

SAFETY DATA SHEET

Version: 3.0
Date of Issue: 24-Apr-2017
Date of First Issue: 05-Mar-2015

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ACCORDING TO OSHA HCS (29 CFR 1910.1200)

SECTION 1: IDENTIFICATION

Product identifier used on the label	M-COAT D
Other means of identification	
Chemical Name	Mixture
CAS No.	Mixture
EINECS No.	Mixture
Recommended use of the chemical and restrictions on use	
Recommended use	Adhesives.
Restrictions on use	For professional users only.
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	Flammable Liquid, Category 2
Health hazards	Aspiration hazard, Category 1 Skin corrosion/irritation, Category 2 Eye Irritation, Category 2 Specific target organ toxicity — single exposure, Category 3 Reproductive toxicity, Category 2 Specific target organ toxicity — repeated exposure, Category 2
Environmental hazards	Not classified
Hazard Symbol	  
Signal Word(s)	Danger
Hazard Statement(s)	Highly flammable liquid and vapour. May be fatal if swallowed and enters airways. Causes skin irritation. Causes serious eye irritation. May cause drowsiness or dizziness. Suspected of damaging the unborn child. May cause damage to organs (Central nervous system) through prolonged or repeated exposure.
Precautionary Statement(s)	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

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Do not breathe vapour.
Keep container tightly closed.
Wear protective gloves/protective clothing/eye protection/face protection.
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
Do NOT induce vomiting.
IF ON SKIN: Wash with plenty of water.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
IF exposed or concerned: Get medical advice/attention.
Store locked up.
Dispose of contents in accordance with local, state or national legislation.

Other hazards

None.

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
Toluene	< 50	108-88-3	203-625-9	Flammable Liquid, Category 2 Aspiration hazard, Category 1 Skin corrosion/irritation, Category 2 Specific target organ toxicity — single exposure, Category 3 Reproductive toxicity, Category 2 Specific target organ toxicity — repeated exposure, Category 2
Acrylic ester resin	25 - 30	-	-	Not classified
Titanium dioxide	15 - 20	13463-67-7	236-675-5	Not classified
Ethyl methyl ketone	< 20	78-93-3	201-159-0	Flammable Liquid, Category 2 Eye Irritation, Category 2 Specific target organ toxicity — single exposure, Category 3

SECTION 4: FIRST AID MEASURES



Description of first aid measures

Self-protection of the first aider

Do not breathe vapour. Wear suitable protective clothing. Wear suitable respiratory protective equipment if exposure to high levels of material are likely. Do not use mouth-to-mouth resuscitation.

Inhalation

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. Apply artificial respiration only if patient is not breathing or under medical supervision. Call a POISON CENTER or doctor/physician if you feel unwell. If exposed or concerned: Get medical attention/advice.

Skin Contact

IF ON SKIN: Wash with plenty of soap and water. Remove contaminated clothing and wash clothing before reuse. If skin irritation occurs, get medical advice/attention. If exposed or concerned: Get medical attention/advice.

Eye Contact

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get

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Ingestion	medical advice/attention. IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Do NOT induce vomiting. If vomiting occurs spontaneously, keep head below hips to prevent aspiration into the lungs. Do not give milk or alcoholic beverages. Immediately call a POISON CENTER/doctor.
Most important symptoms and effects, both acute and delayed	Causes skin irritation. Causes eye irritation. May be fatal if swallowed and enters airways. Suspected of damaging the unborn child. May cause drowsiness or dizziness. May cause damage to organs through prolonged or repeated exposure.
Indication of any immediate medical attention and special treatment needed	Treat symptomatically. IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. If Gastric Lavage is performed: Endotracheal control and/or esophagoscopy is recommended. Give a slurry of activated charcoal in water to drink. (240mL Water / 30 g Activated charcoal).

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing media Suitable Extinguishing Media	As appropriate for surrounding fire. Extinguish preferably with foam, carbon dioxide or dry chemical.
Unsuitable extinguishing Media	Do not use water jet. Direct water jet may spread the fire.
Special hazards arising from the substance or mixture	Highly flammable liquid and vapour. Combustion or thermal decomposition will evolve toxic and irritant vapours. Carbon monoxide, Carbon dioxide, Acrid smoke and Nitrogen oxides. Vapours are heavier than air and may travel considerable distances to a source of ignition and flashback.
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. Do not allow run-off from fire fighting to enter drains or water courses.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	Shut off leaks if without risk. Eliminate all ignition sources if safe to do so. Ensure adequate ventilation. Do not breathe vapour. Avoid contact with skin, eyes or clothing. Wear suitable respiratory protection. Use personal protective equipment as required. See Section: 8
Methods and material for containment and cleaning up	Ensure suitable personal protection (including respiratory protection) during removal of spillages. Use non-sparking equipment when picking up flammable spill. Contain spillages. Adsorb spillages onto sand, earth or any suitable adsorbent material. Do NOT absorb in saw-dust or other combustible absorbents. Transfer to a container for disposal. Ventilate the area and wash spill site after material pick-up is complete. Dispose of this material and its container as hazardous waste.

SECTION 7: HANDLING AND STORAGE

Precautions for safe handling	Ensure adequate ventilation. Do not breathe vapour. In case of inadequate ventilation wear respiratory protection. Use personal protective equipment as required. See Section: 8. Avoid contact with skin, eyes or clothing. 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. Take precautionary measures against static discharges. Use non-sparking hand tools and explosion proof electrical equipment.
Conditions for safe storage, including any incompatibilities	Ground/bond container and receiving equipment. Store in a cool/low-temperature, well-ventilated (dry) place. Keep container closed. Keep away from fire, sparks and heated surfaces - no smoking. Vapor space above stored liquid may be flammable/explosive unless blanketed with inert gas. Opened containers should be carefully resealed and stored in an upright position.

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Storage temperature
Incompatible materials

Store at temperatures not exceeding (°C): 27
Avoid contact with: Oxidizing agents.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational Exposure Limits

SUBSTANCE	CAS No.	LTEL (8 hr TWA ppm)	LTEL (8 hr TWA mg/m³)	STEL (ppm)	STEL (mg/m³)	Note
Toluene	108-88-3	100	375	150*	560*	NIOSH
		200	-	300	-	OSHA
		20	-	-	-	ACGIH, A4
Titanium dioxide	13463-67-7	-	10	-	-	OSHA, Total dust
		-	10	-	-	ACGIH, A4
Ethyl methyl ketone	78-93-3	200	590	300*	885*	NIOSH
		200	590	-	-	OSHA
		200	-	300	-	ACGIH

Note: OSHA PELs 1910.1000 TABLE Z-1, Z-2 / NIOSH RELs / ACGIH TLVs

* 15 minutes average value

A4: Not Classifiable as a Human Carcinogen: Agents which cause concern that they could be carcinogenic for humans but which cannot be assessed conclusively because of the lack of data. In vitro or animal studies do not provide indications of carcinogenicity which are sufficient to classify the agent into one of the other categories.

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
Toluene	108-88-3	Toluene in blood	0.02 mg/l	Prior to last shift of workweek	-
		Toluene in urine	0.03 mg/l	End of shift	-
		o-Cresol in urine with hydrolysis	0.3 mg/g creatinine	End of shift	B
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)

B - Background

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

Appropriate engineering controls

Ensure adequate ventilation or use appropriate containment. Atmospheric levels should be controlled in compliance with the occupational exposure limit. Use non-sparking ventilation systems, approved explosion-proof equipment, and intrinsically safe electrical systems. 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. Avoid contact with skin, eyes or clothing. Do not breathe vapour. Wash hands before breaks and after work. Keep work clothes separately. Contaminated clothing should be thoroughly cleaned. Do not eat, drink or smoke at the work place.

Eye/face protection



Wear protective eye glasses for protection against liquid splashes. Wear eye protection with side protection.

Skin protection

Hand protection: Wear impervious gloves. Breakthrough time of the glove material: refer to the information provided by the gloves' producer.

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Respiratory protection



Recommended: Neoprene.

Body protection: Wear impervious protective clothing, including boots, lab coat, apron or coveralls, as appropriate, to prevent skin contact. Wear anti-static clothing and shoes.

In case of inadequate ventilation wear respiratory protection. Open system(s): Wear suitable respiratory protective equipment. A suitable mask with filter type A may be appropriate.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	White, Liquid
Odor	Aromatic
Odor Threshold	Not established.
pH	Not established.
Melting Point/Freezing Point	Not established.
Initial boiling point and boiling range	100 °C
Flash Point	-1 °C [Closed cup]
Evaporation rate (Butyl acetate = 1)	1.9 (BuAc=1)
Flammability (solid, gas)	Not applicable: Liquid
Upper/lower flammability or explosive limits	Flammable Limits (Lower) (%v/v): 1.6 Flammable Limits (Upper) (%v/v): 7.0
Vapour pressure	0.49 mmHg @ 20°C
Vapour density	3.8 (Air = 1)
Relative density	< 1 (Water = 1)
Solubility(ies)	Soluble in water.
Partition coefficient: n-octanol/water	Not established.
Auto-ignition temperature	Not established.
Decomposition Temperature	Not established.
Viscosity	Not established.

Other information

Volatile Organic Compound Content: 650 g/l

SECTION 10: STABILITY AND REACTIVITY

Reactivity	Stable under normal conditions.
Chemical stability	Stable under normal conditions.
Possibility of hazardous reactions	Highly flammable liquid and vapour. Vapours are heavier than air and may travel considerable distances to a source of ignition and flashback.
Conditions to avoid	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Incompatible materials	Avoid contact with: Oxidizing agents.
Hazardous decomposition product(s)	May decompose in a fire giving off toxic fumes. Carbon monoxide, Carbon dioxide, Acrid smoke and Nitrogen oxides.

SECTION 11: TOXICOLOGICAL INFORMATION

Information on toxicological effects (Substances in preparations / mixtures)

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

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Skin corrosion/irritation	Skin corrosion/irritation, Category 2: Causes skin irritation.
Serious eye damage/irritation	Eye Irritation, Category 2: Causes serious eye irritation.
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	Reproductive toxicity, Category 2: Suspected of damaging the unborn child.
STOT - single exposure	Specific target organ toxicity — single exposure, Category 3: May cause drowsiness or dizziness.
STOT - repeated exposure	Specific target organ toxicity — repeated exposure, Category 2: May cause damage to organs through prolonged or repeated exposure.
Aspiration hazard	Aspiration hazard, Category 1: May be fatal if swallowed and enters airways.
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	Causes skin irritation. Causes serious eye irritation. May cause drowsiness or dizziness. May be fatal if swallowed and enters airways.
Delayed health effects from exposure	Suspected of damaging the unborn child. May cause damage to organs through prolonged or repeated exposure. (Affected organs: Central nervous system).
Other information	
NTP Report on Carcinogens	Not Listed
IARC Monographs	Toluene – Listed; Group 3
	Titanium dioxide – Listed; Group 2B
OSHA Designated Carcinogen	Not Listed

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity	Based on available data, the classification criteria are not met. Estimated LC50 (96 hour) > 100 mg/l (Fish)
Persistence and degradability	No data for the mixture as a whole.
Bioaccumulative potential	The product has no potential for bioaccumulation.
Mobility in soil	The substance is predicted to have high mobility in soil. (Soluble in water.)
Other adverse effects	None known.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste treatment methods	Do not release undiluted and unneutralised to the sewer. Dispose of this material and its container as hazardous waste. Containers of this material may be hazardous when empty since they retain product residue.
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SECTION 14: TRANSPORT INFORMATION

	ADR/RID	IMDG	IATA
UN number	1993	1993	1993
UN proper shipping name	FLAMMABLE LIQUID, N.O.S (Toluene and Ethyl methyl ketone)	FLAMMABLE LIQUID, N.O.S (Toluene and Ethyl methyl ketone)	FLAMMABLE LIQUID, N.O.S (Toluene and Ethyl methyl ketone)
Transport hazard class(es)	3	3	3
Packing group	II	II	II
Environmental hazards	Environmentally hazardous substance	Not classified as a Marine Pollutant./ Environmentally hazardous substance	Environmentally hazardous substance

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Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable.
Special precautions for user See Section: 2

SECTION 15: REGULATORY INFORMATION

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

US Federal Regulations

TSCA (Toxic Substance Control Act)	Toluene: Subject to 25,000 lb reporting threshold Titanium dioxide: Subject to 25,000 lb reporting threshold Ethyl methyl ketone: Subject to 25,000 lb reporting threshold Not Listed
EPCRA/SARA Section 302 Extremely Hazardous Substances	Not Listed
EPCRA Section 313 Toxics Release Inventory (TRI) Program	Toluene: De Minimis limit: 1%
NIOSH Occupational Carcinogen List	Titanium dioxide: Listed Not Listed
OSHA List of highly hazardous chemicals, toxics and reactives	Not Listed
NTP Report on Carcinogens (RoC) List	Not Listed
Poison Prevention Packaging Act	Toluene: Substance requiring special packaging - Solvents for paint or other similar surface-coating material

US State Regulations

California State, Proposition 65 List	Toluene: Safe harbor level - MADL: 7000 ug/day Titanium dioxide: Listed; airborne, unbound particles of respirable size
California State, Safer Consumer Products Regulations	Toluene: Initial Candidate Chemicals List Titanium dioxide: Candidate Chemicals List Ethyl methyl ketone: Candidate Chemicals List
Maine State, Toxic Chemicals in Children's Products Act	Toluene: COC list. CHC list
New Jersey State Worker and Community RTK Act	Toluene: RTKHSL. SHHSL Titanium dioxide: RTKHSL Ethyl methyl ketone: RTKHSL. SHHSL
Pennsylvania State, Worker and Community RTK Act	Toluene: Hazardous Substance List. Environmental Hazard List Titanium dioxide: Hazardous Substance Lis Ethyl methyl ketone: Hazardous Substance List. Environmental Hazard List
Rhode Island State, Hazardous Substances RTK Act	Toluene: Hazardous Substance List Titanium dioxide: Hazardous Substance List Ethyl methyl ketone: Hazardous Substance List

Non-Regional

IARC Monographs, List of Classifications onal	Toluene: Group 3 Titanium dioxide: Group 2B
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SECTION 16: OTHER INFORMATION

The following sections contain revisions or new statements: New SDS Regulation compliant with HazCom 2012 format, all sections have been updated to include new information. Please review SDS with care.

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References:

Existing Safety Data Sheet (SDS). EU Data: Existing ECHA registration(s) for and Harmonised Classification(s) for Toluene (CAS No. 108-88-3) and Ethyl methyl ketone (CAS No. 78-93-3). Existing ECHA registration(s) for Titanium Dioxide (CAS No. 13463-67-7).

GHS Classification of the substance or mixture	Classification Procedure
Flammable Liquid, Category 2	Flash Point [Closed cup] Test Result/ Boiling Point (°C)
Aspiration hazard, Category 1	Estimated Viscosity
Skin corrosion/irritation, Category 2	Threshold Calculation

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Eye Irritation, Category 2	Threshold Calculation
Specific target organ toxicity — single exposure, Category 3	Threshold Calculation
Reproductive toxicity, Category 2	Threshold Calculation
Specific target organ toxicity — repeated exposure, Category 2	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.

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