

MATERIAL SAFETY DATA SHEET

1. Identification of the preparation and of the company:

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| Product name and/or code: | Epoxy Hardener – AP 1040 |
| Supplier/Manufacturer: | Admark Polycoats Pvt. Ltd. 207, Luna Village, Padra. Vadodara 391 440, Gujarat, India Tel. + 91 2662 221586 Fax + 91 2662 221587 Email: info@admarkpolycoats.com |
| Emergency Telephone No: | Contact National Poison center via Hospital or Registered Medical Practitioner or Call + 91 2662 221586 |
| Product use: | Epoxy coating hardener. |

2. Hazards Identification:

Classification according to Regulation 1272/2008 (CLP)

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|----------------------------|--|
| Skin corrosion/irritation | Category 1B, H 314 Causes severe skin burns, eye damage. |
| Acute toxicity, inhalation | Category 4, H 332 Harmful if inhaled. |
| Sensitization, skin | Category 1, H 317 May cause an allergic skin reaction. |

Label Elements according to Regulation 1272/2008 (CLP)

Hazard pictograms/symbols



GHS05



GHS07

Signal Word: Danger

Hazard-determining components of labeling: Diethylene triamine

Hazard Statements

- H 332 Harmful if inhaled.
- H 314 Causes severe skin burns and eye damage.
- H 317 May cause an allergic skin reaction.

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



Very toxic
Very toxic by inhalation.



Irritant
May cause sensitization by inhalation and skin contact.

- **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

GHS label elements

This product is classified and labeled according to the Globally Harmonized System (GHS).

Classification system:

NFPA ratings (scale 0 - 4)



Health = 4
 Fire = 1
 Reactivity = 0

HMIS-ratings (scale 0 - 4)



Health = 4
 Fire = 1
 Reactivity = 0

Precautionary Statements

General:

- P101 If medical advice is needed, have product container or label at hand.
- P102 Keep out of reach of children.
- P103 Read label before use.

Prevention:

- P260 Do not breathe dust/fume/gas/mist/vapours/spray.
- P280 Wear protective gloves/protective clothing/eye protection / face protection.
- P284 In case of inadequate ventilation wear respiratory protection.







Response:

- P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

Disposal:

- P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

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| Classification (Directive): | C CORROSIVE. |
| Other Hazards: | Corrosive. Harmful if in contact with skin, Harmful if swallowed. |

| 3. Composition / Information on ingredients: | | |
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| Substances presenting a health or environmental hazard within the meaning of the Dangerous Substances. Directive 67/548/EEC. | | |
| Chemical Name | Classification according to CLP | % by Weight |
| 1. Diethylene triamine CAS No. 111-40-0 EC No. 203-865-4 REACH Reg. No. 01-2119473793-27-0006 |  C R34;  Xn R21/22;  Xi R37;  Xi R43  Skin Corr. 1B, H314;  Acute Tox. 4, H302; Acute Tox. 4, H312; Skin Sens. 1, H317 STOT SE 3, H335 | < 4 |

| 4. First-aid measures | |
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| After inhalation: | Move exposed person to fresh air. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self contained Breathing apparatus. Keep the person warm and at rest. 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. Get medical attention. |
| After skin contact: | Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse with water at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse. |
| After eye contact: | Immediately flush eyes with plenty of clean water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention. |
| After Ingestion: | Wash out mouth with water. Remove dentures if any. Move the person to fresh air. Keep the person warm and at rest. If material has been swallowed and the affected 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 as to vomit does not enter the lungs. Get immediate medical attention if adverse health effect persists. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Loosen tight clothing such |

as a collar, Tie, Belt or Waistband. Protection for no action shall be taken involving any personal risk or without first-aiders suitable training .It may be dangerous to the person providing aid to give mouth-to-mouth respiration.

| 5. Fire-fighting measures: | |
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| Suitable extinguishing agents: | Use dry chemical CO ₂ , Water Spray or Foam. |
| Advice for firefighters: | Promptly isolate the scene by removing all person from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk/without suitable training. |
| Special PPE for Fire-fighters: | Fire-fighters should wear appropriate protective equipment and self fire fighters contained breathing apparatus (SCBA) operated in positive pressure. |

| 6. Accidental release measures. | |
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| Personal Precautions: | No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding area. Do not touch or walk through spilt material. Shut off all the ignition sources. No flares, smoking or flames in hazardous area. Provide adequate ventilation. Put on appropriate personal protective equipments. Environmental avoid dispersal of spilt material and runoff and contact with soil, precautions waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution. Methods of cleaning: Stop leak 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 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. Use spark-proof tools and explosion-proof equipments. Dispose via licensed waste disposal contractor. Contain and collect spillage with an electrically protected vacuum cleaner or by wet brushing and place in a container for disposal according to local regulations. |
| Environmental precautions: | Do not allow to enter sewers/ surface or ground water. |

| 7. Handling and Storage: | |
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| Handling: | Put on appropriate personal protective equipment Eating drinking, and smoking should be prohibited in areas where this material is handled, stored and processed. Workers |

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| Storage: | <p>should wash hands and face before eating or drinking. Avoid contact with eyes and skin. Use only with adequate ventilation. Do not enter confined spaces unless adequately ventilated. Keep in original container. Keep the container tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use non sparking tools. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by earthing and bonding containers and equipment before transferring the material. Empty containers may retain product residue and should be disposed according to local regulations.</p> <p>Store in original container protected from direct sunlight in a dry cool and well ventilated area, away from incompatible materials and food and drink. Eliminate all the ignition sources. Separate from oxidizing materials. 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.</p> |
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| 8. Exposure Controls/Personal Protection: | |
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| Ingredient Name | Exposure Limits |
| Diethylene triamine: | (ACGIH) Threshold Limit Value (TLV): 1 ppm, 4.2 mg/m ³ TWA (Skin) (NIOSH) Recommended Exposure Limit (REL): 1 ppm TWA (Skin) |
| Recommended Monitoring: | If the product contains ingredients with exposure limits, personal procedure workplace, atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and / or the necessary to use respiratory protective equipment. |
| Engineering Measures: | Use only with adequate ventilation. Use process exposures, local exhaust ventilation or other engineering controls to keep worker exposure to air born contaminants below any recommended or statutory limits. The engineering controls also need to keep gas vapor or dust concentrations below any lower explosive limits. Use explosive-proof ventilation equipment. |

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| Hygiene Measures: | Wash hands, fore arms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to work station location. |
| Personal Protection: | |
| Eyes: | Safety eye wear, goggles, complying with approved standard used. |
| Hands: | Chemical-resistant, impervious gloves complying with an approved standard should be worn all the times when handling chemicals. |
| Respiratory: | Use a properly fitted, air-purifying or air-fed respirator complying approved standard. Respirator selection must be based on known or anticipated exposure levels and hazard of the products. |
| Skin: | Personal protective equipment for the body should be selected based on the task being performed and the risks involved. |
| Environmental: | Emissions from ventilation or work process equipment should be exposure controls checked to ensure they comply with the environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment necessary to reduce emissions to acceptable levels. |

9. Physical and Chemical Properties.

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| Physical State: | Liquid |
| Colour | Amber |
| Odour | Ammonia like. |
| Density at 25 °C (ASTM 1475): | 0.98 g/cm ³ |
| Flash Point | 96 ° C |
| Solubility | Insoluble in water. |
| Viscosity at 25 °C (ISO 12058) | 2000 – 4000 m Pas. |
| NVM % | > 95 |

10. Stability and Reactivity

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| Stability: | Stable under recommended storage & handling conditions. |
| Hazardous: | Hazardous decomposition products are Carbon Monoxide, Carbon dioxide, smoke, Oxides of Nitrogen Products. |

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| Materials to avoid: | Keep away from the following materials to prevent strong Hazard reactions exothermic reactions – Oxidizing agents, strong acids and alkalis. |
| Conditions to avoid: | Keep away from heat, sparks, flames and direct sunlight. |

11. Toxicological Information:

There is no data available on preparation itself. The preparation has been assessed. Following the conventional method of the Dangerous Preparation directives 1999/45/EC and classified for toxicological hazards accordingly. See sections 2 and 15 for details.

Exposure to component vapour concentrations in excess of stated occupational exposure limit may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on the kidneys, lever and nervous system. Solvents may cause some of the above effects by absorption through skin. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and, in some extreme cases, loss of consciousness.

Repeated or prolonged contact with preparation may cause removal of natural fat from the skin, resulting in non allergic contact dermatitis and absorption through skin. If splashed in the eyes, the liquid may cause irritation and reversible damage. Swallowing may cause nausea, diarrhea, vomiting, gastro- intestinal irritation and chemical pneumonia.

Contains diethylene triamine, may produce allergic reaction.

Potential acute health effects

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| Inhalation | Harmful by inhalation. |
| Ingestion | Irritating to mouth, throat and stomach |
| Skin contact | Harmful in contact with skin. Irritating to skin. |
| Eye contact | Irritating to eyes. |

Acute toxicity:

LD/LC50 values relevant for classification: Irritating to eyes and skin.

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| 111-40-0 Diethylenetriamine | Oral LD 50 1080 mg/kg (rat) |
| | Dermal LD 50 1090 mg/kg (rabbit) |
| | Inhalative LC 50/4 h 0,3 mg/l (mouse) |

Potential chronic health effects:

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| Carcinogenicity | Not known significant effects or critical hazards. |
| Mutagenicity | Not known significant effects or critical hazards. |
| Reproductive Effect | Not known significant effects or critical hazards. |


Over Exposure Symptoms:



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| Inhalation | No known significant effects or critical hazard. |
| Ingestion | No known significant effects or critical hazard. |
| Skin | No known significant effects or critical hazard. |
| Target organs | Contains material which causes damage to the following |

organs. Eye, Lens or Cornea. Contains material which may cause damage to the following organs Mucous Membranes, Upper Respiratory tract, Skin.

| 12. Ecological Information: | | | |
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| There is no data available on the preparation itself. Do not allow to enter drains or watercourse. | | | |
| Ingredient | Species | Period | Result |
| Diethylene triamine | Fish (LC50) | 96 hour (s) | >100 mg/l |
| | Fish (NOEC) | 28 days | 10 mg/l |
| | Daphnia manga (LC50) | 48 hour (s) | 65 mg/l |
| | Daphnia manga(NOEC) | 21 days | 5.6 mg/l |
| | Algae (IC50) | 72 hour (s) | >100 mg/l |
| Other Ecological Information: | | | |
| Persistence / Degradability: | | No known significant effects or critical hazards. | |
| Bio accumulative Potential: | | No known significant effects or critical hazards. | |
| Other adverse affects: | | No known significant effects or critical hazards. | |

| 13. Disposal Considerations: | |
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| Method of disposal: | The generation of waste should be avoided or minimized whenever possible. Empty containers or liners may retain some product residues. This material and container must be disposed of in a safe way. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any local authority requirements. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. |

| 14. Transport Information: | |
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| Transport within user's premises: Always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident and spillage. | |
| International Transport Regulations: | |
| Proper shipping Name: | Epoxy Hardener AP 1040, Corrosive liquids, n.o.s. |
| UN Number: | 1760 |
| Class: | 8 |
| |  |
| Packing group: | III |

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| Additional Information: | |
| ADG Proper shipping Name: | Epoxy Hardener AP 1040, Corrosive liquids, n.o.s. |
| IMDG | Emergency schedules (EMS No.): F-A, S-B |
| |  |
| Transport in accordance with ADR/RID, IMDG/IMO/ICAO/IATA. | |
| Proper shipping Name: | Epoxy Hardener AP 1040, Corrosive liquids, n.o.s. |
| UN Number: | 1760 |
| Class: | 8 |
| |  |
| Packing group: | III |

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| 15. Regulatory Information: | |
| National regulations: Standard for Uniform Scheduling of Drugs and Poisons. | |
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| Control of Scheduled Carcinogenic Substances: No listed substance. | |
| Additional warning: | Contains Diethylene triamine, may produce skin irritation. |

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| 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. Ensure all national /local regulations are observed. | |
| Relevant phrases | |
| H302 | Harmful if swallowed. |
| H312 | Harmful in contact with skin. |
| H314 | Causes severe skin burns and eye damage. |
| H317 | May cause an allergic skin reaction. |
| H330 | Fatal if inhaled. |
| H335 | May cause respiratory irritation. |
| R21/22 | Harmful in contact with skin and if swallowed. |
| R26 | Very toxic by inhalation. |
| R34 | Causes burns. |
| R37 | Irritating to respiratory system. |
| R43 | May cause sensitisation by skin contact. |

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| Disclaimer: | |
| The information contained herein is accurate to the best of our knowledge. However, neither the manufacturer, supplier nor its subsidiaries, assures any liability whatsoever for the accuracy or completeness of the information contained herein. | |
| Final determination of suitability of the material (s) is the sole responsibility of the user. All the material may present unknown hazard and should be used very carefully. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist. | |