SAFETY DATA SHEET

Revision: 2.1 Date: 09 August 2016

ACCORDING TO EC-REGULATIONS 1907/2006 (REACH), 1272/2008 (CLP) & 2015/830

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

1.1 Product identifier

Product Name	M-Bond 200 Adhesive
Chemical Name	Mixture
CAS No.	Mixture
EINECS No.	Mixture
REACH Registration No.	None assigned.

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified Use(s)	Adhesives.
Uses Advised Against	None known.

1.3 Details of the supplier of the safety data sheet

Company Identification	VISHAY MEASUREMENTS GROUP UK LTD Stroudley Road Basingstoke Hampshire United Kingdom RG24 8FW
Telephone	+44 (0) 1256 462131
Fax	+44 (0) 1256 471441
E-Mail (competent person)	mm.uk@vishaypg.com

1.4 Emergency telephone number

Emergency Phone No.	(00-1) 703-527-3887	CHEMTREC (24 hours)
Languages spoken	All official European languages.	

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

2.1.1 Regulation (EC) No. 1272/2008 (CLP)

Skin Irrit. 2; H315
Eye Irrit. 2; H319
STOT SE 3; H335

2.2 Label elements

According to Regulation (EC) No. 1272/2008 (CLP)

Product Name: M-Bond 200 Adhesive

Hazard Pictogram(s)

Signal Word(s): Warning

Contains: Ethyl cyanoacrylate

Hazard Statement(s)

H315: Causes skin irritation.
H319: Causes serious eye irritation.
H335: May cause respiratory irritation.

Precautionary Statement(s)

P261: Avoid breathing vapours.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352: IF ON SKIN: Wash with plenty of water.
P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+P313: IF exposed or concerned: Get medical advice/attention.

Additional Information	EUH202: Cyanoacrylate. Danger. Bonds skin and eyes in seconds. Keep out of the reach of children.

2.3 Other hazards None.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances Not applicable.

3.2 Mixtures

EC Classification Regulation (EC) No. 1272/2008 (CLP)

Chemical identity of the substance	%W/W	CAS No.	EC No.	REACH Registration No.	Hazard classification
Ethyl cyanoacrylate	80 – 100	7085-85-0	230-391-5	None assigned	Skin Irrit. 2; H315 Eye Irrit. 2; H319 STOT SE 3; H335 (SCL: C ≥ 10%)
2-Propenoic acid, 2-methyl-, methyl ester, homopolymer	10 - 20	9011-14-7	618-466-4	None assigned	Not classified

For full text of H/P Statements see section 16.

SECTION 4: FIRST AID MEASURES

4.1 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 all contact.
Inhalation	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell.
Skin Contact	IF ON SKIN: Wash with plenty of water. Take off contaminated clothing. If skin irritation occurs, get medical advice/attention.
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.
Ingestion	IF SWALLOWED: rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER/doctor.

4.2 Most important symptoms and effects, both acute and delayed Cyanoacrylate. Danger. Bonds skin and eyes in seconds. Keep out of the reach of children. May cause respiratory irritation. Causes serious eye irritation. Causes skin irritation. May cause burns.

Notes to a physician: Heat of Polymerization: Molten material can cause severe burns. Do NOT try to peel molten polymer from the skin. Cool rapidly with water.

4.3 Indication of any immediate medical attention and special treatment needed Treat symptomatically

Notes to a physician:

IF ON SKIN:	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 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.
IF SWALLOWED:	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 cheking the mouth to ensure that the person doesn't swallow it when it detaches.
IF IN EYES:	In the event of the eyelids being bonded, wash thoroughly and gently with warm water and apply a gauze patch over the eye . Do not force the eye open. Cyanoacrylate will bond to the eye protein and will cause periods of weeping which will help to debond the adhesive. The eye will open without any further action in 1-3 days even if gross contamination has occurredDouble vision may be experienced during this period . There should be no residual damage to the eye.

SECTION 5: FIREFIGHTING MEASURES

5.1	**Extinguishing media**	
	Suitable Extinguishing media	Extinguish with carbon dioxide, dry chemical, foam or waterspray.
	Unsuitable extinguishing media	Do not use water jet.
5.2	**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.
5.3	**Advice 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

6.1	**Personal precautions, protective equipment and emergency procedures**	Ensure adequate ventilation. Avoid breathing vapours. Avoid all contact. In case of inadequate ventilation wear respiratory protection. Use personal protective equipment as required. See Section: 8.
6.2	**Environmental precautions**	Avoid release to the environment. Do not allow to enter drains, sewers or watercourses.
6.3	**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 polymeristaion and scrape off the floor. Cured material can be disposed of as non-hazardous waste.
6.4	**Reference to other sections**	See Section: 8, 13

SECTION 7: HANDLING AND STORAGE

7.1	**Precautions for safe handling**	Ensure adequate ventilation. Avoid breathing vapours. Avoid all contact. 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. Protect from moisture.
7.2	**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.
	Storage life	Stable under normal conditions.
	Incompatible materials	Keep away from: Water, Alcohols, Acids, Alkalis, Peroxides.
7.3	**Specific end use(s)**	Adhesives.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

8.1.1 Occupational Exposure Limits

SUBSTANCE	CAS No.	LTEL (8 hr TWA ppm)	LTEL (8 hr TWA mg/m³)	STEL (ppm)	STEL (mg/m³)	Note
Ethyl cyanoacrylate	7085-85-0	-	-	0.3	1.5	WEL

Note: WEL: Workplace Exposure Limit (UK HSE EH40)

8.1.2	**Biological limit value**	Not established.
8.1.3	**PNECs and DNELs**	Not established.
8.2	**Exposure controls**	
8.2.1	**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.
8.2.2	**Individual protection measures, such as personal protective equipment (PPE)**	General hygiene measures for the handling of chemicals are applicable. Keep good industrial hygiene. Avoid all contact. 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 (EN166).
	Skin protection 	**Hand protection:** Wear impervious gloves (EN374). 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: PVC / Nitrile rubber. **Body protection:** For large quantities - Wear apron or other light protective clothing. Recommended: Polyethylene.
	Respiratory protection 	Use only in well-ventilated areas. In case of inadequate ventilation wear respiratory protection. For large quantities - Wear suitable respiratory protective equipment.
	Thermal hazards	Heat of Polymerization: Molten material can cause severe burns. Do NOT try to peel molten polymer from the skin. Cool rapidly with water.
8.2.3	**Environmental Exposure Controls**	Avoid release to the environment.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1	**Information on basic physical and chemical properties**	Physico-chemical properties of substance Ethyl cyanoacrylate
	Appearance	Clear Liquid
	Odour	Pungent Odour
	Odour threshold	Not available.
	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	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.
Explosive properties	Not available.
Oxidising properties	Not oxidising.

9.2 Other information Volatile Organic Compound Content (%): 1000 g/l

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity Stable under normal conditions.

10.2 Chemical stability Stable under normal conditions.

10.3 Possibility of hazardous reactions May polymerise on exposure to moisture.

10.4 Conditions to avoid Store at temperatures not exceeding (°C): 24°C. Protect from moisture.

10.5 Incompatible materials Keep away from: Water, Alcohols, Acids, Alkalis, Peroxides.

10.6 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

11.1 Information on toxicological effects All test data taken from existing ECHA registrations for the substances mentioned.

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.
Inhalation	Based upon the available data, the classification criteria are not met. Acute Toxicity Estimate Mixture Calculation: Estimated LC50 > 20 mg/l.
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	Skin Irrit. 2: Causes skin irritation.
Ethyl cyanoacrylate:	Irritating to skin. (OECD 404)
Serious eye damage/irritation	Eye Irrit. 2: Causes serious eye irritation.
Ethyl cyanoacrylate:	Irritating to eyes. (OECD 405)
Respiratory or skin sensitization	Based upon the available data, the classification criteria are not met.
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	STOT SE 3: May cause respiratory irritation.
Ethyl cyanoacrylate:	No data. Harmonised Classification
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.

11.2 Other information None.

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity Based upon the available data, the classification criteria are not met. Estimated Mixture LC50 >100 mg/l (Fish)

12.2 Persistence and degradability No data; Technically not possible.

12.3 Bioaccumulative potential The product has no potential for bioaccumulation.

12.4 Mobility in soil The product is predicted to have low mobility in soil (Insoluble in water).

12.5 Results of PBT and vPvB assessment Not classified as PBT or vPvB.

12.6 Other adverse effects None known.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods This material and its container must be disposed of as hazardous waste. Dispose of wastes in an approved waste disposal facility.

13.2	**Additional Information**	Dispose of contents in accordance with local, state or national legislation.

SECTION 14: TRANSPORT INFORMATION

Not classified as dangerous for transport. Except for Air transport

		IATA
14.1	**UN number**	UN 3334
14.2	**UN proper shipping name**	Aviation regulated liquid, n.o.s. (Cyanoacrylate ester) Not subject to ADR.
14.3	**Transport hazard class(es)**	9
14.4	**Packing group**	III
14.5	**Environmental hazards**	Not classified as a Marine Pollutant. / Environmentally hazardous substance
14.6	**Special precautions for user**	See Section: 2
14.7	**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**	Not applicable.
14.8	**Additional Information**	Primary packs containing less than 500ml are unregulated by this mode of transport and may be shipped unrestricted. Packaging instructions (passenger): 906 Packaging instructions (cargo): 906

SECTION 15: REGULATORY INFORMATION

15.1	**Safety, health and environmental regulations/legislation specific for the substance or mixture**	
15.1.1	**EU regulations**	
	Authorisations and/or Restrictions On Use	Not restricted
15.1.2	**National regulations**	None
15.2	**Chemical Safety Assessment**	Not available.

SECTION 16: OTHER INFORMATION

The following sections contain revisions or new statements:
SECTION 1: Addition of Languages spoken
SECTION 4: Addition of Self-protection of the first aider, Notes to a physician:. Updated First aid measures; Ingestion.
SECTION 8: Addition of the following phrase(s); A washing facility/water for eye and skin cleaning purposes should be present., Keep good industrial hygiene., IF exposed: Flush with fresh water if contact with skin or eyes. and Gloves should be changed regularly to avoid permeation problems.
SECTION 11: Additon of test data for Ethyl cyanoacrylate
SECTION 16: Addition of Hazard classification / Classification code:

References: Existing Safety Data Sheet (SDS) and Existing ECHA registration(s) for Ethyl cyanoacrylate (CAS No. 7085-85-0) and the Classification and Labelling Inventory for 2-Propenoic acid, 2-methyl-, methyl ester, homopolymer (CAS No. 9011-14-7).
EU Classification: This Safety Data Sheet was prepared in accordance with EC Regulation (EC) 1907/2006 (REACH), 1272/2008 (CLP) & 2015/830.

Classification of the substance or mixture According to Regulation (EC) No. 1272/2008 (CLP)	**Classification Procedure**
Skin Irrit. 2; H315	Threshold Calculation
Eye Irrit. 2; H319	Threshold Calculation
STOT SE 3; H335	Threshold Calculation

LEGEND
LTEL: Long Term Exposure Limit
STEL: Short Term Exposure Limit
DNEL: Derived No Effect Level
SCL: Specific Concentration Limit
PNEC: Predicted No Effect Concentration
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative

Hazard classification / Classification code:
Skin Irrit. 2; Skin Irritation Category 2
Eye Irrit. 2; Eye Irritation Category 2

Hazard Statement(s)
H315: Causes skin irritation.
H319: Causes serious eye irritation.

STOT SE 3; Specific target organ toxicity — single exposure Category 3 H335: May cause respiratory irritation.

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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Annex to the extended Safety Data Sheet (eSDS)

No information available.

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