
<td>Partially soluble</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>Not Available</td>
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<tr>
<td>Viscosity</td>
<td>Dynamic: 3400-5000 mPas</td>
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<tr>
<td>Flash Point</td>
<td>110°C</td>
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<tr>
<td>Upper Flammability Limit</td>
<td>Not Available</td>
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<tr>
<td>Burning Rate</td>
<td>Not Available</td>
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<tr>
<td>Odor</td>
<td>Amine-like</td>
</tr>
<tr>
<td>pH</td>
<td>11 (Conc. % w/w): 50%</td>
</tr>
<tr>
<td>Vapor Density</td>
<td>Not Available</td>
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<tr>
<td>Melting Point</td>
<td>Not Available</td>
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<tr>
<td>Specific Gravity</td>
<td>Not Available</td>
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<tr>
<td>VOC</td>
<td>Not Available</td>
</tr>
<tr>
<td>Octanol/H2O Coeff.</td>
<td>Not Available</td>
</tr>
</tbody>
</table>

*** Section 10 - Chemical Stability & Reactivity Information ***

Chemical Stability
This is a stable material.

Hazardous Reaction Potential
Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to Avoid
No specific data.

Incompatible Products
Strong acids, strong bases, strong oxidizing agents.

Hazardous Decomposition Products
Under normal conditions of storage and use, hazardous decomposition products should not be produced.

*** Section 11 - Toxicological Information ***

Acute Toxicity

Component Analysis - LD50/LC50
- Diethylenetriamine (111-40-0)
  - Oral LD50 Rat 819 mg/kg; Dermal LD50 Rabbit 672 mg/kg

- Bisphenol A (80-05-7)
  - Oral LD50 Rat 3200 mg/kg; Dermal LD50 Rabbit 3000 mg/kg

Potential Health Effects: Skin Corrosion Property/Stimulativeness
Causes severe burns. Harmful in contact with skin.
Potential Health Effects: Eye Critical Damage/ Stimulativeness
Causes serious eye damage.

Potential Health Effects: Ingestion
May cause burns to mouth, throat and stomach.

Potential Health Effects: Inhalation
May cause respiratory irritation. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

Respiratory Organs Sensitization/Skin Sensitization
May cause an allergic skin reaction.

Generative Cell Mutagenicity
This product is not reported to have any mutagenic effects.

Carcinogenicity
A: General Product Information
This product is not reported to have any carcinogenic effects.

B: Component Carcinogenicity
None of this product's components are listed by ACGIH, IARC, OSHA, NIOSH, or NTP.

Reproductive Toxicity
This product is not reported to have any reproductive toxicity effects.

Specified Target Organ General Toxicity: Single Exposure
May cause respiratory irritation.

Specified Target Organ General Toxicity: Repeated Exposure
This product is not reported to have any specific target organ toxicity repeated exposure effects.

Aspiration Respiratory Organs Hazard
Not an aspiration hazard.

*** Section 12 - Ecological Information ***

Ecotoxicity
A: General Product Information
This product is not reported to have any ecotoxicity effects.

B: Component Analysis - Ecotoxicity - Aquatic Toxicity
Diethylene triamine (111-40-0)

<table>
<thead>
<tr>
<th>Test &amp; Species</th>
<th>Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>96 Hr LC50 Leuciscus idus</td>
<td>430 mg/L [semi-static]</td>
</tr>
<tr>
<td>96 Hr LC50 Poecilia reticulata</td>
<td>248 mg/L [static]</td>
</tr>
<tr>
<td>96 Hr LC50 Poecilia reticulata</td>
<td>1014 mg/L [semi-static]</td>
</tr>
<tr>
<td>72 Hr EC50 Pseudokirchneriella subcapitata</td>
<td>1164 mg/L</td>
</tr>
<tr>
<td>96 Hr EC50 Pseudokirchneriella subcapitata</td>
<td>345.6 mg/L</td>
</tr>
<tr>
<td>96 Hr EC50 Desmodesmus subspicatus</td>
<td>592 mg/L</td>
</tr>
<tr>
<td>24 Hr EC50 Daphnia magna</td>
<td>37 mg/L</td>
</tr>
<tr>
<td>48 Hr EC50 Daphnia magna</td>
<td>16 mg/L</td>
</tr>
</tbody>
</table>
Safety Data Sheet

Bisphenol A (80-05-7)

Test & Species                  Conditions
96 Hr LC50 Pimephales promelas  3.6-5.4 mg/L [flow-through]
96 Hr LC50 Pimephales promelas  4.0-5.5 mg/L [static]
96 Hr LC50 Oncorhynchus mykiss  4 mg/L
96 Hr LC50 Brachydanio rerio    9.9 mg/L [static]
96 Hr EC50 Pseudokirchneriella subcapitata
48 Hr EC50 Daphnia magna        10.2 mg/L
48 Hr EC50 Daphnia magna        3.9 mg/L
48 Hr EC50 Daphnia magna        9.2 - 11.4 mg/L [Static]

Persistence/Degradability
No information available for the product.

Bioaccumulation
No information available for the product.

Mobility in Soil
No information available for the product.

*** Section 13 - Disposal Considerations ***

Waste Disposal Instructions
See Section 7 for Handling Procedures. See Section 8 for Personal Protective Equipment recommendations.

Disposal of Contaminated Containers or Packaging
Dispose of contents/container in accordance with local/regional/national/international regulations.

*** Section 14 - Transportation Information ***

IATA Information
Shipping Name: Diethylenetriamine
UN #: 2079 Hazard Class: 8 Packing Group: II

ICAO Information
Shipping Name: Diethylenetriamine
UN #: 2079 Hazard Class: 8 Packing Group: II

IMDG Information
Shipping Name: Diethylenetriamine
UN #: 2079 Hazard Class: 8 Packing Group: II

*** Section 15 - Regulatory Information ***

Regulatory Information

EU MARKING AND LABELLING:
Symbol(s):
C
Safety Data Sheet

Risk Phrases:
R34 Causes burns.
R21/22 Harmful in contact with skin and if swallowed. R43 May cause sensitization by skin contact. R62 Possible risk of impaired fertility.

Substance Analysis - Inventory

<table>
<thead>
<tr>
<th>Component/CAS</th>
<th>EC#</th>
<th>EEC</th>
<th>CAN</th>
<th>TSCA</th>
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</thead>
<tbody>
<tr>
<td>Diethylenetriamine 111-40-0</td>
<td>203-885-4</td>
<td>EINECS</td>
<td>DSL</td>
<td>Yes</td>
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<tr>
<td>Bisphenol A 80-05-7</td>
<td>201-245-8</td>
<td>EINECS</td>
<td>DSL</td>
<td>Yes</td>
</tr>
</tbody>
</table>

** **Section 16 - Other Information ** **

Key/Legend
ACGIH = American Conference of Governmental Industrial Hygienists; ADG = Australian Code for the Transport of Dangerous Goods by Road and Rail; ADR/RID = European Agreement of Dangerous Goods by Road/Rail; AS = Standards Australia; DFG = Deutsche Forschungsgemeinschaft; DOT = Department of Transportation; DSL = Domestic Substances List; EEC = European Economic Community; EINECS = European Inventory of Existing Commercial Chemical Substances; ELINCS = European List of Notified Chemical Substances; EU = European Union; HMIS = Hazardous Materials Identification System; IARC = International Agency for Research on Cancer; IMO = International Maritime Organization; IATA = International Air Transport Association; MAK = Maximum Concentration Value in the Workplace; NDSL = Non-Domestic Substances List; NFPA = National Fire Protection Association; NOHSC = National Occupational Health & Safety Commission; NTP = National Toxicology Program; STEL = Short-term Exposure Limit; TDG = Transportation of Dangerous Goods; TLV = Threshold Limit Value; TSCA = Toxic Substances Control Act; TWA = Time Weighted Average

Literature References
Available on request.

End of Sheet