



Safety Data Sheet

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SECTION 1: Identification

1.1. Product identifier

TE Connectivity's Rapid 4300 B Component B (Hardener)

Product Identification Numbers

LH-A100-0876-1

1.2. Recommended use and restrictions on use

Recommended use

Hardener of two-component polyurethane resin system. Used for electrical castings., Industrial use

1.3. Supplier's details

| | |
|----------------------|---|
| MANUFACTURER: | 3M |
| DIVISION: | Electrical Markets Division |
| ADDRESS: | 3M Center, St. Paul, MN 55144-1000, USA |
| Telephone: | 1-888-3M HELPS (1-888-364-3577) |

1.4. Emergency telephone number

1-800-364-3577 or (651) 737-6501 (24 hours)

SECTION 2: Hazard identification

2.1. Hazard classification

Acute Toxicity (inhalation): Category 4.
Serious Eye Damage/Irritation: Category 2A.
Skin Corrosion/Irritation: Category 2.
Respiratory Sensitizer: Category 1.
Skin Sensitizer: Category 1.
Specific Target Organ Toxicity (respiratory irritation): Category 3.
Specific Target Organ Toxicity (repeated exposure): Category 1.

2.2. Label elements

Signal word

Danger

Symbols

Exclamation mark | Health Hazard |

Pictograms



Hazard Statements

Causes serious eye irritation.
Causes skin irritation.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause an allergic skin reaction.
Harmful if inhaled.
May cause respiratory irritation.

Causes damage to organs through prolonged or repeated exposure:
respiratory system |

Precautionary Statements

Prevention:

Do not breathe dust/fume/gas/mist/vapors/spray.
Use only outdoors or in a well-ventilated area.
In case of inadequate ventilation wear respiratory protection.
Wear eye/face protection.
Wear protective gloves.
Do not eat, drink or smoke when using this product.
Wash thoroughly after handling.
Contaminated work clothing must not be allowed out of the workplace.

Response:

IF INHALED: Remove person to fresh air and keep comfortable for breathing.
If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/attention.
IF ON SKIN: Wash with plenty of soap and water.
If skin irritation or rash occurs: Get medical advice/attention.
Take off contaminated clothing and wash it before reuse.
Call a POISON CENTER or doctor/physician if you feel unwell.

Storage:

Store in a well-ventilated place. Keep container tightly closed.
Store locked up.

Disposal:

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

2.3. Hazards not otherwise classified

None.

SECTION 3: Composition/information on ingredients

| Ingredient | C.A.S. No. | % by Wt |
|------------|------------|---------|
|------------|------------|---------|

| | | |
|---|-----------|---------------------|
| POLYMETHYLENE POLYPHENYLENE ISOCYANATE | 9016-87-9 | > 99 Trade Secret * |
|---|-----------|---------------------|

*The specific chemical identity and/or exact percentage (concentration) of this composition has been withheld as a trade secret.

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation:

Remove person to fresh air. If you feel unwell, get medical attention.

Skin Contact:

Immediately wash with soap and water. Remove contaminated clothing and wash before reuse. If signs/symptoms develop, get medical attention.

Eye Contact:

Immediately flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. Get medical attention.

If Swallowed:

Rinse mouth. If you feel unwell, get medical attention.

4.2. Most important symptoms and effects, both acute and delayed

See Section 11.1. Information on toxicological effects.

4.3. Indication of any immediate medical attention and special treatment required

Not applicable.

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media

In case of fire: Use a fire fighting agent suitable for ordinary combustible material such as water or foam to extinguish.

5.2. Special hazards arising from the substance or mixture

None inherent in this product.

Hazardous Decomposition or By-Products

| <u>Substance</u> | <u>Condition</u> |
|--------------------|-------------------|
| Carbon monoxide | During Combustion |
| Carbon dioxide | During Combustion |
| Hydrogen Cyanide | During Combustion |
| Oxides of Nitrogen | During Combustion |

5.3. Special protective actions for fire-fighters

No unusual fire or explosion hazards are anticipated.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Ventilate the area with fresh air. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapors, in accordance with good industrial hygiene practice. Warning! A motor could be an ignition source and could

cause flammable gases or vapors in the spill area to burn or explode. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Contain spill. Pour isocyanate decontaminant solution (90% water, 8% concentrated ammonia, 2% detergent) on spill and allow to react for 10 minutes. Or pour water on spill and allow to react for more than 30 minutes. Cover with absorbent material. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Remember, adding an absorbent material does not remove a physical, health, or environmental hazard. Collect as much of the spilled material as possible. Place in a container approved for transportation by appropriate authorities, but do not seal the container for 48 hours to avoid pressure build-up. Clean up residue with an appropriate solvent selected by a qualified and authorized person. Ventilate the area with fresh air. Read and follow safety precautions on the solvent label and SDS. Dispose of collected material as soon as possible.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Do not breathe dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. Wash contaminated clothing before reuse. Avoid contact with oxidizing agents (eg. chlorine, chromic acid etc.) Keep away from reactive metals (eg. Aluminum, zinc etc.) to avoid the formation of hydrogen gas that could create an explosion hazard.

7.2. Conditions for safe storage including any incompatibilities

Store in a well-ventilated place. Keep container tightly closed to prevent contamination with water or air. If contamination is suspected, do not reseal container. Store away from heat. Store away from acids. Store away from strong bases. Store away from oxidizing agents. Store away from amines.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

| Ingredient | C.A.S. No. | Agency | Limit type | Additional Comments |
|--|------------|--------------------------------|-----------------------------|---------------------|
| Benzene, 1,1'-methylenebis[4-isocyanato- | 9016-87-9 | Amer Conf of Gov. Indust. Hyg. | TWA:0.005 ppm | |
| Benzene, 1,1'-methylenebis[4-isocyanato- | 9016-87-9 | US Dept of Labor - OSHA | CEIL:0.2 mg/m3(0.02 ppm) | |
| FREE ISOCYANATES | 9016-87-9 | Manufacturer determined | TWA:0.005 ppm;STEL:0.02 ppm | |

Amer Conf of Gov. Indust. Hyg. : American Conference of Governmental Industrial Hygienists
 American Indust. Hygiene Assoc : American Industrial Hygiene Association
 Chemical Manufacturer Rec Guid : Chemical Manufacturer's Recommended Guidelines
 US Dept of Labor - OSHA : United States Department of Labor - Occupational Safety and Health Administration
 TWA: Time-Weighted-Average
 STEL: Short Term Exposure Limit
 CEIL: Ceiling

8.2. Exposure controls

8.2.1. Engineering controls

Curing enclosures must be exhausted to outdoors or to a suitable emission control device. Use general dilution ventilation

and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapors/spray. If ventilation is not adequate, use respiratory protection equipment.

8.2.2. Personal protective equipment (PPE)

Eye/face protection

Select and use eye/face protection to prevent contact based on the results of an exposure assessment. The following eye/face protection(s) are recommended:

Indirect Vented Goggles

Skin/hand protection

Select and use gloves and/or protective clothing approved to relevant local standards to prevent skin contact based on the results of an exposure assessment. Selection should be based on use factors such as exposure levels, concentration of the substance or mixture, frequency and duration, physical challenges such as temperature extremes, and other use conditions. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible gloves/protective clothing.

Gloves made from the following material(s) are recommended: Neoprene

Nitrile Rubber

Polymer laminate

If this product is used in a manner that presents a higher potential for exposure (eg. spraying, high splash potential etc.), then use of protective coveralls may be necessary. Select and use body protection to prevent contact based on the results of an exposure assessment. The following protective clothing material(s) are recommended: Apron - Neoprene

Apron - Nitrile

Apron - polymer laminate

Respiratory protection

An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:

Half facepiece or full facepiece air-purifying respirator suitable for organic vapors and particulates

For questions about suitability for a specific application, consult with your respirator manufacturer.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

| | |
|----------------------------------|---|
| General Physical Form: | Liquid |
| Odor, Color, Grade: | Earthy musty brown liquid. |
| Odor threshold | <i>No Data Available</i> |
| pH | <i>No Data Available</i> |
| Melting point | < 10 [<i>Details: crystallization</i>] |
| Boiling Point | > 200 °C |
| Flash Point | > 200 °C [<i>Test Method: Closed Cup</i>] |
| Evaporation rate | <i>No Data Available</i> |
| Flammability (solid, gas) | Not Applicable |
| Flammable Limits(LEL) | <i>Not Applicable</i> |
| Flammable Limits(UEL) | <i>Not Applicable</i> |
| Vapor Pressure | 0.00001 mbar [<i>Details: (20 °C)</i>] |
| Vapor Density | <i>No Data Available</i> |

| | |
|---|------------------------------------|
| Density | 1.24 g/ml |
| Specific Gravity | 1.24 [Details: Ref Std: 1 = Water] |
| Solubility in Water | Nil |
| Solubility- non-water | No Data Available |
| Partition coefficient: n-octanol/ water | No Data Available |
| Autoignition temperature | > 400 |
| Decomposition temperature | No Data Available |
| Viscosity | 200 MPa-s |
| Average particle size | No Data Available |
| Bulk density | No Data Available |
| Hazardous Air Pollutants | No Data Available |
| Molecular weight | No Data Available |
| Volatile Organic Compounds | No Data Available |
| Percent volatile | No Data Available |
| Softening point | No Data Available |
| VOC Less H2O & Exempt Solvents | No Data Available |

SECTION 10: Stability and reactivity

10.1. Reactivity

This material may be reactive with certain agents under certain conditions - see the remaining headings in this section.

10.2. Chemical stability

Stable.

10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur. Hazardous polymerization will not occur under the prescribed conditions of use according to this MSDS.

10.4. Conditions to avoid

Heat

10.5. Incompatible materials

Strong acids
Alcohols
Amines
Strong bases
Alkali and alkaline earth metals
Water
Reactive metals
Strong oxidizing agents

10.6. Hazardous decomposition products

| <u>Substance</u> | <u>Condition</u> |
|------------------|------------------|
| None known. | |

Refer to section 5.2 for hazardous decomposition products during combustion.

SECTION 11: Toxicological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labeling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.

11.1. Information on Toxicological effects

Signs and Symptoms of Exposure

Based on test data and/or information on the components, this material may produce the following health effects:

Inhalation:

Harmful if inhaled.

Respiratory Tract Irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

Allergic Respiratory Reaction: Signs/symptoms may include difficulty breathing, wheezing, cough, and tightness of chest.

May cause target organ effects after inhalation.

Skin Contact:

Skin Irritation: Signs/symptoms may include localized redness, swelling, itching, dryness, cracking, blistering, and pain.

Allergic Skin Reaction (non-photo induced): Signs/symptoms may include redness, swelling, blistering, and itching.

Eye Contact:

Severe Eye Irritation: Signs/symptoms may include significant redness, swelling, pain, tearing, cloudy appearance of the cornea, and impaired vision.

Ingestion:

Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

Target Organ Effects:

Prolonged or repeated exposure may cause:

Respiratory Effects: Signs/symptoms may include cough, shortness of breath, chest tightness, wheezing, increased heart rate, bluish colored skin (cyanosis), sputum production, changes in lung function tests, and/or respiratory failure.

Toxicological Data

If a component is disclosed in section 3 but does not appear in a table below, either no data are available for that endpoint or the data are not sufficient for classification.

Acute Toxicity

| Name | Route | Species | Value |
|--|--------------------------------|---------|---|
| Overall product | Dermal | | No data available; calculated ATE > 5,000 mg/kg |
| Overall product | Inhalation-Vapor(4 hr) | | No data available; calculated ATE 10 - 20 mg/l |
| Overall product | Ingestion | | No data available; calculated ATE > 5,000 mg/kg |
| POLYMETHYLENE POLYPHENYLENE ISOCYANATE | Inhalation-Vapor | | LC50 estimated to be 10 - 20 mg/l |
| POLYMETHYLENE POLYPHENYLENE ISOCYANATE | Dermal | Rabbit | LD50 > 5,000 mg/kg |
| POLYMETHYLENE POLYPHENYLENE ISOCYANATE | Inhalation-Dust/Mist (4 hours) | Rat | LC50 0.369 mg/l |
| POLYMETHYLENE POLYPHENYLENE ISOCYANATE | Ingestion | Rat | LD50 31,600 mg/kg |

ATE = acute toxicity estimate

Skin Corrosion/Irritation

| Name | Species | Value |
|--|-------------------------|----------|
| POLYMETHYLENE POLYPHENYLENE ISOCYANATE | official classification | Irritant |

Serious Eye Damage/Irritation

| Name | Species | Value |
|--|-------------------------|-----------------|
| POLYMETHYLENE POLYPHENYLENE ISOCYANATE | official classification | Severe irritant |

Skin Sensitization

| Name | Species | Value |
|--|-------------------------|-------------|
| POLYMETHYLENE POLYPHENYLENE ISOCYANATE | official classification | Sensitizing |

Respiratory Sensitization

| Name | Species | Value |
|--|---------|-------------|
| POLYMETHYLENE POLYPHENYLENE ISOCYANATE | Human | Sensitizing |

Germ Cell Mutagenicity

| Name | Route | Value |
|--|----------|--|
| POLYMETHYLENE POLYPHENYLENE ISOCYANATE | In Vitro | Some positive data exist, but the data are not sufficient for classification |

Carcinogenicity

| Name | Route | Species | Value |
|--|------------|---------|--|
| POLYMETHYLENE POLYPHENYLENE ISOCYANATE | Inhalation | Rat | Some positive data exist, but the data are not sufficient for classification |

Reproductive Toxicity

Reproductive and/or Developmental Effects

| Name | Route | Value | Species | Test Result | Exposure Duration |
|--|------------|--|---------|------------------|----------------------|
| POLYMETHYLENE POLYPHENYLENE ISOCYANATE | Inhalation | Some positive developmental data exist, but the data are not sufficient for classification | Rat | NOAEL 0.004 mg/l | during organogenesis |

Target Organ(s)

Specific Target Organ Toxicity - single exposure

| Name | Route | Target Organ(s) | Value | Species | Test Result | Exposure Duration |
|--|------------|------------------------|----------------------------------|-------------------------|---------------------|-------------------|
| POLYMETHYLENE POLYPHENYLENE ISOCYANATE | Inhalation | respiratory irritation | May cause respiratory irritation | official classification | NOAEL Not available | |

Specific Target Organ Toxicity - repeated exposure

| Name | Route | Target Organ(s) | Value | Species | Test Result | Exposure Duration |
|--|------------|--------------------|--|---------|------------------|-------------------|
| POLYMETHYLENE POLYPHENYLENE ISOCYANATE | Inhalation | respiratory system | Causes damage to organs through prolonged or repeated exposure | Rat | LOAEL 0.004 mg/l | 13 weeks |

Aspiration Hazard

| Name | Value |
|------|-------|
| | |

Please contact the address or phone number listed on the first page of the SDS for additional toxicological information on this material and/or its components.

SECTION 12: Ecological information

Ecotoxicological information

Please contact the address or phone number listed on the first page of the SDS for additional ecotoxicological information on this material and/or its components.

Chemical fate information

Please contact the address or phone number listed on the first page of the SDS for additional chemical fate information on this material and/or its components.

SECTION 13: Disposal considerations

13.1. Disposal methods

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

Incinerate in a permitted waste incineration facility. Proper destruction may require the use of additional fuel during incineration processes. As a disposal alternative, utilize an acceptable permitted waste disposal facility. Empty drums/barrels/containers used for transporting and handling hazardous chemicals (chemical substances/mixtures/preparations classified as Hazardous as per applicable regulations) shall be considered, stored, treated & disposed of as hazardous wastes unless otherwise defined by applicable waste regulations. Consult with the respective regulating authorities to determine the available treatment and disposal facilities.

EPA Hazardous Waste Number (RCRA): Not regulated

SECTION 14: Transport Information

For Transport Information, please visit <http://3M.com/Transportinfo> or call 1-800-364-3577 or 651-737-6501.

SECTION 15: Regulatory information

15.1. US Federal Regulations

Contact 3M for more information.

311/312 Hazard Categories:

Fire Hazard - No Pressure Hazard - No Reactivity Hazard - Yes Immediate Hazard - Yes Delayed Hazard - Yes

Section 313 Toxic Chemicals subject to the reporting requirements of that section and 40 CFR part 372 (EPCRA):

| <u>Ingredient</u> | <u>C.A.S. No</u> | <u>% by Wt</u> |
|---|------------------|----------------|
| POLYMETHYLENE POLYPHENYLENE ISOCYANATE | 9016-87-9 | > 99 |
| POLYMETHYLENE POLYPHENYLENE ISOCYANATE (DIISOCYANATES (CERTAIN CHEMICALS ONLY)) | 9016-87-9 | > 99 |

15.2. State Regulations

Contact 3M for more information.

15.3. Chemical Inventories

The components of this material are in compliance with the provisions of Australia National Industrial Chemical Notification and Assessment Scheme (NICNAS). Certain restrictions may apply. Contact the selling division for additional information.

The components of this product are in compliance with the new substance notification requirements of CEPA.

The components of this material are in compliance with the China "Measures on Environmental Management of New Chemical Substance". Certain restrictions may apply. Contact the selling division for additional information.

The components of this material are in compliance with the provisions of Japan Industrial Safety and Health Law. Certain restrictions may apply. Contact the selling division for additional information.

The components of this material are in compliance with the provisions of the Korean Toxic Chemical Control Law. Certain restrictions may apply. Contact the selling division for additional information.

The components of this material are in compliance with the provisions of Japan Chemical Substance Control Law. Certain restrictions may apply. Contact the selling division for additional information.

The components of this material are in compliance with the provisions of Philippines RA 6969 requirements. Certain restrictions may apply. Contact the selling division for additional information.

The components of this product are in compliance with the chemical notification requirements of TSCA.

Contact 3M for more information.

15.4. International Regulations

Contact 3M for more information.

This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SECTION 16: Other information

NFPA Hazard Classification

Health: 2 Flammability: 1 Instability: 2 Special Hazards: None

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

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