

SAFETY DATA SHEET

Version: 2.1
Date of Issue: 17 August 2017
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 300 Catalyst (Lot # 075 and Higher)
Other means of identification	Not applicable
Recommended use of the chemical and restrictions on use	
Recommended use	Adhesives.
Restrictions on use	None known.
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	Organic Peroxide, Type D
Health hazards	Acute toxicity, Category 4 – Oral Skin Corrosion/Irritation, Category 1 Eye Damage, Category 1
Environmental hazards	Not classified
Hazard Symbol	
Signal Word(s)	DANGER
Hazard Statement(s)	Heating may cause a fire. Harmful if swallowed. Causes severe skin burns and eye damage.
Precautionary Statement(s)	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep/Store away from clothing/combustible materials. Keep only in original container. Wear protective gloves/protective clothing/eye protection/face protection. Wash hands and exposed skin thoroughly after handling. Do not breathe vapour. IF SWALLOWED: rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. IF INHALED: Remove person to fresh air and keep comfortable for breathing. 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.

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Other hazards None known

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	CAS No.	EC No.	Hazard classification
Methyl ethyl ketone Peroxide	30 - 35	1338-23-4	215-661-2/ 700-954-4	Organic Peroxide, Type D Acute toxicity, Category 4 – Oral Acute toxicity, Category 4 – Inhalation Skin Corrosion/Irritation, Category 1 Eye Damage, Category 1
2,2,4-Trimethyl-1,3-pentanediol diisobutyrate	18 - 23	6846-50-0	229-934-9	Hazardous to the aquatic environment, Chronic, Category 3
Methyl ethyl ketone	1.5 - 2.5	78-93-3	201-159-0	Flammable Liquid, Category 2 Eye Irritation, Category 2 Specific target organ toxicity — single exposure, Category 3
Hydrogen Peroxide	< 1.5	7722-84-1	231-765-0	Oxidising liquid, Category 1 Skin Corrosion/Irritation, Category 1 Eye Damage, Category 1 Specific target organ toxicity — single exposure, Category 3 Acute toxicity, Category 4 – Oral Acute toxicity, Category 4 – Inhalation Hazardous to the aquatic environment, Chronic, Category 3

SECTION 4: FIRST AID MEASURES



Description of first aid measures

Self-protection of the first aider

Inhalation

Use personal protective equipment as required. Wear appropriate personal protective equipment, avoid direct contact. Ensure adequate ventilation. Do not breathe vapour. Avoid all contact. Contaminated clothing should be laundered before reuse.

Skin Contact

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.

Eye 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.

Ingestion

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.

Most important symptoms and effects, both acute and delayed

IF SWALLOWED: rinse mouth. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Immediately call a POISON CENTER or doctor/physician.

Harmful if swallowed. Causes severe skin burns and eye damage.

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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.

SECTION 5: FIRE-FIGHTING MEASURES

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.

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.

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. 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.

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.

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. Ventilate the area and wash spill site after material pick-up is complete.

SECTION 7: HANDLING AND STORAGE

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.

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.

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SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational Exposure Limits

SUBSTANCE	CAS No.	LTEL (8 hr TWA ppm)	LTEL (8 hr TWA mg/m ³)	STEL (ppm)	STEL (mg/m ³)	Note
Methyl ethyl ketone peroxide	1338-23-4	0.2*	1.5	-	-	NIOSH
		0.2*	-	-	-	ACGIH
Ethyl methyl ketone	78-93-3	200	590	300 [^]	885 [^]	NIOSH
		200	590	-	-	OSHA
		200	-	300	-	ACGIH
Hydrogen peroxide	7722-84-1	1	1.4	-	-	NIOSH, OSHA
		1	-	-	-	ACGIH, A3

Note: OSHA PELs 1910.1000 TABLE Z-1/ NIOSH RELs / ACGIH TLVs

*Ceiling limit value

[^]NIOSH average value of 15 minutes.

A3: Confirmed Animal Carcinogen with Unknown Relevance to Humans: The agent is carcinogenic in experimental animals at a relatively high dose, by route(s) of administration, at site(s), of histological type(s), or by mechanism(s) that may not be relevant to worker exposure. Available epidemiological studies do not confirm an increased risk of cancer in exposed humans. Available evidence does not suggest that the agent is likely to cause cancer in humans except under uncommon or unlikely routes or levels of exposure.

The other components listed in Section 3 do not have occupational exposure limits.

Biological Exposure Indices

SUBSTANCE	CAS No.	Determinant	Biological Exposure Indices	Sampling Time	Note
Ethyl methyl ketone	78-93-3	Ethyl methyl ketone in urine	2 mg/L	End of shift	Ns

Source: 2015 ACGIH Biological Exposure Indices (BEIs)

Ns - Nonspecific

The other components listed in Section 3 do not have biological exposure indices.

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.

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.

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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

Appearance	Milky white Coloured liquid.
Odor	Slight Odour
Odor 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 (Butyl acetate = 1)	Not available.
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	Not available.
Vapour pressure	Not available.
Vapour density	>1 (Air = 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.

Other information

Volatile Organic Compound Content: 809 g/l per EPA Method 24

SECTION 10: STABILITY AND REACTIVITY

Reactivity	Keep only in the original container at a temperature not exceeding (°C): 27°C. SADT 60°C.
Chemical stability	Stable under normal conditions.
Possibility of hazardous reactions	Heating may cause decomposition.
Conditions to avoid	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep from direct sunlight.
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.
Hazardous decomposition product(s)	May decompose in a fire giving off toxic fumes. Carbon monoxide, Carbon dioxide and Acid smoke.

SECTION 11: TOXICOLOGICAL INFORMATION

Information on toxicological effects (Substances in preparations / mixtures)

Acute toxicity - Ingestion	Acute toxicity, Category 4: Harmful if swallowed. Acute Toxicity Estimate Mixture Calculation: Estimated LC50 1429 mg/kg bw/day.
Acute toxicity - Inhalation	Based on available data, the classification criteria are not met. Acute Toxicity Estimate Mixture Calculation: Estimated LC50 > 20 mg/l.
Acute toxicity - Skin Contact	Based on available data, the classification criteria are not met. Acute Toxicity Estimate Mixture Calculation: Estimated LC50 > 2000 mg/kg

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Skin corrosion/irritation	bw/day. Skin Corrosion/Irritation, Category 1: Causes severe skin burns.
Serious eye damage/irritation	Eye Damage, Category 1: 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.
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	Harmful if swallowed. Causes severe skin burns and eye damage.
Delayed health effects from exposure	Harmful if swallowed.
Other information	
NTP Report on Carcinogens	All chemicals are not listed
IARC Monographs	Hydrogen peroxide: Group 3 - Not classifiable as to its carcinogenicity to humans
OSHA Designated Carcinogen	All chemicals are not listed

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity	Based on available data, the classification criteria are not met. Estimated (96 hour) LC50 (Fish) > 100 mg/l
Persistence and degradability	Moderately/partially biodegradable.
Bioaccumulative potential	The product has low potential for bioaccumulation.
Mobility in soil	The product is predicted to have low mobility in soil. (Poorly water soluble product.)
Other adverse effects	None known.

SECTION 13: DISPOSAL CONSIDERATIONS

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

SECTION 14: TRANSPORT INFORMATION

	ADR/RID	IMDG	IATA
UN number	UN 3105	UN 3105	UN 3105
UN proper shipping name	ORGANIC PEROXIDE TYPE D, LIQUID (Methyl Ethyl Ketone Peroxide, <45%)	ORGANIC PEROXIDE TYPE D, LIQUID (Methyl Ethyl Ketone Peroxide, <45%)	ORGANIC PEROXIDE TYPE D, LIQUID (Methyl Ethyl Ketone Peroxide, <45%)
Transport hazard class(es)	5.2	5.2	5.2
Packing group	II	II	II
Environmental hazards	Environmentally hazardous substance.	Not classified as a Marine Pollutant	Environmentally hazardous substance.
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not applicable.		
Special precautions for user	See Section: 2		

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SECTION 15: REGULATORY INFORMATION

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

US Federal Regulations

TSCA (Toxic Substance Control Act)	Dimethyl phthalate: Subject to 25,000 lb reporting threshold Methyl ethyl ketone peroxide: Subject to 25,000 lb reporting threshold 2,2,4-Trimethyl-1,3-Pentanediol Diisobutyrate: Subject to 25,000 lb reporting threshold Methyl ethyl ketone: Subject to 25,000 lb reporting threshold Hydrogen peroxide: Subject to 25,000 lb reporting threshold Hydrogen peroxide: RQ = 1,000 lbs; TPQ = 1,000 lbs
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EPCRA/SARA Section 302 Extremely Hazardous Substances

EPCRA Section 313 Toxics Release Inventory (TRI) Program

NIOSH Occupational Carcinogen List

OSHA List of highly hazardous chemicals, toxics and reactives

NTP Report on Carcinogens (RoC) List

Poison Prevention Packaging Act

US State Regulations

California State, Proposition 65 List

California State, Safer Consumer Products Regulations

Maine State, Toxic Chemicals in Children's Products Act

New Jersey State Worker and Community RTK Act

Pennsylvania State, Worker and Community RTK Act

Rhode Island State, Hazardous Substances RTK Act

Non-Regional

IARC Monographs, List of Classifications

Narcotic Drugs and Psychotropic Substances Convention

SECTION 16: OTHER INFORMATION

The following sections contain revisions or new statements: Section 9- Updated VOC content per EPA Method 24 results.

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References:

Existing Safety Data Sheet (SDS), EU Data: Harmonised Classification(s) for Methyl ethyl ketone (CAS# 78-93-3) and Hydrogen Peroxide (CAS# 7722-84-1), and Existing ECHA registration(s) for Methyl ethyl ketone 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).

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GHS Classification of the substance or mixture	Classification Procedure
Organic Peroxide, Type D	Estimated Physico-chemical properties of substance
Acute toxicity, Category 4	Acute Toxicity Estimate (ATE) Calculation.
Skin Corrosion/Irritation, Category 1A	Threshold Calculation
Eye Damage, Category 1	Threshold Calculation

LEGEND

ACGIH: American Conference of Governmental Industrial Hygienists
BEI: Biological Exposure Indices (ACGIH)
IARC: International Agency for Research on Cancer
Irr: Irritation
NIOSH: National Institute of Occupational Safety and Health
NTP: National Toxicology Program
OSHA: The Occupational Safety & Health Administration
PBT: Persistent, Bioaccumulative and Toxic
PEL: Permissible exposure limit

REL: Recommended exposure limit
SCL: Specific Concentration Limit
Skin¹: Risk of overexposure via dermal contact
STEL: Short Term Exposure Limit
TLV: Threshold Limit value
TSCA: Toxic Substance Control Act
TWA: Time Weighted Average
URT: Upper respiratory tract
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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