

SAFETY DATA SHEET

Version: 2.1
Date of Issue: 17 August 2017
Date of First Issue: 20 March 2012


www.vishaypg.com

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.

SAFETY DATA SHEET

Version: 2.1
Date of Issue: 17 August 2017
Date of First Issue: 20 March 2012

www.vishaypg.com

ACCORDING TO OSHA HCS (29 CFR 1910.1200)

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.

SAFETY DATA SHEET

Version: 2.1
Date of Issue: 17 August 2017
Date of First Issue: 20 March 2012

www.vishaypg.com

ACCORDING TO OSHA HCS (29 CFR 1910.1200)

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.

SAFETY DATA SHEET

Version: 2.1
 Date of Issue: 17 August 2017
 Date of First Issue: 20 March 2012

www.vishaypg.com

ACCORDING TO OSHA HCS (29 CFR 1910.1200)

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.

SAFETY DATA SHEET

Version: 2.1
Date of Issue: 17 August 2017
Date of First Issue: 20 March 2012

www.vishaypg.com

ACCORDING TO OSHA HCS (29 CFR 1910.1200)

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

SAFETY DATA SHEET

Version: 2.1
Date of Issue: 17 August 2017
Date of First Issue: 20 March 2012

www.vishaypg.com

ACCORDING TO OSHA HCS (29 CFR 1910.1200)

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		

SAFETY DATA SHEET



Version: 2.1
Date of Issue: 17 August 2017
Date of First Issue: 20 March 2012

www.vishaypg.com

ACCORDING TO OSHA HCS (29 CFR 1910.1200)

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
EPCRA/SARA Section 302 Extremely Hazardous Substances	
EPCRA Section 313 Toxics Release Inventory (TRI) Program	Dimethyl phthalate: De Minimis limit: 1%
NIOSH Occupational Carcinogen List	All chemicals are not listed
OSHA List of highly hazardous chemicals, toxics and reactives	All chemicals are not listed
NTP Report on Carcinogens (RoC) List	All chemicals are not listed
Poison Prevention Packaging Act	All chemicals are not listed
US State Regulations	
California State, Proposition 65 List	All chemicals are not listed
California State, Safer Consumer Products Regulations	Dimethyl phthalate: Candidate Chemicals List, Group Member List: Dimethyl phthalate and metabolite Methyl ethyl ketone: Candidate Chemicals List
Maine State, Toxic Chemicals in Children's Products Act	All chemicals are not listed
New Jersey State Worker and Community RTK Act	Dimethyl phthalate: RTKHSL Methyl ethyl ketone peroxide: RTKHSL. SHHSL Methyl ethyl ketone: RTKHSL. SHHSL Hydrogen peroxide: RTKHSL. SHHSL
Pennsylvania State, Worker and Community RTK Act	Dimethyl phthalate: Hazardous Substance List. Environmental Hazard List Methyl ethyl ketone peroxide: Hazardous Substance List. Environmental Hazard List Methyl ethyl ketone: Hazardous Substance List. Environmental Hazard List Hydrogen peroxide: Hazardous Substance List. Environmental Hazard List
Rhode Island State, Hazardous Substances RTK Act	Dimethyl phthalate: Hazardous Substance List Methyl ethyl ketone peroxide: Hazardous Substance List Methyl ethyl ketone: Hazardous Substance List Hydrogen peroxide: Hazardous Substance List
Non-Regional	
IARC Monographs, List of Classifications	Hydrogen peroxide: Group 3
Narcotic Drugs and Psychotropic Substances Convention	Hydrogen peroxide: Table II

SECTION 16: OTHER INFORMATION

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

Version 2.1
Revision Date 17 Aug 2017
Date of First Issue 20 March 2012

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).

SAFETY DATA SHEET



Version: 2.1
Date of Issue: 17 August 2017
Date of First Issue: 20 March 2012

www.vishaypg.com

ACCORDING TO OSHA HCS (29 CFR 1910.1200)

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
Skin²: 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.

Disclaimers

Information contained in this publication or as otherwise supplied to Users is believed to be accurate and is given in good faith, but it is for the Users to satisfy themselves of the suitability of the product for their own particular purpose. Vishay Precision Group gives no warranty as to the fitness of the product for any particular purpose and any implied warranty or condition (statutory or otherwise) is excluded except to the extent that exclusion is prevented by law. Vishay Precision Group accepts no liability for loss or damage (other than that arising from death or personal injury caused by defective product, if proved), resulting from reliance on this information. Freedom under Patents, Copyright and Designs cannot be assumed.

Disclaimer

ALL PRODUCTS, PRODUCT SPECIFICATIONS AND DATA ARE SUBJECT TO CHANGE WITHOUT NOTICE.

Vishay Precision Group, Inc., its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, "VPG"), disclaim any and all liability for any errors, inaccuracies or incompleteness contained herein or in any other disclosure relating to any product.

The product specifications do not expand or otherwise modify VPG's terms and conditions of purchase, including but not limited to, the warranty expressed therein.

VPG makes no warranty, representation or guarantee other than as set forth in the terms and conditions of purchase. **To the maximum extent permitted by applicable law, VPG disclaims (i) any and all liability arising out of the application or use of any product, (ii) any and all liability, including without limitation special, consequential or incidental damages, and (iii) any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.**

Information provided in datasheets and/or specifications may vary from actual results in different applications and performance may vary over time. Statements regarding the suitability of products for certain types of applications are based on VPG's knowledge of typical requirements that are often placed on VPG products. It is the customer's responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application. You should ensure you have the current version of the relevant information by contacting VPG prior to performing installation or use of the product, such as on our website at vpgsensors.com.

No license, express, implied, or otherwise, to any intellectual property rights is granted by this document, or by any conduct of VPG.

The products shown herein are not designed for use in life-saving or life-sustaining applications unless otherwise expressly indicated. Customers using or selling VPG products not expressly indicated for use in such applications do so entirely at their own risk and agree to fully indemnify VPG for any damages arising or resulting from such use or sale. Please contact authorized VPG personnel to obtain written terms and conditions regarding products designed for such applications.

Product names and markings noted herein may be trademarks of their respective owners.

Copyright Vishay Precision Group, Inc., 2014. All rights reserved.