

Safety Data Sheet



TECAMID®66 MO

ISSUE DATE: 10/23/2014

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Tecamid 66 MO
SYNONYMS: Molybdenum disulfide filled nylon 66

MANUFACTURER: ENSINGER INC.
DIVISION: ENSINGER INC.
ADDRESS: 365 MEADOWLANDS BLVD
WASHINGTON, PA 15301

EMERGENCY PHONE: 724-746-6050
OTHER CALLS: 856-227-0500

CHEMICAL NAME: Polyamide
CHEMICAL FAMILY: Nylon 6/6
CHEMICAL FORMULA: basic formula $(C_{12}H_{22}N_2O_2)_n + MoS_2$

PRODUCT USE: Stock Shape for Machining
PREPARED BY: Kenneth S. Grier

SECTION 1 NOTE: Revised February 2017

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW:

- Stock shapes with slight or no odor
- Spilled material may cause a tripping hazard or machining chips may create a slipping hazard
- Can burn in a fire creating a dense, toxic smoke
- Molten material can cause severe thermal burns to the skin
- Fumes produced during melt processing may cause eye, skin and respiratory tract irritation. Severe over-exposure may result in nausea, headache, chills and fever. See below for additional effects.
- Secondary operations, such as grinding, sanding or sawing can produce dust which may present an explosion or respiratory hazard.

HMIS Rating Health: 1 Flammability: 1 Reactivity: 0

POSSIBLE ROUTES OF ENTRY: No likely routes of entry.

POTENTIAL HEALTH EFFECTS

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- EYES:** Machining particles, like other inert materials, will cause mechanical irritation to the eyes.
- SKIN:** Not a hazard with stock shapes or machining chips during normal industrial use.
- INGESTION:** Ingestion is unlikely due to physical form.
- INHALATION:** Inhalation unlikely due to physical form.

ACUTE HEALTH HAZARDS: Processing vapors may cause irritation to the eyes, skin and respiratory tract. In cases of severe exposure, nausea and headache can also occur. Grease-like processing vapor condensates on ventilation ductwork, molds and other surfaces can cause irritation and injury to skin.

CHRONIC HEALTH HAZARDS: No information available.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE:

There are no known health effects aggravated by exposure to this product. However, certain sensitive individuals and individuals with respiratory impairments may be affected by exposure to components in the processing vapors.

CARCINOGENICITY

OSHA, IARC and/or NTP have listed carbon, titanium dioxide, crystalline silica (quartz), respirable glass and certain heavy metals, present in some colorants and fillers, as carcinogens. If these materials are present in this product at significant quantities, they are shown in Section 3. These materials are essentially bound to the plastic matrix and are unlikely to contribute to workplace exposure under recommended process and machining conditions.

SECTION 2 NOTES:

3. COMPOSITION/INFORMATION ON INGREDIENTS

<u>INGREDIENT</u>	<u>CAS NO.</u>	<u>% WT</u>
Polyamide	32131-17-2	> 90 %
Molybdenum Disulfide	1317-33-5	< 10 %

The additives and stabilizers in this product are deemed proprietary. However, there are no ingredients present which, in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Fight fire from a safe distance and a protected location due to the potential of hazardous vapors and decomposition products.

HAZARDOUS DECOMPOSITION PRODUCTS: Fire will produce dense black smoke containing hazardous combustion product, carbon oxides. Under special fire conditions traces of other toxic substances are possible. Carbon monoxide, hydrogen cyanide can be emitted at temperatures > 300 °C

6. ACCIDENTAL RELEASE MEASURES

ACCIDENTAL RELEASE MEASURES: Pick up and re-stack or re-package spilled stock shape products. For machining chips, sweep up and shovel into suitable containers for disposal. Do not create a powder cloud by using a brush or compressed air.

ENVIRONMENTAL PRECAUTIONS: Do not flush into surface water or sanitary sewer system. Should not be released into the environment.

7. HANDLING AND STORAGE

HANDLING: Handle in accordance with good industrial hygiene and safety practices. Provide for appropriate exhaust ventilation and dust collection at machinery. Avoid dust formation. All metal parts of mixing and processing equipment must be earthed.

STORAGE: Store in a closed container in a dry and cool area. Keep away from heat sources and sources of ignition.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

COMPONENTS WITH OCCUPATIONAL EXPOSURE LIMITS:

Molybdenum Disulfide	OSHA PEL 10 mg/m ³
	ACGIH TWA value 10 mg/m ³

EXPOSURE GUIDELINES: No components with information, unless noted below

ENGINEERING CONTROLS: Handle in accordance with good industrial hygiene and safety practices. Provide for appropriate exhaust ventilation at machinery. Processing fume condensate may be a fire hazard and toxic; remove periodically

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- RESPIRATORY PROTECTION: from exhaust hoods, ductwork, and other surfaces using appropriate personal protection. When using this product at elevated temperatures, implement engineering systems, administrative controls or a respiratory protection program (including a respirator approved for protection from organic vapors, acid, gases, and particulate matter) if processing vapors are not adequately controlled or operators experience symptoms of over exposure. If dust or powder is produced from operations such as sawing, grinding or machining, use a respirator approved for protection against dust.
- EYE PROTECTION: Safety glasses with side-shields or chemical goggles. In addition, use full-face shield when cleaning processing vapor condensates from hood, ducts and other surfaces.
- SKIN PROTECTION: Protective gloves and long sleeved clothing should be worn.
- WORK HYGIENIC PRACTICES: Do not eat, drink or smoke when working with this product.

9. PHYSICAL AND CHEMICAL PROPERTIES

- APPEARANCE: Rod, plate or tube stock shape
ODOR: None or slight odor
PHYSICAL STATE: Solid
COLOR: black opaque
MELTING POINT: approx 215 °C.
VAPOR PRESSURE (mmHg): Negligible
VOC CONTENT (%): Negligible
SPECIFIC GRAVITY (H₂O = 1) : 1.10 – 1.20
EVAPORATION RATE: Negligible
SOLUBILITY IN WATER: Insoluble
EXPLOSIVE LIMITS, UPPER: Not determined
LOWER: Not determined

SECTION 9 NOTES:

10. STABILITY AND REACTIVITY

- STABILITY: Stable under ambient conditions. Hazardous polymerization does not occur.

CONDITIONS TO AVOID (STABILITY): To avoid thermal decomposition, avoid elevated temperatures. (> 320 °C) Heating can result in the formation of gaseous decomposition products, some of which may be hazardous. Do not exceed melt temperature recommendation in product literature. Purgings of hot material should be collected in small, flat, thin shapes and quenched with water to allow for rapid cooling. Do not allow product to remain in barrel or at elevated temperatures for extended periods of time.

HAZARDOUS DECOMPOSITION OR BY-PRODUCTS: Process vapors under recommended process conditions may include trace levels of hydrocarbons, carbon oxides, hydrogen cyanide, ammonia

11. TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION:

Acute toxicity

Assessment of acute toxicity: Contact with molten product may cause thermal burns. The resin in Pellet and sheet form poses a low hazard.

Inhalation

Not inhalable due to the physico-chemical properties of the product.

Irritation / corrosion

Assessment of irritating effects: Irritation is possible when the product comes in contact with the skin, respiratory tract or the eyes.

Sensitization

Assessment of sensitization: Based on our experience and the information available, no adverse health effects are expected if handled as recommended with suitable precautions for designated uses.

Aspiration Hazard

No aspiration hazard expected.

Genetic toxicity

Assessment of mutagenicity: Based on our experience and the information available, no adverse health effects are expected if handled as recommended with suitable precautions for designated uses.

Carcinogenicity

Assessment of carcinogenicity: Based on our experience and the information available, no adverse health effects are expected if handled as recommended with suitable precautions for designated uses.

Information on: glass, oxide, chemicals

Assessment of carcinogenicity: EU classification – Results from poorly documented long term studies in rates indicated a carcinogenic potential. IARC (International Agency for Research on Cancer) has classified this substance as group 2B (The agent is possibly carcinogenic to humans) NTP listed carcinogen

Information on: carbon black

Assessment of carcinogenicity: IARC (International Agency for Research on Cancer) has classified this substance as group 2B (The agent is possibly carcinogenic to humans). In long-term animal studies in which the substance was given by inhalation in high concentrations, a carcinogenic effect was observed. A clear indication of an increased risk of cancer in humans has so far not been shown. No carcinogenic potential can be deduced from other studies with rats and mice.

SECTION 11 NOTES: The toxicological data has been taken from products of similar composition. Based on our experience and the information available, no adverse health effects are expected if handled as recommended with suitable precautions for designated uses.

12. ECOLOGICAL INFORMATION

ECOLOGICAL INFORMATION: Do not flush into surface water or sanitary sewer system.

SECTION 12 NOTES: Ecological damages are not known or expected under normal use.

13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: Recycling is encouraged. Landfill or incinerate in accordance with federal, state and local requirements. Collected processing fume condensates and incinerator ash should be tested to determine waste classification.

14. TRANSPORT INFORMATION

TRANSPORT CLASSIFICATION: Not regulated as hazardous for shipment, unless noted below, under current transportation guidelines.

15. REGULATORY INFORMATION

INTERNATIONAL INVENTORIES:

TSCA (U.S.A.): Listed

A “listed” inventory above means all chemical components are on the respective inventory list and/or a qualifying exemption exists for one or more components. A “Not listed” entry above indicates one or more components is restricted from import or manufacture into that country/region. Articles are exempt from registration and are therefore not listed on the national chemical inventories.

SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT):

311/312 HAZARD CATEGORIES:

Acute health Hazard:	N
Chronic Health Hazard:	N
Fire Hazard:	N
Sudden Release of Pressure Hazard:	N
Reactive Hazard:	N

CALIFORNIA PROPOSITION 65: This product does not contain any component known to the State of California to cause cancer and/or reproductive effects.

RoHS EU DIRECTIVE 2002/95/EC: The subjected product is in compliance with EU RoHS Directive 2002/95/EC. All below chemical are not employed in the manufacture of the product:

- Cadmium and its compounds
- Lead and its compounds
- Mercury and its compounds
- Hexavalent chromium compounds
- Polybrominated biphenyls (PBBs)
- Polybrominated diphenyl ethers (PBDEs including Deca-BDE)

The trace levels of heavy metals may be present as impurities within threshold limits (<0.1% for Pb, Hg, CrVI, and <0.01% for Cd). We are disclosing this information, to the best of our knowledge, based upon data from our raw material manufacturers.

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NFPA HAZARD CODES:

Health : 1 Fire: 1 Reactivity: 0 Special:

HMIS III RATING

Health: 1 Flammability: 1 Physical hazard:0

SECTION 15 NOTES:

16. OTHER INFORMATION

ADDITIONAL INFORMATION

MEDICAL USE: CAUTION – Do not use in medical applications involving permanent implantation in the human body.

This Safety Data Sheet and the information it contains is offered to you in good faith as accurate. We have reviewed any information contained in this data sheet which we received from sources outside our company. We believe this information to be correct but cannot guarantee its accuracy or completeness. Health and safety precaution in this data sheet may not be adequate for all individuals and/or situations. It is the user's responsibility to evaluate and use this product safely and to comply with all applicable laws and regulations. No statement made in the data sheet shall be construed as a permission or recommendation for the use of any product in a manner that may infringe existing patents. No warranty is made, either expressed or implied.