

SAFETY DATA SHEET

Version: 1.0

Date of Issue: 25 May 2018

Date of First Issue: 25 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 200 Catalyst C
Other Means of Identification None

Recommended use and restrictions

Recommended use Adhesives.
Restrictions on use Anything other than the above.

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 2
Skin sensitization - Category 1
Eye Irritation - Category 2
Specific target organ toxicity — single exposure - Category 1
Specific target organ toxicity — single exposure - Category 3
Aquatic toxicity, Chronic - Category 3

Label elements

Hazard Pictogram(s)



Signal Word(s)

DANGER

Hazard Statement(s)

Highly flammable liquid and vapour.
May cause an allergic skin reaction.
Causes serious eye irritation.
Causes damage to organs.
May cause drowsiness or dizziness.

Precautionary Statement(s)

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Ground and bond container and receiving equipment.
Use explosion proof electrical equipment.
Wear protective gloves/protective clothing/eye protection/face protection.
Do not eat, drink or smoke when using this product.
Avoid breathing mist/vapours/spray.
IF exposed or concerned: Call a POISON CENTER/doctor.
IF ON SKIN: Wash with plenty of water.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

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If eye irritation persists, get medical advice/attention.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
Store locked up.
Store in a well-ventilated place. Keep cool.

Other hazards

Can form explosive mixture with air.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Substances Not applicable

Mixtures

GHS Classification

Chemical Name	CAS No.	Concentration (%W/W)	Common name(s), synonym(s) of the substance	Hazard classification
Propan-2-ol	67-63-0	80 - 100	Propan-2-ol; IPA; Isopropyl alcohol	Flammable Liquid - Category 2 Eye Irritation - Category 2 Specific target organ toxicity — single exposure - Category 3 (Narcosis)
n-Phenyldiethanolamine	120-07-0	1 - 5	2,2'-phenyliminodiethanol; Diethanolaminobenzene; Diethanolaniline	Skin sensitization - Category 1 Eye damage, category 1 Specific target organ toxicity — single exposure - Category 1 (Blood circulatory system) Aquatic toxicity, Chronic - Category 3

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

SECTION 4: FIRST AID MEASURES



Description of first aid measures

Self-protection of the first aider

Inhalation

Skin Contact

Eye Contact

Ingestion

Most important symptoms and effects, both acute and delayed

Indication of any immediate medical attention and special treatment needed

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

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell.

IF ON SKIN: Wash with plenty of water. Take off contaminated clothing and wash before reuse. If skin irritation occurs, get medical advice/attention.

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 SWALLOWED: Rinse mouth. Do not give anything by mouth to an unconscious person. Do not induce vomiting. Obtain medical attention.

Causes serious eye irritation. May cause an allergic skin reaction. Causes damage to organs (Blood). May cause drowsiness or dizziness.

Treat symptomatically.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing media

Suitable Extinguishing Media

Unsuitable extinguishing Media

Special hazards arising from the substance or mixture

Extinguish with carbon dioxide, dry chemical, foam or waterspray.

Do not use water jet.

Highly flammable liquid and vapour. May decompose in a fire giving off toxic fumes. Carbon monoxide, Carbon dioxide. The vapour may be invisible, heavier

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Special protective equipment and precautions for fire fighters

than air and spread along ground. Prevent liquid entering sewers, basements and workpits; vapour may create explosive atmosphere.

Fire fighters should wear complete protective clothing including self-contained breathing apparatus. Use non-sparking equipment when picking up flammable spill. 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. Wear appropriate personal protective equipment, avoid direct contact. See Section: 8 Contaminated clothing should be laundered before reuse. Ensure adequate ventilation. Avoid breathing vapours. Avoid contact with skin, eyes or clothing. Remove all ignition sources. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. The vapour is heavier than air; beware of pits and confined spaces.

Environmental precautions

Avoid release to the environment. Prevent liquid entering sewers, basements and workpits; vapour may create explosive atmosphere.

Methods and material for containment and cleaning up

Small spillages: Allow small spillages to evaporate provided there is adequate ventilation. Contain spillages with sand, earth or any suitable adsorbent material. Transfer to a lidded container for disposal or recovery. Dispose of this material and its container as hazardous waste.

Reference to other sections

Large spillages: Evacuate the area and keep personnel upwind. Notify police and fire brigade as soon as possible.
See Section: 8, 13

SECTION 7: HANDLING AND STORAGE

Precautions for safe handling

Ground and bond container and receiving equipment. Ensure adequate ventilation. Avoid breathing vapours. Avoid contact with skin, eyes or clothing. Wash contaminated clothing before reuse. In case of inadequate ventilation wear respiratory protection. Use personal protective equipment as required. See Section: 8. Do not eat, drink or smoke when using this product. Wash hands before breaks and after work. Highly flammable liquid and vapour. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Conditions for safe storage, including any incompatibilities

Ground and bond container and receiving equipment. Store in a well-ventilated place. Keep container tightly closed. Keep away from heat, sources of ignition and direct sunlight.

Storage temperature
Incompatible materials

Ambient. 5 - 25°C

Specific end use(s)

Keep away from: Strong oxidising agents, Acids (Nitric acid and Sulphuric acid), Halogens and halogenated compounds.
See Section: 1.2

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Occupational Exposure Limits

SUBSTANCE	CAS No.	ACGIH® TLV® (ppm)		OSHA PEL (ppm)		Note
		TWA	STEL	TWA	STEL	
Isopropanol	67-63-0	200	400	400	980 mg/m ³	A4

Source: ACGIH: American Conference of Governmental Industrial Hygiene. TLV: Threshold Limit Value (ACGIH) PEL (OSHA)

A4: Not Classifiable as a Human Carcinogen: Agents which cause concern that they could be carcinogenic for humans but which cannot be assessed conclusively because of the lack of data. In vitro or animal studies do not provide indications of carcinogenicity which are sufficient to classify the agent into one of the other categories.

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Alberta: Occupational Health And Safety Code, 2009; Quebec: Health and Safety Work Act, 2016

SUBSTANCE	CAS No.	8-hour Occupational Exposure Limits			15-minute or ceiling (c) Occupational Exposure Limits		Note
		ppm	mg/m ³	f/cc	STEL (ppm)	STEL (mg/m ³)	
Isopropanol	67-63-0	200	492	-	400	984	Alberta
		400	983	-	500	1230	OEL

Source: Alberta: Occupational Health And Safety Code, 2009

OEL: Quebec Work Health and Safety Regulations, Health and Safety Work Act, (Chapter S – 2.1, a. 223)

British Columbia: Occupational Health and Safety Guidelines, 2015; Northwest Territories: Occupational Health and Safety Regulations, 2012

SUBSTANCE	CAS No.	LTEL (8 hr TWA ppm)	LTEL (8 hr TWA mg/m ³)	STEL (ppm)	STEL (mg/m ³)	Note
Isopropanol	67-63-0	200	-	400	-	WEL
		200	-	400	-	NW

Source: WEL: Occupational Health and Safety Guidelines Part 5: Chemical Agents and Biological Agents (British Columbia)

NW: WSCC, Occupational Health and Safety Regulations, Northwest Territories Volume 3

Ontario: Occupational Health and Safety Act, 1990; Saskatchewan: Occupational Health and Safety Regulations, 1996.

SUBSTANCE	CAS No.	Time Weighted Average (TWA)	STEL (ppm)	Note
Isopropanol	67-63-0	200	400	WEL
		200	400	SK

Source: WEL: Occupational Health and Safety Act, R.R.O. 1990, Regulation 833, CONTROL OF EXPOSURE TO BIOLOGICAL OR CHEMICAL AGENTS (Ontario)

Saskatchewan (SK): Occupational Health and Safety Act, 1993. O-1.1 REG 1 Occupational Health and Safety Regulations, 1996.

Biological limit value

SUBSTANCE	CAS No.	Biological exposure determinant factors	Biological Exposure Indices	Sampling Time	Note
Isopropanol	67-63-0	Acetone: Urine	40 mg/L	End of Shift: end of workweek	Ns, 1

Source: 2015 ACGIH Biological Exposure Indices (BEIs)

Ns - Nonspecific

1: Background level

Exposure controls

Appropriate engineering controls

Ensure adequate ventilation. Store in a cool/low-temperature, well-ventilated (dry) place away from heat and ignition sources. Atmospheric levels should be controlled in compliance with the occupational exposure limit.

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

Keep good industrial hygiene. Wear appropriate personal protective equipment, avoid direct contact. Avoid breathing vapours. Avoid contact with skin, eyes or clothing. Wash contaminated clothing before reuse. Do not eat, drink or smoke at the work place.

Eye/face protection



Wear protective eye glasses for protection against liquid splashes. Recommended: 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. Recommended: Nitrile rubber, Butyl rubber. Unsuitable gloves materials: Natural rubber / PVC.

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Respiratory protection



Body protection:

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

Use only in well-ventilated areas. In case of inadequate ventilation wear respiratory protection. For large quantities - Wear suitable respiratory protective equipment. A suitable mask with filter type A may be appropriate.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance

Odour

Odour threshold

pH

Melting point/freezing point

Initial boiling point and boiling range

Flash point

Evaporation rate (Water = 1)

Flammability (solid, gas)

Upper/lower flammability or explosive limits

Vapour pressure

Vapour density

Relative density

Solubility(ies)

Partition coefficient: n-octanol/water

Auto-ignition temperature

Decomposition Temperature

Viscosity

Explosive properties

Oxidising properties

Physico-chemical properties of substance Propan-2-ol.

Blue Coloured liquid

Alcohol-like Odour

Not available.

Not established.

-88.5°C

82.3°C (Mixture)

11.7 °C

2.83 (BuAc = 1)

Not applicable - Liquid

Not available.

6.02 kPa at 25°C

2.1 (Air = 1)

0.78 (H₂O = 1)

98% (Water)

0.05 log Pow (25 °C)

399 °C

Not available.

2.038 mPa s (dynamic) 25 °C

Not available.

Not oxidising.

Other information

None

SECTION 10: STABILITY AND REACTIVITY

Reactivity

Chemical stability

Possibility of hazardous reactions

Conditions to avoid

Incompatible materials

Hazardous decomposition product(s)

Stable under normal conditions.

Stable under normal conditions.

Highly flammable liquid and vapour. The vapour may be invisible, heavier than air and spread along ground.

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

Keep away from: Strong oxidising agents, Acids (Nitric acid and Sulphuric acid), Halogens and halogenated compounds.

May decompose in a fire giving off toxic fumes. Carbon monoxide, Carbon dioxide.

SECTION 11: TOXICOLOGICAL INFORMATION

Information on toxicological effects

Acute toxicity - Ingestion

Acute toxicity - Inhalation

Acute toxicity - Skin Contact

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

Acute Toxicity Estimate Mixture Calculation: Estimated LC50 > 2000 mg/kg bw/day.

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

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

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

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Skin corrosion/irritation	Acute Toxicity Estimate Mixture Calculation: Estimated LC50 > 2000 mg/kg bw/day.
Serious eye damage/irritation	Based upon the available data, the classification criteria are not met.
Propan-2-ol	Eye Irritation - Category 2: Causes serious eye irritation.
n-Phenyldiethanolamine	Eye Irritation - Category 2 Irritating to eyes. (rabbit) (OECD 405) Eye damage, category 1
Respiratory or skin sensitization	Severely irritating to eyes. (rabbit) (Unnamed, 1974)
n-Phenyldiethanolamine	Skin sensitization - Category 1: May cause an allergic skin reaction. Skin sensitization - Category 1 Sensitisation (mouse) - Positive (OECD 442B)
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 1: Causes damage to organs
Propan-2-ol	Specific target organ toxicity — single exposure, Category 3: May cause drowsiness or dizziness. Specific target organ toxicity — single exposure, Category 3 LD50 (rat) > 10000 ppm. Effects and Symptoms: Ataxia (impaired locomotor coordination), Narcosis. (OECD 403)
n-Phenyldiethanolamine	Specific target organ toxicity — single exposure, Category 1 LD50 (oral,rat) mg/kg: 3400. Dyspnoea, Narcosis. Can form methaemoglobin in the blood, causing cyanosis. (Unnamed, 1974)
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	Aquatic toxicity, Chronic - Category 3; Harmful to aquatic life with long lasting effects.
n-Phenyldiethanolamine	Estimated Mixture LC50 > 10 ≤ 100 mg/l. (Fish) Aquatic toxicity, Chronic - Category 3 Acute: LC50 (fish) mg/l 735 (96 hour) (OECD 203) Chronic: No data
Persistence and degradability	Readily biodegradable.
Bioaccumulative potential	The product has low potential for bioaccumulation.
Mobility in soil	The product is predicted to have high mobility in soil. Water Soluble.
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.
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SECTION 14: TRANSPORT INFORMATION

	ADR/RID	IMDG	IATA/ICAO
14.1 UN number	UN 1219	UN 1219	UN 1219
14.2 UN proper shipping name	ISOPROPANOL (ISOPROPYL ALCOHOL) mixture	ISOPROPANOL (ISOPROPYL ALCOHOL) mixture	ISOPROPANOL (ISOPROPYL ALCOHOL) mixture
14.3 Transport hazard class(es)	3	3	3
14.4 Packing group	II	II	II
14.5 Environmental hazards	Not classified	Not classified / Not classified as a Marine Pollutant.	Not classified

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14.6	Special precautions for user	See Section: 2
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

Propan-2-ol: Yes

n-Phenyldiethanolamine: Yes

CEPA, Priority Substances List

All chemicals are not listed

CEPA, List of Toxic Substances (Schedule 1)

Propan-2-ol: VOC - Item 65

CEPA, National Pollutant Release Inventory

Propan-2-ol: Threshold Category: 1A, Mass Threshold: 10 tonnes MPO, Concentration threshold: 1%; Threshold Category: 5, Mass Threshold: 1 tonnes of 10 tonnes Total VOC air release, Concentration threshold: N/A

CEPA, Environmental Emergency Regulations

All chemicals are not listed

Non-Regional

IARC Monographs, List of Classifications

Propan-2-ol: IARC Classification: Group 3.

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 Propan-2-ol (CAS No. 67-63-0). Existing ECHA registration(s) for Propan-2-ol (CAS No. 67-63-0) and n-Phenyldiethanolamine (CAS No. 120-07-0).

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

NIOSH TIC: 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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