1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: TECAFORM AH UD Blue
SYNONYMS: STATIC DISSIPATIVE ACETAL

MANUFACTURER: ENSINGER
DIVISION: STOCK SHAPE ENGINEERING PLASTICS
ADDRESS: 365 MEADOWLANDS BOULEVARD
          WASHINGTON, PA 15301

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

CHEMICAL NAME: POLYOXYMETHYLENE
CHEMICAL FAMILY: COPOLYMER ACETAL

PRODUCT USE: PRODUCT INTENDED TO BE MACHINED INTO FINISHED PARTS

SECTION 1 NOTES:

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.
POSSIBLE ROUTES OF ENTRY: No likely routes of entry.

POTENTIAL HEALTH EFFECTS

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
This product contains a proprietary blend of components encapsulated within a polymer matrix. One or more of these components are considered to be hazardous chemicals per 29 CFR 1910.1200. Under normal conditions of storage and handling, this product is not likely to cause adverse health effects.

4. FIRST AID MEASURES

**EYES:** Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. If eye irritation persists, seek medical attention.

**SKIN:** If contact with molten material, immediately cool the skin by rinsing with cold water. Wash off immediately with soap and plenty of water. Do not peel material from skin. Seek medical attention.

**INGESTION:** No hazards which require special first aid measures. Do not induce vomiting.

**INHALATION:** In case of accidental inhalation of fumes from overheating or combustion, move to fresh air. If symptoms persist, seek medical attention.

NOTES TO PHYSICIANS OR FIRST AID PROVIDERS:

**SECTION 4 NOTES:** Processing vapor inhalation may be irritating to the respiratory tract. If symptoms are experienced, remove the victim from the source of contamination or move victim to fresh air and seek medical advice.

5. FIRE FIGHTING MEASURES

**EXPLOSIVE LIMITS**

<table>
<thead>
<tr>
<th>% BY VOLUME</th>
<th>UPPER:</th>
<th>LOWER:</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>Not Determined</td>
<td>Not Determined</td>
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</table>

**AUTOIGNITION TEMPERATURE:** 608 – 644°F (320 – 340°C)

**HMIS HAZARD CLASSIFICATION**

<table>
<thead>
<tr>
<th>HEALTH:</th>
<th>FLAMMABILITY:</th>
<th>REACTIVITY:</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

**EXTINGUISHING MEDIA:** Use dry chemical, CO2, water spray or “alcohol” foam. Water is the best extinguishing medium. Carbon dioxide and dry chemical are not generally recommended because their lack of cooling capacity may permit re-ignition on larger product fires (blobs, drools, etc.).
SPECIAL FIRE FIGHTING PROCEDURES: Do not enter fire area without proper protection including self-contained breathing apparatus and full protective equipment. 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, hydrocarbon fragments, formaldehyde, paraformaldehyde.

SECTION 5 NOTES:

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.

SECTION 6 NOTES:

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.

SECTION 7 NOTES:

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

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 from exhaust hoods, ductwork, and other surfaces using appropriate personal protection.

RESPIRATORY 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.

SECTION 8 NOTES:

9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>PROPERTY</th>
<th>VALUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>APPEARANCE</td>
<td>Rod, plate or tube stock shape</td>
</tr>
<tr>
<td>ODOR</td>
<td>None or slight odor</td>
</tr>
<tr>
<td>PHYSICAL STATE</td>
<td>Solid</td>
</tr>
<tr>
<td>COLOR</td>
<td>blue opaque</td>
</tr>
<tr>
<td>MELTING POINT</td>
<td>320 °F</td>
</tr>
<tr>
<td>VAPOR PRESSURE (mmHg)</td>
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</tr>
<tr>
<td>VOC CONTENT (%)</td>
<td>Negligible</td>
</tr>
<tr>
<td>SPECIFIC GRAVITY (H2O = 1)</td>
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<tr>
<td>EVAPORATION RATE</td>
<td>Negligible</td>
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<tr>
<td>SOLUBILITY IN WATER</td>
<td>Insoluble</td>
</tr>
<tr>
<td>EXPLOSIVE LIMITS, UPPER</td>
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</tr>
<tr>
<td>EXPLOSIVE LIMITS, LOWER</td>
<td>Not determined</td>
</tr>
</tbody>
</table>
SECTION 9 NOTES:

10. STABILITY AND REACTIVITY

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

CONDITIONS TO AVOID (STABILITY): Avoid temperatures above 608°F (320°C). 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 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, formaldehyde, paraformaldehyde, acetaldehyde, trioxane, ethylene oxide.

SECTION 10 NOTES:

11. TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION:

ACUTE TOXICITY:

LD50/oral/rat: not tested
LD50/dermal/rabbit: not tested
Inhalation: Inhalation not likely due to physical form.
Eye Contact: Particles, like other inert materials, can be mechanically irritating to the eyes.
Skin Contact: Not a hazard with shapes or shavings during normal industrial use.
Ingestion: Ingestion not likely due to physical form.

CHRONIC TOXICITY: No information available
SUBCHRONIC TOXICITY: No information available

PRIMARY IRRITATION: Substance does not generally irritate and is only mildly irritating to the skin.

IARC: Not listed
OSHA: Not regulated
NTP: Not tested

SECTION 11 NOTES: The toxicological data has been taken from products of similar composition.

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.

SECTION 13 NOTES:

14. TRANSPORT INFORMATION

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

U.S. DEPARTMENT OF TRANSPORTATION

WATER TRANSPORTATION

AIR TRANSPORTATION

OTHER AGENCIES:

SECTION 14 NOTES:
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/or 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

313 REPORTABLE INGREDIENTS:
Antimony Compounds <3%
Chromium (III) Compounds <20%
Nickel Compounds <3%

WHMIS HAZARD CLASS: Non-controlled

CALIFORNIA PROPOSITION 65: This product does contain a component(s) 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:
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, 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.

SECTION 15 NOTES:

16. OTHER INFORMATION

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

HMIS ratings:
- Health: 0
- Flammability: 1
- Physical Hazard: 0

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.