Safety Data Sheet

Ultem 1000 Series ISSUE DATE: 05/01/2015

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME:	Ultem 1000 Series
SYNONYMS:	Not Applicable
PRODUCT COLORS:	Natural and Black
MANUFACTURER:	Ensinger Inc.
DIVISION:	Stock Shapes
ADDRESS:	365 Meadowlands Blvd., Washington, PA 15301
EMERGENCY PHONE:	(724) 746-6050
OTHER CALLS:	(856) 227-0500
CHEMICAL NAME:	Polyetherimide (PEI)
CHEMICAL FAMILY:	Polyetherimide
CHEMICAL FORMULA:	basic formula $(C_{37}H_{24}O_6N_2)n$
PRODUCT USE:	Stock Shape for Machining
PREPARED BY:	Allyson M. Crouse, Technical Resource Manager
SECTION 1 NOTE:	Revised May 1, 2015

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW: Mechanical injury only.

ROUTES OF ENTRY: Eyes

POTENTIAL HEALTH EFFECTS

EYES: Solid or dust causes irritation or corneal injury due to mechanical action.

SKIN: Essentially nonirritating to skin. Mechanical injury only. Molten material may burn skin.

INGESTION: Single dose oral LD50 has not been determined. Single dose oral toxicity is believed to be very low. Now hazards anticipated from ingestion incidental to industrial exposure.

INHALATION: Dust may cause irritation to upper respiratory tract. At room temperature, exposure to vapors are unlikely due to physical properties, normal processing temperatures may generate vapors, which may cause irritation if ventilation is inadequate.

ACUTE HEALTH HAZARDS: None Known

CHRONIC HEALTH HAZARDS: None Known

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: None Known

CARCINOGENICITY

In 1995, the International Agency for Research on Cancer (IARC) concluded that there is "sufficient evidence in experimental animals for the carcinogenicity of carbon black." IARC's overall evaluation was that "Carbon black is possibly carcinogenic to humans (2B)." In 2006, IARC re-affirmed this classification. There has been no causal link between carbon black exposure and cancer risk in humans. Applying the rules of the Globally Harmonized System of Classification and Labelling (GHS, e.g. UN `Purple Book´, EU CLP Regulation) the results of repeated dose toxicity and carcinogenicity studies in animals do not lead to classification of Carbon Black for Specific Target Organ Toxicity (Repeated exposure) and carcinogenicity. UN GHS says, that even if adverse effects are seen in animal studies or in-vitro tests, no classification is needed if the mechanism or mode of action is not relevant to humans. The European CLP Regulation also mentions, that no classification is indicated if the mechanism is not relevant to humans. Furthermore, the CLP guidance on classification and labelling states, that “lung overload“ in animals is listed under mechanism not relevant to humans.

Particulates

OSHA: Particulates not otherwise regulated/OSHA (PEL) 15 mg/m^3 (TWA, Total Dust)
Particulates not otherwise regulated/OSHA (PEL) 5 mg/m^3 (TWA, Respirable Dust)
ACGIH: Particulates not otherwise regulated/ACGHI (TLV) 10 mg/m^3 (TWA, Total Dust)

3. COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENT:

CAS NO.	% WT
Carbon Black, 1333-86-4	0.1 – 0.3

The non-hazardous components and exact percentage of the composition have been withheld as a trade secret.

This product consists primarily of high molecular weight polymers, which are not expected to be hazardous.

This product contains a proprietary blend of components encapsulated within a polymer matrix. These components are not regarded as hazardous under 2012 OSHA Hazard Communication Standard; 29CFR Part 1910.1200.

4. FIRST AID MEASURES

EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing for at least 15 minutes. Mechanical effects only.

SKIN: Wash off in flowing water or shower.

INGESTION: No adverse effects anticipated by this route of exposure incidental to proper industrial handling. Call a poison control center/physician, if patient feels unwell.

INHALATION: Remove to fresh air, if effects occur. Consult a physician.

NOTES TO PHYSICIANS OR FIRST AID PROVIDERS: No specific antidote. Supportive care. Treatment based on judgment of the physician in response to reactions of the patient.

5. FIRE FIGHTING MEASURES

AUTOIGNITION TEMPERATURE: 630°C (1166°F), estimated

EXTINGUISHING MEDIA: Dry chemical, Carbon Dioxide, water spray, alcohol foam

UNUSUAL FIRE AND EXPLOSION HAZARDS: Avoid generating and accumulating dusts; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard. Do not use a solid water stream as it may scatter and spread fire. Fire will product dense black smoke containing hazardous combustion products.

HAZARDOUS DECOMPOSITION PRODUCTS: Carbon oxides, hydrocarbon fragments, nitrogen oxides, and hydrogen cyanide.

SECTION 5 NOTES: Wear full protective suit. In case of combustion, use a suitable breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

ACCIDENTAL RELEASE MEASURES: Ventilate the area and prevent access to unauthorized people. Wear suitable personal protective equipment. Do not allow entry to drains, water courses or soil. Prevent spreading by use of suitable barriers. Take up with suitable equipment, fill up in air-tight containers and give further treatment as soon as possible.

7. HANDLING AND STORAGE

HANDLING AND STORAGE: 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 processing equipment must be earth ground.

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

OTHER PRECAUTIONS: Obtain special instructions, before use. Do not breathe dust. Wash hands thoroughly after handling. Do not eat, drink or smoke; when machining this product. Use personal protective equipment as required.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS: Standard ventilation required

VENTILATION: Good general ventilation should be sufficient for most conditions. Local exhaust ventilation may be necessary for some operations.

RESPIRATORY PROTECTION: For most conditions a dust mask is sufficient; however, if handling at elevated temperatures without sufficient ventilation, use an approved air-purifying respirator.

EYE PROTECTION: Safety glasses with side shields should be sufficient for most operations; however, for dusty operations wear chemical goggles. If vapor exposure causes eye discomfort, use a full-face respirator

SKIN PROTECTION: No precautions other than clean body-covering clothing should be needed.

OTHER PROTECTIVE CLOTHING OR EQUIPMENT: None Known

EXPOSURE GUIDELINES:

Carbon Black, CAS: 1333-86-4
- OSHA: (PEL, 8HR) 3.5 mg/m^3 (FRL_TWA)
- OSHA: (PEL, 8HR) 3.5 mg/m^3 (TL_PEL)
- ACGIH: TWA: 3.5 mg/m^3; Notations: Not Classifiable as a Human Carcinogen

Particulates not otherwise regulated:
- OSHA: Particulates not otherwise regulated/OSHA (PEL) 15 mg/m^3 (TWA, Total Dust)
  Particulates not otherwise regulated/OSHA (PEL) 5 mg/m^3 (TWA, Respirable Dust)
- ACGIH: Particulates not otherwise regulated/ACGHI (TLV) 10 mg/m^3 (TWA, Total Dust)

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE:	Stock shape
ODOR:	None
PHYSICAL STATE:	Solid
MELTING POINT:	This product does not exhibit a sharp melting point, but softens gradually over a wide range of temperatures.
Auto ignition Temperature:	630°C (1166°F), estimated
SPECIFIC GRAVITY (H2O = 1):	>1
SOLUBILITY IN WATER:	Insoluble

10. STABILITY AND REACTIVITY

STABILITY: Stable under normal conditions.

CONDITIONS TO AVOID (STABILITY): High temperatures

INCOMPATIBILITY (MATERIAL TO AVOID): Strong acids and strong oxidizing agents

HAZARDOUS DECOMPOSITION OR BY-PRODUCTS: Trace level of hydrocarbons, phenols, alkylphenols, diarylcarbonates, and other substituted hydrocarbons.

HAZARDOUS POLYMERIZATION: Not Applicable

CONDITIONS TO AVOID: To avoid thermal decomposition, avoid elevated temperatures. Heating can result in the formation of gaseous decomposition products, some of which may be hazardous. Do not exceed melt temperature recommendations in product literature.

11. TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION: No data – In solid state, this material is not considered as being harmful to human health.

Ultem Resin: Acute Toxicity: LD50/oral/rat: >5000 mg/kg
Acute Toxicity: LD50/dermal/rabbit: >2000 mg/kg

Special Studies: Carbon Black: The International Agency for Research on Cancer (IARC) has determined that carbon black is a class 2B known animal and possible human carcinogen by the route of inhalation. Rats exposed to high doses of carbon black by inhalation developed statistically significant increases in lung fibrosis and lung tumors. Carbon Black: The scientific discussions about the carcinogenic potential of inorganic low solubility particles (fine dust) including carbon black has not been

concluded. Many inhalation toxicologists believe the lung fibrosis and tumors that developed in rats following exposure to carbon black result form massive accumulation of small dust particles that overwhelm the clearance mechanism and produce what is termed "lung overload," an effect considered to be rat specific and not relevant to humans. In addition, based on epidemiological studies, no causal link between carbon black exposure and cancer risk in humans has been demonstrated.

12. ECOLOGICAL INFORMATION

ECOLOGICAL INFORMATION: No data – This material does not harm the environment, but is not biodegradable.

13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: Dispose of contents/containers in accordance with local, regional, national and international regulations.

14. TRANSPORT INFORMATION

U.S. DEPARTMENT OF TRANSPORTATION

Not regulated

15. REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS

TSCA (TOXIC SUBSTANCE CONTROL ACT): In compliance with TSCA Inventory requirements for commercial purposes.

SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT): This product contains no known toxic chemicals subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 and 40CFR372.

California Prop. 65:

Components in this product known to the State of California to cause cancer and/or reproductive effects, are listed below:

Chemical Name	Weight %	California Proposition 65:
Carbon black, 1333-86-4	0.1 - 0.3	Listed: February 21, 2003 Carcinogenic. (airborne, unbound particles of Respirable size)

International Inventories:

TSCA (USA): Listed
DSL (Canada): Listed
EINECS/ELINCS (Europe): Listed
ENCS (Japan): Listed
IECSC (China): Listed
KECL (Korea): Listed
PICCS (Philippines): Listed
AICS (Australia): Listed
NZIoC (New Zealand): Listed

Other Inventory Information:
A "Listed" entry 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 are restricted from import or manufacture into that country/region. Articles are exempt from registration and are therefore not listed on the national chemical inventories.

SVHC (REACH Regulation (EC) No 1907/2006 and 453/2010, as amended):
This product does not intentionally contain SVHC chemicals except as noted below. Incidental amounts of impurities, if present, would be below the threshold limit of 0.1% by weight.

Canada - WHMIS Classification:
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all the information required by the CPR. Unless noted below, this product is non-controlled. Some classifications may not apply to the entire product.

RoHS EU Directive 2011/65/EU:
The subject product is in compliance with EU RoHS Directive 2011/65/EU. All below chemicals are not employed in the manufacture of the product: a.Cadmium and its compounds, b.Lead and its compounds, c.Mercury and its compounds, d.Hexavalent chromium compounds, e.Polybrominated biphenyls (PBBs), f.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, Cr VI, and <0.01% for Cd). We are disclosing this information, to the best of our knowledge, based upon data from our raw material manufacturers.

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.