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

1.1 Product identifier

Product Name	M-Bond 300 Catalyst (Lot # 075 and Higher)
Chemical Name	Mixture
CAS No.	Mixture
EINECS No.	Mixture
REACH Registration No.	None assigned.

1.2 Recommended use of the chemical and restrictions on use

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

1.3 Supplier's details

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

1.4 Emergency Phone No.

(00-1) 703-527-3887
CHEMTREC

2. SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

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

Org. Perox. CD; H242
Acute Tox. 4; H302
Skin Corr. 1B; H314

2.1.2 Directive 67/548/EEC & Directive 1999/45/EC

O; R7: May cause fire.
Xn; R22: Harmful if swallowed.
C; R34: Causes burns.

2.2 Label elements

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

Product Name: M-Bond 300 Catalyst (Lot # 075 and Higher)

Hazard Pictogram(s):

Signal Word(s): Danger

Contains: Methyl ethyl ketone peroxide and Hydrogen peroxide

Hazard Statement(s):

H242: Heating may cause a fire.
H302: Harmful if swallowed.
H314: Causes severe skin burns and eye damage.

Precautionary Statement(s):

P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P280: Wear protective gloves/protective clothing/eye protection/face protection.

P301+P330+P331: IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310: Immediately call a POISON CENTER/doctor.

2.3 Other hazards None.

3. SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

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 Statement(s)
Methyl ethyl ketone Peroxide	30 - 35	1338-23-4	215-661-2/ 700-954-4	None assigned	Org. Perox. CD; H242 Acute Tox. 4; H302 Skin Corr. 1B; H314
2,2,4-Trimethyl-1,3-pentanediol diisobutyrate	18 - 23	6846-50-0	229-934-9	None assigned	Aquatic Chronic 3; H412
Methyl ethyl ketone	1.5 - 2.5	78-93-3	201-159-0	None assigned	Flam. Liq. 2; H225 Eye Irrit. 2; H319 STOT SE 3; H336 EUH066
Hydrogen Peroxide	< 1.5	7722-84-1	231-765-0	None assigned	Ox. Liq. 1; H271 (SCL: ≥ 70%) Skin Corr. 1A; H314 (SCL: ≥ 70%) Acute Tox. 4; H302 Acute Tox. 4; H332 STOT SE 3; H335 (SCL: ≥ 35%) Aquatic Chronic 3; H412

H225: Highly flammable liquid and vapour. H242: Heating may cause a fire. H271: May cause fire or explosion; strong oxidiser. H302: Harmful if swallowed. H314: Causes severe skin burns and eye damage. H319: Causes serious eye irritation. H332: Harmful if inhaled. H335: May cause respiratory irritation. H336: May cause drowsiness or dizziness. H412: Harmful to aquatic life with long lasting effects. EUH066: Repeated exposure may cause skin dryness or cracking. SCL: Specific Concentration Limit.

Directive 67/548/EEC & Directive 1999/45/EC

Chemical identity of the substance	%W/W	CAS No.	EC No.	REACH Registration No.	EC Classification and Risk Phrases
Methyl ethyl ketone peroxide	30 - 35	1338-23-4	215-661-2/ 700-954-4	None assigned	O; R7 Xn; R22 C; R34
2,2,4-Trimethyl-1,3-pentanediol diisobutyrate	18 - 23	6846-50-0	229-934-9	None assigned	R52/53
Methyl ethyl ketone	1.5 - 2.5	78-93-3	201-159-0	None assigned	F; R11 Xi; R36 R66 R67
Hydrogen peroxide	< 1.5	7722-84-1	231-765-0	None assigned	O; R9 C; R35 Xn; R22 Xn; R20 Xi; R37 R52/53

C; Corrosive, O; Oxidizing, F; Flammable, Xi; Irritant, Xn; Harmful. R7: May cause fire. R9: Explosive when mixed with combustible material. R11: Highly flammable. R20: Harmful by inhalation. R22: Harmful if swallowed. R34: Causes burns. R35: Causes severe burns. R36: Irritating to eyes. R37: Irritating to respiratory system. R52/53: Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment. R66:

Repeated exposure may cause skin dryness or cracking. R67: Vapours may cause drowsiness and dizziness.

4. SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures

Inhalation	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical advice/attention if you feel unwell.
Skin Contact	IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower. Contaminated clothing should be thoroughly cleaned. Immediately call a POISON CENTER or doctor/physician.
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 or doctor/physician. Treatment by an ophthalmologist due to possible caustic burn of the eyes may be required.
Ingestion	IF SWALLOWED: rinse mouth. Do NOT induce vomiting. Give plenty of water to drink. Immediately call a POISON CENTER or doctor/physician.

4.2 Most important symptoms and effects, both acute and delayed — Harmful if swallowed. Causes severe skin burns and eye damage.

4.3 Indication of any immediate medical attention and special treatment needed — Treat symptomatically. Call a poison control center or doctor for further treatment advice. Obtain prompt consultation, preferably from an ophthalmologist. Chemical eye burns may require extended irrigation.

5. SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable Extinguishing media	As appropriate for surrounding fire. Extinguish preferably with waterspray or fog. Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only.
Unsuitable extinguishing media	Do not use water jet. Direct water jet may spread the fire.

5.2 Special hazards arising from the substance or mixture — May decompose in a fire giving off toxic fumes. Carbon monoxide, Carbon dioxide and Acrid smoke. May form explosive mixture with air particularly in enclosed spaces.

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.

6. SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures — Ensure adequate ventilation. Stop leak if safe to do so. Eliminate all ignition sources if safe to do so. Avoid contact with skin, eyes or clothing. Avoid breathing vapours. Ensure suitable personal protection during removal of spillages. See Section: 8.

6.2 Environmental precautions — Avoid release to the environment. Do not allow to enter drains, sewers or watercourses. Spillages or uncontrolled discharges into watercourses must be alerted to the Environment Agency or other appropriate regulatory body.

6.3 Methods and material for containment and cleaning up — Use only non-sparking tools. Adsorb spillages onto sand, earth or any suitable adsorbent material. Transfer to a container for disposal. See Section: 7.2. Dispose of this material and its container as hazardous waste (2008/98/EEC). Ventilate the area and wash spill site after material pick-up is complete.

6.4 Reference to other sections — See Section: 8, 13

7. SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling

Ensure adequate ventilation. Do not breathe vapour. Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. See Section: 8. Keep away from clothing and other combustible materials. Do not eat, drink or smoke when using this product. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

7.2 Conditions for safe storage, including any incompatibilities

Keep only in original container. 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. Keep from direct sunlight.

Storage temperature	Store at temperatures not exceeding (°C): 27°C. SADT 60°C.
Storage life	Stable under normal conditions.
Suitable containers:	Polyethylene
Unsuitable containers:	Steel (drums)
Incompatible materials	Keep away from: Aerosol, Flammable liquid, Oxidizing agents, Reducing agents, Acids, strong bases, metals (and their alloys), Sulphur products, Amines and Corrosive Substances. Avoid impurities (e.g. rust, dust, ash), risk of decomposition.

7.3 Specific end use(s)

Adhesives. See Section: 1.2.

8. 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
Methyl ethyl ketone peroxide	1338-23-4	-	-	0.2	1.5	WEL
Methyl ethyl ketone	78-93-3	200	600	300	899	WEL
Hydrogen peroxide	7722-84-1	1	1.4	2	2.8	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

Use appropriate containment or ensure adequate ventilation. Atmospheric levels should be controlled in compliance with the occupational exposure limit. Guarantee that the eye flushing systems and safety showers are located close to the working place.

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

General hygiene measures for the handling of chemicals are applicable. Use personal protective equipment as required. Wash contaminated clothing before reuse. Avoid contact with skin, eyes or clothing.

Eye/ face protection

Wear goggles giving complete protection to eyes to protect against liquid splashes (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.

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. Open system(s):

Wear suitable respiratory protective equipment.

	Thermal hazards	Not applicable.
8.2.3	**Environmental Exposure Controls**	Avoid release to the environment.

9. SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance	Milky white Coloured liquid.
Odour	Slight Odour
Odour threshold	Not available.
pH	Not available.
Melting point/freezing point	Not available.
Initial boiling point and boiling range	Not available.
Flash point	>93°C
Evaporation rate	Not available.
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	Not available.
Vapour pressure	Not available.
Vapour density	>1
Relative density	1.1
Solubility(ies)	Slightly soluble in: Water
Partition coefficient: n-octanol/water	Not available.
Auto-ignition temperature	Not available.
Decomposition Temperature	Not available.
Viscosity	Not available.
Explosive properties	Not available.
Oxidising properties	Organic peroxide Type D.

9.2 Other information VOC: 3.7%W/W

10. SECTION 10: STABILITY AND REACTIVITY

10.1	**Stability and reactivity**	Keep only in the original container at a temperature not exceeding (°C): 27°C. SADT 60°C.
10.2	**Chemical stability**	Stable under normal conditions.
10.3	**Possibility of hazardous reactions**	Heating may cause decomposition.
10.4	**Conditions to avoid**	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep from direct sunlight.
10.5	**Incompatible materials**	Keep away from: Aerosol, Flammable liquid, Oxidizing agents, Reducing agents, Acids, strong bases, metals (and their alloys), Sulphur products, Amines and Corrosive Substances. Avoid impurities (e.g. rust, dust, ash), risk of decomposition.
10.6	**Hazardous decomposition product(s)**	May decompose in a fire giving off toxic fumes. Carbon monoxide, Carbon dioxide and Acrid smoke.

11. SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects (Substances in preparations / mixtures)

Acute toxicity

Ingestion	Acute Tox. 4: Harmful if swallowed. Acute Toxicity Estimate Mixture Calculation: Estimated LC50 1429 mg/kg bw/day.
Inhalation	Based on available data, the classification criteria are not met. Acute Toxicity Estimate Mixture Calculation: Estimated LC50 > 20 mg/l.
Skin Contact	Based on available data, the classification criteria are not met.

		Acute Toxicity Estimate Mixture Calculation: Estimated LC50 > 2000 mg/kg bw/day.
	Skin corrosion/irritation	Skin Corr. 1B: Causes severe skin burns.
	Serious eye damage/irritation	Skin Corr. 1B: Causes serious eye damage.
	Respiratory or skin sensitization	Based on available data, the classification criteria are not met.
	Germ cell mutagenicity	Based on available data, the classification criteria are not met.
	Carcinogenicity	Based on available data, the classification criteria are not met.
	Reproductive toxicity	Based on available data, the classification criteria are not met.
	STOT - single exposure	Based on available data, the classification criteria are not met.
	STOT - repeated exposure	Based on available data, the classification criteria are not met.
	Aspiration hazard	Based on available data, the classification criteria are not met.
11.2	**Other information**	None.

12. SECTION 12: ECOLOGICAL INFORMATION

12.1	**Toxicity**	Based on available data, the classification criteria are not met. Estimated (96 hour) LC50 (Fish) > 100 mg/l
12.2	**Persistence and degradability**	Moderately/partially biodegradable.
12.3	**Bioaccumulative potential**	The product has low potential for bioaccumulation.
12.4	**Mobility in soil**	The product is predicted to have low mobility in soil. (Poorly water soluble product.)
12.5	**Results of PBT and vPvB assessment**	Not classified as PBT or vPvB.
12.6	**Other adverse effects**	None known.

13. SECTION 13: DISPOSAL CONSIDERATIONS

13.1	**Waste treatment methods**	Do not release undiluted and unneutralised to the sewer.This material and its container must be disposed of as hazardous waste (2008/98/EEC). Send after pre-treatment to a appropriate hazardous waste incinerator facility according to legislation.
13.2	**Additional Information**	Dispose of contents in accordance with local, state or national legislation.

14. SECTION 14: TRANSPORT INFORMATION

		ADR/RID / IMDG / IATA
14.1	**UN number**	UN 3105
14.2	**Proper Shipping Name**	ORGANIC PEROXIDE TYPE D, LIQUID (Methyl Ethyl Ketone Peroxide, <45%)
14.3	**Transport hazard class(es)**	5.2
14.4	**Packing group**	II
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**	None.

15. SECTION 15: REGULATORY INFORMATION

15.1	**Safety, health and environmental regulations/legislation specific for the substance or mixture**	
15.1.1	**EU regulations**	
	SVHCs	None.
15.1.2	**National regulations**	
	Wassergefährdungsklasse (Germany)	Water hazard class: 1
15.2	**Chemical Safety Assessment**	Not available.

16. SECTION 16: OTHER INFORMATION

The following sections contain revisions or new statements: 1-16.

References: Existing Safety Data Sheet (SDS), Harmonised Classification(s) for Methyl ethyl ketone (CAS# 78-93-3) and Hydrogen Peroxide (CAS# 7722-84-1), and Existing ECHA registration(s) for 2-Butanone, peroxide (CAS# 1338-23-4), 2,2,4-Trimethyl-1,3-Pentanediol Diisobutyrate (CAS# 6846-50-0), Methyl ethyl ketone (CAS# 78-93-3) and Hydrogen Peroxide (CAS# 7722-84-1).

Classification of the substance or mixture According to Regulation (EC) No. 1272/2008 (CLP)	Classification Procedure
Org. Perox. CD; H242	Estimated Physico-chemical properties of substance
Acute Tox. 4; H302	Acute Toxicity Estimate (ATE) Calculation.
Skin Corr. 1B; H314	Threshold Calculation

LEGEND

LTEL	Long Term Exposure Limit
STEL	Short Term Exposure Limit
DNEL	Derived No Effect Level
PNEC	Predicted No Effect Concentration
PBT	Persistent, Bioaccumulative and Toxic
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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Annex to the extended Safety Data Sheet (eSDS)

No information available.