



MATERIAL SAFETY DATA SHEET

SECTION 1 – CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: BUEHLER PROBE-MET

IDENTIFICATION NUMBER: 20-3385

PRODUCT USE/CLASS: Modified epoxy

SUPPLIER:

BUEHLER, a division of Illinois Tool Works Inc.

41 WAUKEGAN ROAD

LAKE BLUFF, IL 60044

EMERGENCY: 800-424-9300

INFORMATION: 847-295-6500

PREPARER: Technical Department, 847-295-6500

PREPARE DATE: 10/29/2012, 29 Oct 2012

SECTION 2 – COMPOSITION/INFORMATION ON INGREDIENTS

ITEM	CHEMICAL NAME	CAS NUMBER	WT/WT%
01	2, 4, 6-Tri (dimethylaminomethyl) Phenol	90-72-2	1.0-5.0
02	Epoxy Resin	26265-08-7	10.0-30.
03	Carbon Black	1333-86-4	0.1-1.0
04	Silicon dioxide (quartz)	14808-60-7	1.0-5.0
05	Fused silica	1344-95-2	60.0-70.0
06	Titanium dioxide	13463-67-6	0.1-1.0
07	Copper	7440-50-8	30.0-60.0

SECTION 2 – COMPOSITION/INFORMATION ON INGREDIENTS

ITEM	ACGIH TLV-TWA	ACGIH TLV-STEL	OSHA PEL-TWA	OSHA PEL – CEILING	COMPANY TLV-TWA	SKIN
01	N.E.	N.E.	N.E.	N.E.	N.E.	NO
02	N.E.	N.E.	N.E.	N.E.	N.E.	NO
03	3.5 mg/m ³	N.E.	3.5 mg/m ³	N.E.	2.5 mg/m ³ NIOSH	NO
04	0.025 mg/m ³ *	N.E.	0.1 mg/m ³ *	N.E.	.05 mg/m ³ * NIOSH	NO
05	N.E.	N.E.	N.E.	N.E.	6 mg/m ³ ACGIH	NO
06	10 mg/m ³	N.E.	15 mg/m ³	N.E. N.E.	N.E.	NO
07	1 mg/m ³	N.E.	1 mg/m ³		1mg/m ³ NIOSH	NO

(SEE SECTION 16 FOR ABBREVIATION LEGEND)

* = Respirable Fraction

SECTION 3 – HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW: Vapors from heated material may be irritating. Contact with heated material can cause thermal burns. Contact may be irritating. Potential skin sensitizer. Repeated or prolonged overexposure may cause target organ effects. See Chronic Overexposure Effects.

ACUTE EFFECTS – EYE CONTACT: Slightly irritating but does not injure eye tissue. Contact may cause redness and tearing. Exposure to hot material may cause thermal burns.

ACUTE EFFECTS - SKIN CONTACT: Mechanical irritant; substance may cause slight skin irritation. Repeated and prolonged contact may cause sensitization with allergic reaction. Contact with product at elevated temperatures can result in thermal burns.

ACUTE EFFECTS – INHALATION: Dust or vapors may be slightly irritating to respiratory tract.

ACUTE EFFECTS - INGESTION: May cause nausea and vomiting. Ingestion may cause fatigue, muscular weakness, labored breathing.

SECTION 3 – HAZARDS IDENTIFICATION

CHRONIC OVEREXPOSURE EFFECTS: *Repeated and prolonged inhalation of graphite or carbon dusts may cause pulmonary fibrosis, emphysema, and pneumoconiosis. The severity of these effects is greatly influenced by the presence of other harmful mineral dusts, most notably crystalline silica.

*This product contains encapsulated silicon dioxide (quartz, silica). No exposure to free respirable silica is anticipated during normal use of this product. It should be noted, however, that free respirable silica may be released by grinding or machining of cured compound and has been listed as a confirmed human carcinogen by NTP and IARC. Inhalation of free respirable silica may cause silicosis or other serious delayed lung injury. Recent studies have also suggested that individuals with silicosis are at increased risk of developing tuberculosis, scleroderma, and/or increased incidence of kidney lesions.

*This product contains encapsulated metal powder which contains copper. No exposure to free metal powder is anticipated during normal application of this product. Metal powder may be released, however, by grinding or machining of cured compound or coated surface. Repeated or prolonged overexposure to metal dust may cause metal-fume fever, metallic taste, and discoloration of the skin and hair. Refer to protective equipment section for appropriate protective measures.

*Titanium dioxide (TiO₂) has been listed by IARC as Group 2B (possibly carcinogenic to humans). However, recent epidemiology studies in titanium dioxide plant in Europe and North America did not show any increases in lung cancer death rates with cumulative exposure to TiO₂ or duration of plant employment. NTP, OSHA, and ACGIH do NOT list TiO₂ as a potential or confirmed carcinogen. No exposure to free respirable TiO₂ is anticipated during normal use (mix and cure) of this product. TiO₂ may be released by grinding or machining of cured material. Use approved dust/mist respirator when grinding or machining cured compound.

OTHER INFORMATION: No information.

PRIMARY ROUTE(S) OF ENTRY: SKIN CONTACT, EYE CONTACT

SECTION 4 – FIRST AID MEASURES

EYE CONTACT: Immediately flush eyes with plenty of water for at least 15 minutes. Get immediate medical attention.

SKIN CONTACT: For hot product, immediately immerse in or flush the affected area with large amounts of cold water to dissipate heat. Cover with clean cotton sheeting or gauze and get prompt medical attention. No attempt should be made to remove material from skin or to remove contaminated clothing as the damaged flesh can be easily torn.

For cold material: treat symptomatically.

INHALATION: No specific treatment is necessary since this material is not likely to be hazardous by inhalation. If exposed to excessive levels of dusts or fumes, remove to fresh air and get medical attention if cough or other symptoms develop.

INGESTION: Swallowing less than an ounce will not cause significant harm. For larger amounts, do not induce vomiting, but give one or two glasses of water to drink and get medical attention.

NOTES TO PHYSICIAN: Treat symptomatically.

SECTION 5 – FIRE FIGHTING MEASURES

FLASH POINT: >300 F

LOWER EXPLOSIVE LIMIT: N.A.

UPPER EXPLOSIVE LIMIT: N.A.

AUTOIGNITION TEMPERATURE: No data.

EXTINGUISHING MEDIA: ALCOHOL FOAM, FOAM, DRY CHEMICAL, CO₂, WATER FOG

UNUSUAL FIRE AND EXPLOSION HAZARDS: Finely divided dust in air may present explosion hazard. Prevent dust buildup.

SPECIAL FIREFIGHTING PROCEDURES: Treat as petroleum fire. Wear appropriate approved protective equipment. Avoid directing water stream directly into flame; it may cause frothing with subsequent spread of flame.

SECTION 6 – ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Reclaim clean material. Contaminated material should be swept or shoveled into appropriate waste container and disposed of in accordance with applicable federal, state and local regulations. Prevent washings from entering drains and/or waterways.

SECTION 7 – HANDLING AND STORAGE

HANDLING: Wash thoroughly after handling. Minimize dust generation and accumulation. Avoid breathing dust, vapor, mist or gas. DO NOT swallow.

STORAGE: Keep away from heat and flame.

SECTION 8 – EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS: General ventilation usually adequate.

RESPIRATORY PROTECTION: None normally required under general ventilation. NIOSH-approved N95 particulate respirator recommended if grinding or machining solid compound. If use is performed in a poorly-ventilated confined space, or if vapors cause respiratory effects, use NIOSH-approved organic vapor cartridge respirator in accordance with OSHA regulations.

SKIN PROTECTION: Clean clothing to cover skin. Thermal gloves when handling hot material.

EYE PROTECTION: Safety glasses.

OTHER PROTECTIVE EQUIPMENT: Accessible eye wash and safety shower.

HYGIENIC PRACTICES: Follow good general industrial safety practices during use. Do not smoke or eat during use.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

BOILING RANGE:	390 - 500 F	VAPOR DENSITY:	Is heavier than air
ODOR:	Faint phenolic	ODOR THRESHOLD:	N.A.
APPEARANCE:	Black	EVAPORATION RATE:	Is slower than Butyl Acetate
SOLUBILITY IN H ₂ O:	Insoluble		
FREEZE POINT:	N.A.	SPECIFIC GRAVITY:	1.00
VAPOR PRESSURE:	N.A.	pH @ 0.0%:	N.A.
PHYSICAL STATE:	Solid	VISCOSITY:	N.A.
COEFFICIENT OF WATER/OIL DISTRIBUTION:	NO DATA		

(SEE SECTION 16 FOR ABBREVIATION LEGEND)

SECTION 10 – STABILITY AND REACTIVITY

CONDITIONS TO AVOID: No information

INCOMPATIBILITY: Strong Lewis or mineral acids. Strong bases or oxidants.

HAZARDOUS DECOMPOSITION PRODUCTS: Oxides of carbon. Oxides of nitrogen, ammonia. Aromatic and aliphatic hydrocarbons. Aldehydes and acids from incomplete combustion. Phenolic compounds.

HAZARDOUS POLYMERIZATION: Will not occur under normal conditions

STABILITY: This product is stable under normal storage conditions.

SECTION 11 – TOXICOLOGICAL PROPERTIES

COMPONENT TOXICOLOGICAL INFORMATION:

----- CHEMICAL NAME -----	----- LD50 -----	----- LC50 -----
2,4,6-Tri(dimethylaminomethyl) Phenol	derm (rat)1280mg/kg	No information
Epoxy resin	Oral-rat=>11 g/kg	No deaths/satd air
Carbon Black	Oral-rat=>8 g/kg	No information
Silicon dioxide (quartz)	No information	No information
Fused silica	No information	No information
Titanium dioxide	Oral-rat=>25 g/kg	Inh-rat=>6.8mg/l/4H
Copper	No data	No data

SECTION 12 – ECOLOGICAL PROPERTIES

ECOLOGICAL TEST DATA: Contains substances considered to be harmful to Aquatic organisms. Contains a substance or substances not biodegradable.

SECTION 13 – DISPOSAL CONSIDERATIONS

DISPOSAL METHOD: Material as sold is not considered a hazardous waste under Federal RCRA regulations and may be disposed of in landfill if local regulations permit. If material becomes contaminated, follow disposal instructions for contaminant.

SECTION 14 – TRANSPORTATION INFORMATION

DOT PROPER SHIPPING NAME: Not regulated	
DOT TECHNICAL NAME: N.A.	HAZARD SUBCLASS: N.A.
DOT HAZARD CLASS: N.A.	PACKAGING GROUP: N.A.
DOT UN/NA CLASS: N.A.	RESP. GUIDE PAGE:
INTERNATIONAL SHIPPING NAME: Not regulated	
INTERNATIONAL ID NUMBER: N.A.	
IMDG CLASS (1°, 2°): N.A.	IMDG PAGE NUMBER: N.A.
IMDG EMS: N.A.	IATA CLASS (1°, 2°): N.A.
ADR ITEM NO.: N.A.	ADR TREMCARD: N.A.
SUPPLEMENTAL INFORMATION: No information.	

SECTION 15 – REGULATORY INFORMATION

OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200)

CERCLA – SARA HAZARD CATEGORY: THIS PRODUCT HAS BEEN REVIEWED, AND IS CONSIDERED, UNDER APPLICABLE DEFINITIONS, TO MEET THE FOLLOWING CATEGORIES:

Immediate Health Hazard Chronic Health Hazard

SARA SECTION 313: THIS PRODUCT CONTAINS THE FOLLOWING SUBSTANCES SUBJECT TO THE REPORTING REQUIREMENTS OF SECTION 313 AND 40 CFR PART 372: None.

TOXIC SUBSTANCE CONTROL ACT: THE CHEMICAL SUBSTANCES IN THIS PRODUCT ARE ON THE TSCA SECTION 8 INVENTORY. THIS PRODUCT CONTAINS THE FOLLOWING CHEMICAL SUBSTANCES SUBJECT TO THE REPORTING REQUIREMENTS OF TSCA 12(B) IF EXPORTED FROM THE UNITED STATES: None.

NEW JERSEY RIGHT-TO-KNOW: THE FOLLOWING MATERIALS ARE NON-HAZARDOUS, BUT ARE AMONG THE TOP 5 COMPONENTS IN THIS PRODUCT: No further data required see Section 2.

PENNSYLVANIA RIGHT-TO-KNOW: THE FOLLOWING NON-HAZARDOUS INGREDIENTS ARE PRESENT IN THE PRODUCT AT GREATER THAN 3%: No further data required see Section 2.

CALIFORNIA PROPOSTION 65: This product contains a chemical(s) known to the state of California to cause cancer. (quartz)

SECTION 15 – REGULATORY INFORMATION

CANADIAN WHMIS: THIS MSDS HAS BEEN PREPARED IN COMPLIANCE WITH CONTROLLED PRODUCT REGULATIONS EXCEPT FOR USE OF THE 16 HEADINGS.

CANADIAN WHMIS CLASS: D2A

COMPONENT RCRA CLASSIFICATIONS: Not regulated

COMPONENT RCRA CODES: No information.

CERCLA RQ VALUE (MINIMUM): None known.

SECTION 16 – OTHER INFORMATION

HMIS RATINGS

HEALTH: 1

FLAMMABILITY: 1

REACTIVITY: 0

PREVIOUS MSDS REVISION DATE: 03/23/2012, 23 March 2012

REASON FOR REVISION: Revised section(s): 2, 5, 9, & 15

VOLATILE ORGANIC COMPOUNDS: 0 grams/ltr (calculated)

LEGEND:

N.A. – NO INFORMATION

N.E. – NOT ESTABLISHED

N.D. – NOT DETERMINED

ABBREVIATIONS: ACGIH = AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIAL HYGIENISTS; OSHA = OCCUPATIONAL HEALTH AND SAFETY ADMINISTRATION; TLV-TWA = THRESHOLD LIMIT VALUE – TIME WEIGHTED AVERAGE (8 HOURS); STEL = SHORT-TERM EXPOSURE LIMIT (15 MINUTES); C = CEILING VALUE; PEL = PERMISSIBLE EXPOSURE LIMIT

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