

SAFETY DATA SHEET

Version: 3.0
Date of Issue: 19 March 2020
Date of First Issue: 20 March 2012


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ACCORDING TO OSHA HCS (29 CFR 1910.1200)

SECTION 1: IDENTIFICATION

Product identifier used on the label	M-Bond 200 Adhesive
Other means of identification	Not applicable
Recommended use of the chemical and restrictions on use	
Recommended use	Adhesives
Restrictions on use	Anything other than the above.
Details of the supplier of the safety data sheet	
Supplier	VISHAY MEASUREMENTS GROUP, INC.
Address of Supplier	Post Office Box 27777 Raleigh, NC 27611 USA
Telephone	+1 919-365-3800
Fax	+1 919-365-3945
E-Mail (competent person)	mm.us@vishaypg.com
Emergency telephone number	1-800-424-9300 CHEMTREC (24 hours)

SECTION 2: HAZARD(S) IDENTIFICATION

Classification of the substance or mixture in accordance with paragraph (d) of 29 CFR 1910.1200	
Physical hazards	Flammable Liquid, Category 4
Health hazards	Skin Corrosion/Irritation, Category 2 Eye Irritation, Category 2 Specific target organ toxicity — single exposure, Category 3 (Respiratory tract)
Environmental hazards	Not classified
Hazard Symbol	
Signal Word(s)	Warning
Hazard Statement(s)	Combustible liquid. Causes skin irritation. Causes serious eye irritation. May cause respiratory irritation.
Precautionary Statement(s)	
Prevention	Wear protective gloves/protective clothing/eye protection/face protection. Avoid breathing vapours. Keep away from flames and hot surfaces. No smoking. Wash hands and exposed skin thoroughly after handling. Use only outdoors or in a well-ventilated area.
Response	In case of fire use water, foam, carbon dioxide or dry agent. IF ON SKIN: Wash with plenty of water. 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 INHALED: If breathing is difficult, remove victim to fresh air and keep at rest

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Storage	in a position comfortable for breathing.
Disposal	Call a POISON CENTER/doctor if you feel unwell. Take off contaminated clothing and wash it before reuse. Store in a well-ventilated place. Keep cool. Dispose of contents in accordance with local, state or national legislation.
Other hazards	Cyanoacrylate. Danger. Bonds skin and eyes in seconds. Keep out of the reach of children.
Percent of the mixture consists of ingredient(s) of unknown acute toxicity:	Percent of the mixture consists of ingredient(s) of unknown acute toxicity: 0%

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Substances Not applicable

Mixtures Substances in preparations / mixtures

Chemical identity of the substance	%W/W	Synonym(s)	CAS No.	Hazard classification
Ethyl 2-cyanoacrylate	80 – 100	2-Propenoic acid, 2-cyano-, ethyl ester	7085-85-0	Flammable Liquids - Category 4 Skin Irritation - Category 2 Eye Irritation - Category 2 Specific target organ toxicity — single exposure, Category 3 (Respiratory tract) Specific Concentration Limit: Specific target organ toxicity — single exposure, Category 3 (Respiratory tract) C \geq 10%

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

Notes to a physician:

IF ON SKIN:

Avoid breathing vapours. Wear suitable protective clothing. Wear suitable respiratory protective equipment if exposure to high levels of material are likely. Avoid contact with skin and eyes.

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. If skin irritation occurs, get medical advice/attention. Heat of Polymerization: Molten material can cause severe burns. Do NOT try to peel molten polymer from the skin. Cool rapidly with water.

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 induce vomiting. Get medical advice/attention if you feel unwell.

Cyanoacrylate. Danger. Bonds skin and eyes in seconds. Keep out of the reach of children. Causes skin irritation. Causes serious eye irritation. May cause respiratory irritation.

Treat symptomatically.

Remove excess adhesive. Soak in warm, soapy water or in a warm 1% solution of sodium bicarbonate. The adhesive will come loose from the skin in several

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IF SWALLOWED:

hours. Dried adhesive does not present a health hazard even when bonded to the skin. If in eyes, wash thoroughly with warm water and apply a gauze patch. The eye will open without further action, typically in 1 - 4 days. There will be no residual damage. Do not try to open the eyes by manipulation.

The product will polymerise immediately in the mouth making it almost impossible to swallow. In the unlikely event of adhesive entering the mouth it will solidify on contact with the moisture in the mouth bonding directly on the surfaces in the mouth. Salvia will gradually debond the adhesive over a period of hours. Do not try to pull the polymerised adhesive from the mouth. Keep checking the mouth to ensure that the person doesn't swallow it when it detaches.

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

Combustion or thermal decomposition will evolve toxic and irritant vapours. Carbon monoxide, Carbon dioxide, cyanide and Oxides of nitrogen. Vapours may ignite.

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

Ensure adequate ventilation. Avoid breathing vapours. Avoid contact with skin and eyes. In case of inadequate ventilation wear respiratory protection. Use personal protective equipment as required. See Section: 8.

Environmental precautions

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

Methods and material for containment and cleaning up

Ensure suitable personal protection during removal of spillages. Do not use cloths for mopping up. Flood with water to complete polymerisation and scrape off the floor. Cured material can be disposed of as non-hazardous waste.

SECTION 7: HANDLING AND STORAGE

Precautions for safe handling

Ensure operatives are trained to minimise exposures. Ensure adequate ventilation. Avoid breathing vapours. Avoid contact with skin and eyes. In case of insufficient ventilation, wear suitable respiratory equipment. 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. Protect from moisture.

Conditions for safe storage, including any incompatibilities

Store in a cool/low-temperature, well-ventilated (dry) place. Keep container closed.

Storage temperature

Ambient. < 24°C.

Incompatible materials

Keep away from: Water, Alcohols, Acids, Alkalis, Peroxides.

Specific end use(s)

Adhesives.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational Exposure Limits

No OSHA permissible exposure limit (PEL).

No Occupational Exposure Limit assigned. (NIOSH)

Substance	CAS No.	LTEL (8 hr TWA ppm)	LTEL (8 hr TWA mg/m ³)	STEL (ppm)	STEL (mg/m ³)	Note	Source
Ethyl cyanoacrylate	7085-85-0	0.2	-	-	-	-	ACGIH

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Source:

ACGIH: American Conference of Governmental Industrial Hygienists - Threshold limit values (TLV) 2017

Biological Exposure Indices

Not established

Appropriate engineering controls

Ensure adequate ventilation. Atmospheric levels should be controlled in compliance with the occupational exposure limit. A washing facility/water for eye and skin cleaning purposes should be present.

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

General hygiene measures for the handling of chemicals are applicable. Keep good industrial hygiene. Avoid contact with skin and eyes. Avoid breathing vapours. Wash hands before breaks and after work. Keep work clothes separately. Do not eat, drink or smoke at the work place. IF exposed: Flush with fresh water if contact with skin or eyes.

Eye/face protection



Wear protective eye glasses for protection against liquid splashes. Wear eye protection with side protection. (Recommended: EN166).

Skin protection



Hand protection:

Wear impervious gloves. Protective index 6, corresponding > 480 minutes of permeation time. Gloves should be changed regularly to avoid permeation problems. (Recommended: EN374) Breakthrough time of the glove material: refer to the information provided by the gloves' producer. Recommended: PVC / Nitrile rubber.

Body protection:

For large quantities - Wear apron or other light protective clothing. Recommended: Polyethylene.

Respiratory protection



In case of inadequate ventilation wear respiratory protection. Open system(s): Wear suitable respiratory protective equipment.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties	Physico-chemical properties of substance: Ethyl 2-cyanoacrylate.
Appearance	Clear Liquid
Odor	Pungent Odour
Odor Threshold	Not established.
pH	Not established.
Melting Point/Freezing Point	-31°C (EU Method A.1)
Initial boiling point and boiling range	214°C (EU Method A.2)
Flash Point	82.5°C [Closed cup] (EU Method A.9)
Evaporation rate (Butyl acetate = 1)	Not established.
Flammability (solid, gas)	Not applicable- Liquid
Upper/lower flammability or explosive limits	Not available.
Vapour pressure	<21 Pa @ 20°C
Vapour density	>1 (Air = 1)
Relative density	1.043 (EU Method A.3)
Solubility(ies)	24 µg/L In Water (EU Method A.6)
Partition coefficient: n-octanol/water	0.776 (Log Pow).
Auto-ignition temperature	480°C (EU Method A.15)
Decomposition Temperature	Not available.
Viscosity	Not available.

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SECTION 10: STABILITY AND REACTIVITY

Reactivity	Stable under normal conditions.
Chemical stability	Stable under normal conditions.
Possibility of hazardous reactions	May polymerise on exposure to moisture.
Conditions to avoid	Store at temperatures not exceeding (°C): 24°C. Protect from moisture.
Incompatible materials	Keep away from: Water, Alcohols, Acids, Alkalis, Peroxides.
Hazardous decomposition product(s)	May decompose in a fire giving off toxic fumes. Carbon monoxide, Carbon dioxide, cyanide and Oxides of nitrogen.

SECTION 11: TOXICOLOGICAL INFORMATION

Information on toxicological effects (Substances in preparations / mixtures)

Acute toxicity - Ingestion	Based upon the available data, the classification criteria are not met. Acute Toxicity Estimate Mixture Calculation: Estimated LC50 > 2000 mg/kg bw/day.
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 (Vapour).
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.
Skin corrosion/irritation	Mixture: Skin Corrosion/Irritation, Category 2; Causes skin irritation.
Ethyl 2-cyanoacrylate	Skin Corrosion/Irritation, Category 2; Causes skin irritation. Irritating to skin. (rabbit) (OECD 404)
Serious eye damage/irritation	Mixture: Eye Irritation, Category 2: Causes serious eye irritation.
Ethyl 2-cyanoacrylate	Eye Irritation, Category 2 Irritating to eyes. (rabbit) (OECD 405)
Respiratory or skin sensitization	Mixture: Based upon the available data, the classification criteria are not met.
Germ cell mutagenicity	Mixture: Based upon the available data, the classification criteria are not met.
Carcinogenicity	Mixture: Based upon the available data, the classification criteria are not met.
Reproductive toxicity	Mixture: Based upon the available data, the classification criteria are not met.
STOT - single exposure	Mixture: Specific target organ toxicity — single exposure, Category 3; May cause respiratory irritation.
Ethyl 2-cyanoacrylate	Specific target organ toxicity — single exposure, Category 3; May cause respiratory irritation. EU Harmonised Classification.
STOT - repeated exposure	Mixture: Based upon the available data, the classification criteria are not met.
Aspiration hazard	Mixture: Based upon the available data, the classification criteria are not met.
Information on likely routes of exposure	
Inhalation	Possible – accidental exposure.
Ingestion	Unlikely – accidental exposure.
Skin Contact	Possible – accidental exposure.
Eye Contact	Unlikely – accidental exposure.
Early onset symptoms related to exposure	Cyanoacrylate. Danger. Bonds skin and eyes in seconds. Keep out of the reach of children. Causes skin irritation. Causes serious eye irritation. May cause respiratory irritation.
Delayed health effects from exposure	None known.
Other information	
NTP Report on Carcinogens	None of the components are listed.
IARC Monographs	None of the components are listed.
OSHA Designated Carcinogen	None of the components are listed.

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SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity		Based upon the available data, the classification criteria are not met. Estimated Mixture LC50 >100 mg/l (Fish)
Persistence and degradability		No data for the mixture as a whole.
	Ethyl 2-cyanoacrylate	No data: Technically not possible. EU ECHA registration dossier
Bioaccumulative potential		No data for the mixture as a whole.
	Ethyl 2-cyanoacrylate	No data: Technically not possible. EU ECHA registration dossier
Mobility in soil		No data for the mixture as a whole.
	Ethyl 2-cyanoacrylate	No data: Technically not possible. EU ECHA registration dossier
Other adverse effects		Not classified as PBT or vPvB.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste treatment methods	This material and its container must be disposed of as hazardous waste. Dispose of wastes in an approved waste disposal facility. Dispose of contents in accordance with local, state or national legislation.
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SECTION 14: TRANSPORT INFORMATION

	ADR/RID	IMDG	IATA
UN number	N/A	UN 3334	UN 3334
UN proper shipping name	Not subject to ADR.	Aviation regulated liquid, n.o.s. (Cyanoacrylate ester) Not subject to ADR.	Aviation regulated liquid, n.o.s. (Cyanoacrylate ester) Not subject to ADR.
Transport hazard class(es)	Not classified	9	9
Packing group	Not classified	II	II
Environmental hazards	Not classified	Not classified as a Marine Pollutant.	Not classified as a Marine Pollutant.
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not applicable.		
Special precautions for user	See Section: 2		
Additional Information	None.		

SECTION 15: REGULATORY INFORMATION

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

US Federal Regulations

TSCA (Toxic Substance Control Act)	All components are listed in the Toxic Substance Control Act Chemical Substance Inventory (TSCA).
EPCRA/SARA Section 302 Extremely Hazardous Substances	Not Listed
EPCRA Section 313 Toxics Release Inventory (TRI) Program	Not Listed
NIOSH Occupational Carcinogen List	Not Listed
OSHA List of highly hazardous chemicals, toxics and reactives	Not Listed
NTP Report on Carcinogens (RoC) List	Not Listed
Poison Prevention Packaging Act	Not Listed
US State Regulations	None known.
California State, Proposition 65 List	Not Listed
California State, Safer Consumer Products Regulations	Not Listed
Maine State, Toxic Chemicals in Children's Products Act	Not Listed
New Jersey State Worker and Community RTK Act	Ethyl 2-cyanoacrylate: RTKHSL. SHHSL

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Pennsylvania State, Worker and Community RTK Act	Not Listed
Rhode Island State, Hazardous Substances RTK Act	Not Listed
Non-Regional	
IARC Monographs, List of Classifications	Not Listed

SECTION 16: OTHER INFORMATION

The following sections contain revisions or new statements: Updated substance / mixture classification. New SDS Regulation compliant with HazCom 2012 format, all sections have been updated to include new information. Please review SDS with care.

The following sections have updates indicated by :

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References:

Existing Safety Data Sheet (SDS)

Existing ECHA registration(s) for and Harmonised Classification(s) for Ethyl 2-cyanoacrylate (CAS No. 7085-85-0).

GHS Classification of the substance or mixture	Classification Procedure
Flammable Liquid, Category 4	Supplier Flash Point Range Data
Skin Corrosion/Irritation, Category 2	Threshold Calculation
Eye Irritation, Category 2	Threshold Calculation
Specific target organ toxicity — single exposure, Category 3	Threshold Calculation

LEGEND

ACGIH: American Conference of Governmental Industrial Hygienists
ADR: European Agreement Concerning the International Carriage of Dangerous Goods by Road
BEI: Biological Exposure Indices (ACGIH)
CAS: Chemical Abstracts Service
ECHA: European Chemicals Agency
EPCRA: Emergency Planning and Community Right-to-Know Act
IARC: International Agency for Research on Cancer
IATA: International Air Transport Association
IMDG: International Maritime Dangerous Goods
LTEL: Long Term Exposure Limit
NIOSH: National Institute of Occupational Safety and Health
NTP: National Toxicology Program
OECD: Organisation for Economic Co-operation and Development
OSHA: The Occupational Safety & Health Administration

PBT: Persistent, Bioaccumulative and Toxic
PEL: Permissible exposure limit
RID: International Carriage of Dangerous Goods by Rail
REL: Recommended exposure limit
RTK: Right-to-Know
RTKHSL: Right to Know Hazardous Substance List
SARA: Superfund Amendments and Reauthorization Act
SCL: Specific Concentration Limit
SHHSL: Special Health Hazard Substance List
STEL: Short Term Exposure Limit
TLV: Threshold Limit value
TSCA: Toxic Substance Control Act
TWA: Time Weighted Average
vPvB: very Persistent and very Bioaccumulative

Training advice: Consideration should be given to the work procedures involved and the potential extent of exposure as they may determine whether a higher level of protection is required.

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