



MATERIAL SAFETY DATA SHEET

SECTION 1 – CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: BUEHLER PHENOCURE PHENOLIC POWDER AND PREMOLDS
 IDENTIFICATION NUMBER: 20-3100 through 20-3313
 PRODUCT USE/CLASS: Molding compound

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: 03/23/09, 23 March 2009

SECTION 2 – COMPOSITION/INFORMATION ON INGREDIENTS

ITEM	CHEMICAL NAME	CAS NUMBER	WT/WT%
01	Graphite	7782-42-5	20.0-40.0
02	Siliceous Muscovite Mica	12001-26-2	30.0-60.0
03	Carbon Black	1333-86-4	5.0-10.0
04	Coal	Unknown	10.0-30.0
05	Phenol	108-95-2	3.0-3.7
06	Talc	14807-96-6	10.0-30.0

ITEM	ACGIH TLV-TWA	ACGIH TLV-STEL	OSHA PEL-TWA	OSHA PEL – CEILING	COMPANY TLV-TWA	SKIN
01	2.0 mg/m ³	N.E.	15 mppcf	N.E.	2.5 mg/mg ³	NO
02	3 mg/m ³	N.E.	20 mppcf	N.E.	N.E.	NO
03	3.5 mg/m ³	N.E.	3.5 mg/m ³	N.E.	3.5 mg/m ³	NO
04	2 mg/m ³	N.E.	2.4 mg/m ³	N.E.	N.E.	NO
05	5 ppm	N.E.	5 ppm	N.E.	5 ppm	YES
06	2 mg/m ³	N.E.	20 ppm	N.E.	2 mg/m ³	NO

(SEE SECTION 16 FOR ABBREVIATION LEGEND)

SECTION 3 – HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW: May cause target organ or system damage. Refer to chronic health effects section. Vapors from heated material may be irritating. Contact with heated material can cause thermal burns. Contact with skin or eyes may cause irritation.

ACUTE EFFECTS – EYE CONTACT: Contact may cause eye irritation. Exposure to hot material may cause thermal burns.

ACUTE EFFECTS - SKIN CONTACT: Prolonged or repeated skin contact may cause irritation. Frequent or prolonged contact may irritate the skin and cause a skin rash (dermatitis). Contact with product at elevated temperatures can result in thermal burns.

ACUTE EFFECTS – INHALATION: High gas, vapor, mist or dust concentrations may be harmful if inhaled. Vapors and/or aerosols formed at elevated temperatures can be irritating.

ACUTE EFFECTS - INGESTION: Not expected to present a hazard in normal industrial use. May cause nausea and vomiting.

CHRONIC OVEREXPOSURE EFFECTS: *When heated to high temperatures (above 150 degrees C), this product may release formaldehyde vapors. Formaldehyde is irritating to the skin, eyes, nose, and throat, and has been listed as a carcinogen by NTP, IARC, and OSHA. Repeated or prolonged overexposure may cause serious respiratory and/or skin sensitization. Testing in animals has shown reproductive 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 mica and coal dust. Repeated and prolonged occupational overexposure to mica and/or coal dust may cause delayed lung injury which may result in pneumoconiosis and/or positive chest x-rays. Mica and coal dust contain crystalline silicon dioxide (quartz) which has been listed by IARC and NTP as a suspected human carcinogen via inhalation. No exposure to free respirable dust is anticipated, however, during normal application of this product. Refer to respiratory protection section for further requirements. *Repeated or prolonged overexposure to phenol via inhalation, ingestion, or skin absorption may cause damage to the liver, kidneys, pancreas, and spleen. Phenol is mutagenic "in-vitro." *This product contains encapsulated talc. Talc may be released by grinding or machining of material. It should be noted, that repeated and prolonged occupational overexposure to talc has been associated with pulmonary fibrosis and/or pneumoconiosis. These conditions may exist with or without a decrease in lung function.

OTHER INFORMATION: Ammonia may be released during heating. Ammonia is a strong respiratory irritant.

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

SECTION 4 – FIRST AID MEASURES

EYE CONTACT: Immediately flush eyes with plenty of water. Get medical attention, if irritation persists.

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: flush with water. Remove and wash contaminated clothing. Seek medical attention if irritation develops or persists.

INHALATION: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

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: N.A.

LOWER EXPLOSIVE LIMIT: 0.03oz/ft³ (dust)

UPPER EXPLOSIVE LIMIT: N.D.

AUTOIGNITION TEMPERATURE: No data

EXTINGUISHING MEDIA: ALCOHOL FOAM, CO₂, DRY CHEMICAL, FOAM, 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.

SECTION 7 – HANDLING AND STORAGE

HANDLING: Use only in a well ventilated area. Minimize dust generation and accumulation. Avoid breathing vapors from heated material.

STORAGE: Keep away from heat and flame.

SECTION 8 – EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS: General ventilation usually adequate. Use local ventilation in areas of processing or handling of heated material. RESPIRATORY PROTECTION: Use NIOSH-approved dust/mist respirator when grinding or machining cured compound. Use NIOSH-approved vapor cartridge respirator for heated material if component TLV(s) are exceeded or if health effects occur.

RESPIRATORY PROTECTION: Clean clothing to cover skin. Butyl rubber gloves. Neoprene gloves. PVA gloves. Teflon gloves. Viton gloves. Thermal gloves when handling hot material.

SKIN PROTECTION: Safety glasses.

EYE PROTECTION: Accessible eye wash and safety shower.

OTHER PROTECTIVE EQUIPMENT:

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:	181 - 400 F	VAPOR DENSITY:	Is heavier than air
ODOR:	No appreciable	ODOR THRESHOLD:	No data
APPEARANCE:	Pigmented solid	EVAPORATION RATE:	Is slower than Butyl Acetate
SOLUBILITY IN H ₂ O:	Negligible		
FREEZE POINT:	No data	SPECIFIC GRAVITY:	1.8391
VAPOR PRESSURE:	Solid	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: Not Applicable.

INCOMPATIBILITY: Strong bases or oxidants.

HAZARDOUS DECOMPOSITION PRODUCTS: Oxides of carbon. Aromatic and aliphatic hydrocarbons. Formaldehyde. Phenol. Phenolic compounds. Ammonia. Toxic nitrogenous oxides.

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 -----
Graphite	Not Applicable	Not Applicable
Siliceous Muscovite Mica	Not Applicable	Not Applicable
Carbon Black	Oral-rat=>8 g/kg	Not Applicable
Coal	No information	No information
Phenol	derm(rbt)500mg/24H	No information
Talc	derm(hmn)300ug/3DI	(rat)11mg/m3

SECTION 12 – ECOLOGICAL INFORMATION

ECOLOGICAL TEST DATA: Not Available

SECTION 13 – DISPOSAL CONSIDERATIONS

DISPOSAL METHOD: Material as sold 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.

DOT HAZARD CLASS: N.A.

HAZARD SUBCLASS: N.A.

DOT UN/NA CLASS: N.A.

PACKAGING GROUP: 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.

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:

----- CHEMICAL NAME -----	CAS NUMBER	WT/WT %
Phenol	108-95-2	6.5

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:

----- CHEMICAL NAME -----	CAS NUMBER
Phenol	108-95-2

NEW JERSEY RIGHT-TO-KNOW: THE FOLLOWING MATERIALS ARE NON-HAZARDOUS, BUT ARE AMONG THE TOP 5 COMPONENTS IN THIS PRODUCT:

----- CHEMICAL NAME -----	CAS NUMBER
Phenol-formaldehyde polymer	UNKNOWN

PENNSYLVANIA RIGHT-TO-KNOW: THE FOLLOWING NON-HAZARDOUS INGREDIENTS ARE PRESENT IN THE PRODUCT AT GREATER THAN 3%:

----- CHEMICAL NAME -----	CAS NUMBER
Phenol-formaldehyde polymer	UNKNOWN

CALIFORNIA PROPOSITION 65: WARNING: This product contains a chemical(s) known to the state of California to cause cancer. (phenol, formaldehyde)

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: Not Applicable.

CERCLA RQ VALUE (MINIMUM): None known

SECTION 16 – OTHER INFORMATION

HMIS RATINGS

HEALTH: 2

FLAMMABILITY: 1

REACTIVITY: 0

PREVIOUS MSDS REVISION DATE: 10/14/05; 14 Oct 2005

REASON FOR REVISION: Administrative change for new format.

VOLATILE ORGANIC COMPOUNDS: < 20 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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