

Safety Data Sheet



Hydex 4101L

ISSUE DATE: 09/01/2015

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Hydex 4101L
SYNONYMS: Not Applicable
PRODUCT COLORS: Natural

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: POLY(1,4-BUTYLENE TEREPHTHALATE)
CHEMICAL FAMILY: Polybutylene terephthalate
CHEMICAL FORMULA: basic formula (C₁₂H₁₂O₄)_n

PRODUCT USE: Stock Shape for Machining
PREPARED BY: Allyson M. Crouse, Technical Resource Manager

SECTION 1 NOTE: Revised September 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.

Safety Data Sheet



Hydex 4101L

ISSUE DATE: 09/01/2015

ACUTE HEALTH HAZARDS: None Known

CHRONIC HEALTH HAZARDS: None Known

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: None Known

CARCINOGENICITY: None Known

Particulates

OSHA: Particulates not otherwise regulated/OSHA (PEL) 15 mg/m³ (TWA, Total Dust)

Particulates not otherwise regulated/OSHA (PEL) 5 mg/m³ (TWA, Respirable Dust)

ACGIH: Particulates not otherwise regulated/ACGIH (TLV) 10 mg/m³ (TWA, Total Dust)

3. COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENT:

CAS NO.

Polybutylene Terephthalate, 30965-26-5

% WT

Proprietary

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.

Safety Data Sheet



Hydex 4101L

ISSUE DATE: 09/01/2015

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: 360°C (680°F), estimated

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 resin fires (blobs, drools, etc.).

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.

HAZARDOUS DECOMPOSITION PRODUCTS: Carbon monoxide and carbon dioxide

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

Safety Data Sheet



Hydex 4101L

ISSUE DATE: 09/01/2015

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:

Particulates

OSHA: Particulates not otherwise regulated/OSHA (PEL) 15 mg/m³ (TWA, Total Dust)

Particulates not otherwise regulated/OSHA (PEL) 5 mg/m³ (TWA, Respirable Dust)

ACGIH: Particulates not otherwise regulated/ACGIH (TLV) 10 mg/m³ (TWA, Total Dust)

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE:	Stock shape
ODOR:	None
PHYSICAL STATE:	Solid
MELTING POINT:	Various
AUTOIGNITION TEMPERATURE:	360°C (680°F), estimated
SPECIFIC GRAVITY (H ₂ O = 1):	>1
SOLUBILITY IN WATER:	Insoluble

10. STABILITY AND REACTIVITY

STABILITY: Stable under normal conditions.

CONDITIONS TO AVOID: Decomposition under influence of moisture is highly accelerated by heating. 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.

INCOMPATIBILITY (MATERIAL TO AVOID): None Known

Safety Data Sheet



Hydex 4101L

ISSUE DATE: 09/01/2015

HAZARDOUS DECOMPOSITION OR BY-PRODUCTS: Process vapors under recommended processing conditions may include trace levels of hydrocarbons, tetrahydrofuran (THF), aliphatic aldehydes, hydrogen fluoride, carbonyl fluoride, perfluorohydrocarbon fragments.

HAZARDOUS POLYMERIZATION: Not Applicable

11. TOXICOLOGICAL INFORMATION

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

Resin Toxicological Information:

Acute Toxicity

LD50/oral/rat: >5000 mg/kg

LD50/dermal/rabbit: >2000 mg/kg

Inhalation: Pellet inhalation unlikely due to physical form. Processing fumes evolved at recommended processing conditions may contain trace amounts of tetrahydrofuran (typically less than 1 ppm). NTP has listed tetrahydrofuran as a carcinogen. Extreme processing conditions or temperatures may result in higher levels. See section 8 for appropriate exposure controls and personal protection.

Eye Contact: Resin particles, like other inert materials, are mechanically irritating to eyes.

Skin Contact: Not a hazard with pellets during normal industrial use.

Ingestion: Pellet ingestion unlikely 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.

OSHA: Not regulated

NTP: Tetrahydrofuran: In 2-year carcinogenicity bioassays conducted by the National Toxicology Program (NTP), mice and rats (50/sex/group) were exposed to concentrations of 0, 200, 600, or 1,800 ppm via inhalation 6 hours/day, 5 days/week for 104 weeks. Under the conditions of these 2-year inhalation studies, there was some evidence of carcinogenic activity of tetrahydrofuran in male F344/N rats based on increased incidences of renal tubule adenoma or carcinoma (combined) at 600 and 1,800 ppm. There was no evidence of carcinogenic activity of tetrahydrofuran in female F344/N rats exposed

Safety Data Sheet



Hydex 4101L

ISSUE DATE: 09/01/2015

to 200, 600, or 1,800 ppm or male B6C3F1 mice exposed to 200, 600, or 1,800 ppm. There was clear evidence of carcinogenic activity of tetrahydrofuran in female B6C3F1 mice based on increased incidences of hepatocellular neoplasms observed at 1,800 ppm.

Remarks: The toxicological data has been taken from products of similar composition.

Special Studies: PROCESSING FUMES: Processing fumes evolved at recommended processing conditions may contain trace amounts of tetrahydrofuran (typically less than 1 ppm). Extreme processing conditions or temperatures may result in higher levels. See section 8 for appropriate exposure controls and personal protection. In 2-year carcinogenicity bioassays conducted by the National Toxicology Program (NTP), mice and rats (50/sex/group) were exposed to tetrahydrofuran at concentrations of 0, 200, 600, or 1,800 ppm via inhalation 6 hours/day, 5 days/week for 104 weeks. Under the conditions of these 2-year inhalation studies, there was some evidence of carcinogenic activity of tetrahydrofuran in male F344/N rats based on increased incidences of renal tubule adenoma or carcinoma (combined) at 600 and 1,800 ppm. There was no evidence of carcinogenic activity of tetrahydrofuran in female F344/N rats exposed to 200, 600, or 1,800 ppm or male B6C3F1 mice exposed to 200, 600, or 1,800 ppm. There was clear evidence of carcinogenic activity of tetrahydrofuran in female B6C3F1 mice based on increased incidences of hepatocellular neoplasms observed at 1,800 ppm. Thermal degradation of the fluoropolymer additives in this product may result in the release of pyrolysis products and fumes. Short term inhalation exposure may cause influenza-like symptoms such as chest pain/tightness, shortness of breath, sore throat, fever and chills, malaise and sometimes headache (also known as "polymer fume fever"). Following removal from exposure, complete resolution is expected within 12-48 hours. Prolonged and repeated exposure to high levels may lead to effects such as pulmonary edema and lung disease.

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

Safety Data Sheet



Hydex 4101L

ISSUE DATE: 09/01/2015

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 Proposition 65: This product does not contain components known to the State of California to cause cancer and/or reproductive effects.

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.