

SAFETY DATA SHEET

Version: 1.0
Date of Issue: 09 May 2018
Date of First Issue: 09 May 2018

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In accordance with Schedule 1 of Hazardous Products Regulations (HPR) (WHMIS 2015)

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product identifier

Product Name M-Bond Curing Agent – Type 15
Other Means of Identification None

Recommended use and restrictions

Recommended use Adhesives
Restrictions on use None known

Initial Supplier Identifier

Company Identification VISHAY MEASUREMENTS GROUP, INC.
Telephone Post Office Box 27777
Raleigh, NC 27611
USA
E-Mail (competent person) mm.us@vishaypg.com

Emergency telephone number

Emergency Phone No. 1-800-424-9300 CHEMTREC (24 hours)
Languages spoken English

SECTION 2: HAZARDS IDENTIFICATION

Classification of the substance or mixture

In accordance with Schedule 1 of Hazardous Products Regulations (HPR) (WHMIS 2015)

Flammable Liquid - Category 3
Acute toxicity (Oral) - Category 4
Acute toxicity (Dermal) - Category 3
Skin corrosion/irritation – Category 1
Skin sensitization - Category 1
Eye damage, category 1
Specific target organ toxicity — single exposure, Category 3

Label elements

Hazard Pictogram(s)



Signal Word(s)

DANGER

Hazard Statement(s)

Flammable liquid and vapour.
Harmful if swallowed.
Toxic in contact with skin.
Causes severe skin burns and eye damage.
May cause an allergic skin reaction.
May cause respiratory irritation.

Precautionary Statement(s)

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Ground/bond container and receiving equipment.
Use non-sparking handtools.
Wear protective gloves/protective clothing/eye protection/face protection.
Do not breathe dust/fume/gas/mist/vapours/spray.
Take off contaminated clothing and wash it before reuse.
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
Do NOT induce vomiting.

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IF ON SKIN: Wash with plenty of water.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
Call a POISON CENTER/doctor if you feel unwell.
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.
Store locked up.
Dispose of contents in accordance with local, state or national legislation.

Other hazards

None

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Substances

GHS Classification

Chemical Name	CAS No.	Concentration (%W/W)	Common name(s), synonym(s) of the substance	Hazard classification
3-Diethylaminopropylamine	104-78-9	80 - 100	3-aminopropyldiethylamine; N,N-diethyl-1,3-diaminopropane; DEAPA	Flammable Liquid - Category 3 Acute toxicity (Oral) - Category 4 Acute toxicity (Dermal) - Category 3 Skin corrosion/irritation - Category 1 Skin sensitization - Category 1 Specific target organ toxicity — single exposure - Category 3 (Respiratory tract)

Prescribed Concentration Ranges used for trade secret purposes (Canada Gazette, Part II, Vol. 152, No. 8)

Mixtures Not applicable

SECTION 4: FIRST AID MEASURES



Description of first aid measures

Self-protection of the first aider

Use personal protective equipment as required. Wear appropriate personal protective equipment, avoid direct contact. Ensure adequate ventilation. Avoid contact with skin, eyes or clothing. Avoid breathing vapours.

Inhalation

IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Do not use mouth-to-mouth resuscitation. Get medical advice/attention if you feel unwell.

Skin Contact

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. Immediately call a POISON CENTER/doctor.

Eye Contact

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor. Treatment by an ophthalmologist due to possible caustic burn of the eyes may be required.

Ingestion

IF SWALLOWED: Rinse mouth. Do not induce vomiting unless instructed to do so by medical personnel. Immediately call a POISON CENTER/doctor.

Most important symptoms and effects, both acute and delayed

Harmful if swallowed. Toxic in contact with skin. Causes severe skin burns and eye damage. May cause an allergic skin reaction. May cause respiratory irritation. (Respiratory tract, Exposure route: Inhalation)

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

IF IN EYES: Obtain prompt consultation, preferably from an ophthalmologist. Chemical eye burns may require extended irrigation.

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SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing media

Suitable Extinguishing Media

As appropriate for surrounding fire. Extinguish with carbon dioxide, dry chemical, foam or waterspray.

Unsuitable extinguishing Media

Do not use water jet. Direct water jet may spread the fire.

Special hazards arising from the substance or mixture

Flammable liquid and vapour. May decompose in a fire giving off toxic fumes. Decomposes in a fire giving off toxic fumes: Ammonia, Nitrogen oxides, Carbon monoxide and Carbon dioxide. Vapours are heavier than air and may travel considerable distances to a source of ignition and flashback.

Special protective equipment and precautions for fire fighters

Fire fighters should wear complete protective clothing including self-contained breathing apparatus. Do not breathe fumes. Keep containers cool by spraying with water if exposed to fire. Avoid run off to waterways and sewers.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Use personal protective equipment as required. Contaminated clothing should be laundered before reuse. Avoid contact with skin, eyes or clothing. Avoid breathing vapours. Vapours are heavier than air and may travel considerable distances to a source of ignition and flashback. Stop leak if safe to do so. Eliminate all ignition sources if safe to do so. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ensure adequate ventilation.

Environmental precautions

Avoid release to the environment. Do not allow to enter drains, sewers or watercourses.

Methods and material for containment and cleaning up

Use non-sparking equipment when picking up flammable spill. Adsorb spillages onto sand, earth or any suitable adsorbent material. Transfer to a container for disposal. Ventilate the area and wash spill site after material pick-up is complete. Dispose of this material and its container as hazardous waste.

Reference to other sections

See Section: 8, 13

SECTION 7: HANDLING AND STORAGE

Precautions for safe handling

Ensure operatives are trained to minimise exposures. Ensure adequate ventilation. Wear appropriate personal protective equipment, avoid direct contact. See Section: 8. Avoid contact with skin, eyes or clothing. Do not breathe vapour. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep good industrial hygiene. Wash hands thoroughly after handling. Contaminated clothing should be thoroughly cleaned. Do not eat, drink or smoke when using this product. Wash hands before breaks and after work.

Conditions for safe storage, including any incompatibilities

Storage temperature

Store in a well-ventilated place. Keep container tightly closed. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ambient.

Incompatible materials

Keep away from: Strong oxidising agents, Acids, Nitrates, Nitrites, Halogens, Carbon dioxide, Nitric oxide and Water. May react violently with: Alkalis.

Specific end use(s)

See Section: 1.2

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Occupational Exposure Limits

Not established.

Biological limit value

Not established.

Exposure controls

Appropriate engineering controls

Ensure adequate ventilation. or Use appropriate containment. Store in a cool/low-temperature, well-ventilated (dry) place away from heat and ignition sources. Guarantee that the eye flushing systems and safety showers are located close to the working place.

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Individual protection measures, such as personal protective equipment (PPE)

Keep good industrial hygiene. Wear appropriate personal protective equipment, avoid direct contact. Avoid contact with skin, eyes or clothing. Do not breathe vapour. Wash hands before breaks and after work. Keep work clothes separately. Do not eat, drink or smoke at the work place.

Eye/face protection



Wear protective eye glasses for protection against liquid splashes. Wear eye protection with side protection.

Skin protection



Hand protection:

Wear impervious gloves. Gloves should be changed regularly to avoid permeation problems. Breakthrough time of the glove material: refer to the information provided by the gloves' producer.

Body protection:

Wear impervious protective clothing, including boots, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Respiratory protection



In case of inadequate ventilation wear respiratory protection. A suitable mask with filter type A may be appropriate.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	Almost colourless to pale yellow Liquid
Odour	Amine-like Odour
Odour threshold	Not available.
pH	Not established.
Melting point/freezing point	Not established.
Initial boiling point and boiling range	168-171°C
Flash point	53°C
Evaporation rate (Water = 1)	Not available.
Flammability (solid, gas)	Not applicable - Liquid
Upper/lower flammability or explosive limits	Flammable Limits (Lower) (%v/v) 1, Flammable Limits (Upper) (%v/v) 7.5
Vapour pressure	2.2 mbar @ 20°C
Vapour density	Not available.
Relative density	0.82 (H ₂ O = 1)
Solubility(ies)	Miscible with: Water
Partition coefficient: n-octanol/water	Not available.
Auto-ignition temperature	Not available.
Decomposition Temperature	Not available.
Viscosity	Not available.
Explosive properties	Not explosive.
Oxidising properties	Not oxidising.

Other information

Volatile Organic Compound Content: 0%

SECTION 10: STABILITY AND REACTIVITY

Reactivity

Stable under normal conditions.

Chemical stability

Stable under normal conditions.

Possibility of hazardous reactions

May react violently with: Alkalis.

Conditions to avoid

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

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Incompatible materials

Keep away from: Strong oxidising agents, Acids, Nitrates, Nitrites, Halogens, Carbon dioxide, Nitric oxide and Water.

Hazardous decomposition product(s)

Decomposes in a fire giving off toxic fumes: Ammonia, Nitrogen oxides, Carbon monoxide and Carbon dioxide.

SECTION 11: TOXICOLOGICAL INFORMATION

Information on toxicological effects

Acute toxicity - Ingestion

Acute toxicity (Oral) - Category 4: Harmful if swallowed.

LD50 (oral,rat) mg/kg: 830 (OECD 401)

Acute toxicity - Inhalation

Based upon the available data, the classification criteria are not met.

Acute Toxicity Estimate Mixture Calculation: Estimated LC50 >20.0 mg/l.

Acute toxicity - Skin Contact

Acute toxicity (Inhalation) - Category 3: Toxic in contact with skin.

LD50 (skin,rabbit) mg/kg: 524 (OECD 402)

Skin corrosion/irritation

Skin corrosion/irritation - Category 1A: Causes severe skin burns.

Corrosive to skin. (rabbit) (Unnamed, 1961)

Serious eye damage/irritation

Eye damage, category 1: Causes serious eye damage.

Corrosive to eyes. (rabbit) (Unnamed, 1961)

Respiratory or skin sensitization

Skin sensitization - Category 1: May cause an allergic skin reaction.

Sensitisation (guinea pig) - Positive (Thorgeirsson, 1987)

Germ cell mutagenicity

Based upon the available data, the classification criteria are not met.

Carcinogenicity

Based upon the available data, the classification criteria are not met.

Reproductive toxicity

Based upon the available data, the classification criteria are not met.

STOT - single exposure

Specific target organ toxicity — single exposure, Category 3: May cause respiratory irritation.

No data

STOT - repeated exposure

Based upon the available data, the classification criteria are not met.

Aspiration hazard

Based upon the available data, the classification criteria are not met.

Other information

None known.

SECTION 12: ECOLOGICAL INFORMATION

Toxicity

Based upon the available data, the classification criteria are not met.

Acute: LC50 (fish) mg/l 146.6 (Unnamed, 1988)

Chronic: No data

Persistence and degradability

This product is readily biodegradable in water.

Bioaccumulative potential

The product has low potential for bioaccumulation.

Mobility in soil

The product is predicted to have high mobility in soil.

Other adverse effects

None known.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste treatment methods

Dispose of this material and its container as hazardous waste. Send after pre-treatment to a appropriate hazardous waste incinerator facility according to legislation.

SECTION 14: TRANSPORT INFORMATION

	ADR/RID	IMDG	IATA/ICAO
14.1 UN number	UN 2684	UN 2684	UN 2684
14.2 UN proper shipping name	3- DIETHYLAMINOPROPY L-AMINE	3- DIETHYLAMINOPROPY L-AMINE	3- DIETHYLAMINOPROPY L-AMINE
14.3 Transport hazard class(es)	3 + 8	3 + 8	3 + 8
14.4 Packing group	III	III	III
14.5 Environmental hazards	Not classified as a Marine Pollutant.	Not classified as a Marine Pollutant.	Not classified as a Marine Pollutant.
14.6 Special precautions for user	See Section: 2		

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14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code Not applicable

SECTION 15: REGULATORY INFORMATION

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

National regulations

CEPA, Domestic Substances List	Listed
CEPA, Priority Substances List	Not listed
CEPA, List of Toxic Substances (Schedule 1)	Not listed
CEPA, National Pollutant Release Inventory	Not listed
CEPA, Environmental Emergency Regulations	Not listed

Non-Regional

IARC Monographs, List of Classifications	Not listed
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SECTION 16: OTHER INFORMATION

The following sections contain revisions or new statements: Not applicable – V1.0

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References:

Existing Safety Data Sheet (SDS).

EU: Harmonised Classification(s) for 3-Diethylaminopropylamine (CAS No. 104-78-9). Existing ECHA registration(s) for 3-Diethylaminopropylamine (CAS No. 104-78-9).

Literature References:

1. Thorgeirsson A. 1978. Sensitization capacity of epoxy resin hardeners in the guinea pig. Acta Dermato Venereol, 58, 332-336.

LEGEND

LTEL: Long Term Exposure Limit	STEL: Short Term Exposure Limit
DNEL: Derived No Effect Level	PNEC: Predicted No Effect Concentration
PBT: PBT: Persistent, Bioaccumulative and Toxic	vPvB: very Persistent and very Bioaccumulative
IARC: International Agency for Research on Cancer	NTP: National Toxicology Program
OSHA = Occupational Safety and Health Administration	NIOSHTIC: National Institute for Occupational Safety and Health Technical Information Center
ACGIH: American conference of Governmental Industrial Hygiene	BEI: Biological Exposure Indices (ACGIH)
TLV: Threshold Limit Value (ACGIH)	TWA: Time Weighted Average
VOC: Volatile Organic Compound	EU: European Union
CEPA (Canadian Environmental Protection Act)	

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