SAFETY DATA SHEET

M-Bond 200 Adhesive

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ACCORDING TO EC-REGULATIONS 1907/2006 (REACH), 1272/2008 (CLP) & 2020/878

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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
Product Code	Not applicable
Unique Formula Identifier (UFI)	QGK0-006X-U00A-2H5P
Nanoform	The product does not contain nanoparticles.

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

Identified Use(s)	Adhesives.
Uses Advised Against	Anything other than the above.

1.3 Details of the supplier of the safety data sheet

Company Identification	VISHAY MEASUREMENTS GROUP GMBH Tatschenweg 1 74078 Heilbronn Deutschland
Telephone	+49 (0) 7131 39099-0
Fax	+49 (0) 7131 39099-229
E-Mail (competent person)	mm.de@vpgsensors

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.
P264: Wash hands thoroughly after handling.
P280: Wear protective gloves/eye protection/face protection.

	P302+P352: IF ON SKIN: Wash with plenty of water. P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337+P313: If eye irritation persists: 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 known. The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

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 2-cyanoacrylate*	90 – 100	7085-85-0	230-391-5	Not yet assigned in the supply chain	Skin Irrit. 2; H315 Eye Irrit. 2; H319 STOT SE 3; H335

Specific concentration limit (SCL) & M-factor

Chemical identity of the substance	CAS No.	EC No.	Specific concentration limit (SCL)	M-factor
ethyl 2-cyanoacrylate*	7085-85-0	230-391-5	STOT SE 3; H335: C ≥ 10 %	--

Note: For full text of H phrases see section 16.
*Substance with a national exposure limit

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures

Self-protection of the first aider	Obtain special instructions before use. Use personal protective equipment as required. Wear appropriate personal protective equipment, avoid direct contact. Ensure adequate ventilation. Avoid all contact. Contaminated clothing should be laundered before reuse. Do not breathe vapour.
Inhalation	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell. If exposed or concerned: Get medical attention/advice.
Skin Contact	IF ON SKIN: Wash with plenty of water. Take off contaminated clothing. If irritation develops and persists, get medical 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. May cause an allergic skin reaction.Suspected of causing genetic defects. Suspected of causing cancer.

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 adhessive 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	Store at ambient temperature.
	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

United Kingdom

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	UK WEL

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

Ireland

SUBSTANCE	CAS No.	Occupational Exposure Limit Value (8-hour reference period)		Occupational Exposure Limit Value (15-minute reference period)		Notes
		ppm	mg/m³	ppm	mg/m³	
Ethyl cyanoacrylate	7085-85-0	0.2	-	1	-	IOELV

Source: 2021 Code of Practice for Safety, Health and Welfare at Work (Chemical Agents) Regulation (2001 – 2021) and the Safety, Health and Welfare at Work (Carcinogens) Regulations (2001 – 2019); Health and Safety Authority

Notes:

IOELV: Indicative Occupational Exposure Limit Value

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) — Obtain special instructions before use. 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.

Protective clothing should be selected specifically for the working place, depending on concentration and quantity of the hazardous substances handled. The resistance of the protective clothing to chemicals should be ascertained with the respective supplier.

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

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1	**Information on basic physical and chemical properties**	Physico-chemical properties of substance Ethyl cyanoacrylate
	Physical state	Liquid
	Colour	Colourless
	Odour	Pungent odour
	Melting point and freezing point	Not established
	Boiling point or initial boiling point and boiling range	Not established
	Flammability	Not applicable - Liquid
	Lower and upper explosion limit or lower and upper flammability limit	Not established
	Flash point	80℃ [Closed cup]
	Auto-ignition temperature	Not established
	Decomposition temperature	Not established
	pH	Not established
	Kinematic viscosity	Not established
	Solubility	Not established
	Partition coefficient: n-octanol/water (log value)	Not established
	Vapour pressure	Not established
	Density and/or relative density	circa.1.05 g/cm^3
	Relative vapour density	Not established
	Particle characteristics	Not applicable (Liquid)
9.2	**Other information**	None Known.

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**	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 hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity

Ingestion	Mixture: Based upon the available data, the classification criteria are not met. Acute Toxicity Estimate Mixture Calculation: Estimated LC50 > 2000 mg/kg bw/day.

	Inhalation		Mixture: Based upon the available data, the classification criteria are not met. Acute Toxicity Estimate Mixture Calculation: Estimated LC50 > 20 mg/l. (Vapour)
	Skin Contact		Mixture: 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 Irrit. 2: H315: Causes skin irritation.
		Ethyl cyanoacrylate	Skin Irrit. 2: H315: Causes skin irritation. EU Harmonised Classification Irritating to skin. (rabbit) (OECD 404)
	Serious eye damage/irritation		Mixture: Eye Irrit. 2: H319: Causes serious eye irritation.
		Ethyl cyanoacrylate:	Eye Irrit. 2: H319: Causes serious eye irritation. EU Harmonised Classification Irritating to eyes. (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: STOT SE 3: H335: May cause respiratory irritation.
		Ethyl cyanoacrylate	STOT SE 3: H335: May cause respiratory irritation. EU Harmonised Classification No data available
	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.
11.2	**Information on other hazards**		
11.2.1	Endocrine disrupting properties		No substances identified as having endocrine-disrupting properties.
11.2.2	Other information		Cyanoacrylate. Danger. Bonds skin and eyes in seconds. Keep out of the reach of children.

SECTION 12: ECOLOGICAL INFORMATION

12.1	**Toxicity**		Mixture: 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 for the mixture as a whole.
		Ethyl 2-cyanoacrylate	No data: Technically not possible. EU ECHA registration dossier
12.3	**Bioaccumulative potential**		No data for the mixture as a whole.
		Ethyl 2-cyanoacrylate	No data: Technically not possible. EU ECHA registration dossier
12.4	**Mobility in soil**		No data for the mixture as a whole.
		Ethyl 2-cyanoacrylate	No data: Technically not possible. EU ECHA registration dossier
12.5	**Results of PBT and vPvB assessment**		Not classified as PBT or vPvB.
12.6	**Endocrine disrupting properties**		No substances identified as having endocrine-disrupting properties.
12.7	**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. EU Waste Codes: HP4 (irritant), HP5 (Specific Target Organ Toxicity)
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 or ID 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	**Maritime transport in bulk according to IMO instruments**	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
	Use restriction according to REACH annex XVII, no.:	Not restricted for the intended use(s) of the product.
	Directive 2012/18/EU on the control of major-accident hazards involving dangerous substances [Seveso-III-Directive]	Not applicable
	Directive 2010/75/EU on industrial emissions	Not applicable
	To follow:	Directive 98/24/EC of 7 April 1998 on the protection of the health and safety of workers from the risks related to chemical agents at work
15.1.2	**National regulations**	
	United Kingdom	
	UK - GB CLP Mandatory classification and labelling list	ethyl 2-cyanoacrylate: listed
	UK REACH - Annex XVII (Restrictions)	Not restricted for the intended use(s) of the product.
	Germany	
	Wassergefährdungsklasse (Germany)	WGK 1 (Self classification) Identification number: 9725
15.2	**Chemical Safety Assessment**	A REACH chemical safety assessment has not been carried out.

SECTION 16: OTHER INFORMATION

The following sections contain revisions or new statements: Updated version and date. Updated substance / mixture classification New SDS Regulation 2020/878 format, all sections have been updated to include new information. Please review SDS with care.

References:
Existing Safety Data Sheet (SDS)
EU Harmonised Classification(s) for Ethyl 2-cyanoacrylate (CAS No. 7085-85-0)
Existing ECHA registration(s) for Ethyl 2-cyanoacrylate (CAS No. 7085-85-0)

EU Classification: This Safety Data Sheet was prepared in accordance with EC Regulation (EC) 1907/2006 (REACH), 1272/2008 (CLP) & 2020/878

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

ADR	ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
DNEL	Derived no effect level
EC50	Half maximal effective concentration

HSE	Health and Safety Executive
IATA	IATA: International Air Transport Association
ICAO	ICAO: International Civil Aviation Organization
IMDG	IMDG: International Maritime Dangerous Goods
LC50	Lethal concentration at which 50% of the population is killed
LD50	Lethal dose at which 50% of the population is killed
LTEL	Long term exposure limit
OEL	Occupational exposure limits
PBT	PBT: Persistent, Bioaccumulative and Toxic
PNEC	Predicted No Effect Concentration
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	RID: Regulations concerning the international railway transport of dangerous goods
TWA	Time Weighted Average
STEL	Short term exposure limit
vPvB	vPvB: very Persistent and very Bioaccumulative
WGK	Wassergefährdungsklasse (Germany) / Water hazard class

Hazard classification / Classification code:	**Hazard Statement(s)**
Skin Irrit. 2; Skin corrosion/irritation, Category 2	H315: Causes skin irritation.
Eye Irrit. 2; Eye Irritation, Category 2	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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