# Safety Data Sheet

According to OSHA Hazard Communication Standard, 29 CFR 1910.1200



## HYDEX 4101L natural

## SECTION 1: Identification

### Product identifier

**Product name:** HYDEX 4101L natural

**Synonyms:** lubricated polybutylene terephthlate PBT polyester

### Recommended use of the product and restriction on use

**Relevant identified uses:** Not determined or not applicable.

**Uses advised against:** Not determined or not applicable.

**Reasons why uses advised against:** Not determined or not applicable.

### Manufacturer or supplier details

**Manufacturer:**

**United States**

Ensinger Inc.
365 Meadowlands Blvd
Washington, PA 15301
724-746-6050
compliance@ensinger-ind.com
www.ensingerplastics.com

### Emergency telephone number:

**United States**

Ensinger Inc. Emergency Contact
800-869-4029 (M-F 9:00 A - 5:00 P EST)
724-746-6050 (M-F 9:00 A - 5:00 P EST)

## SECTION 2: Hazard(s) identification

### GHS classification:

Combustible Dust

### Label elements

**Hazard pictograms:** None

**Signal word:** Warning

### Hazard statements:

Combustible Dust May form combustible dust concentrations in air.

**Precautionary statements:** None

**Hazards not otherwise classified:** None

## SECTION 3: Composition/information on ingredients

| Identification | Name | Weight % |
|---|---|---|
| CAS number: 109-99-9 | Tetrahydrofuran | <0.1 |

| | | |
|---|---|---|
| CAS number: 1333-82-0 | Chromium (VI) trioxide | <0.0999 |
| CAS number: 30965-26-5 | 1,4-Benzenedicarboxylic acid, 1,4-dimethyl ester, polymer with 1,4-butanediol | <99 |
| CAS number: 7440-43-9 | Cadmium (non-pyrophoric) | <0.00999 |
| CAS number: 7439-92-1 | Lead | <0.0999 |
| CAS number: 7439-97-6 | Mercury | <0.0999 |

**Additional Information:** None

## SECTION 4: First aid measures

### Description of first aid measures

**General notes:**

Show this Safety Data Sheet to the doctor in attendance.

**After inhalation:**

If inhaled, remove person to fresh air and place in a position comfortable for breathing. Keep person at rest. If breathing is difficult, administer oxygen. If breathing has stopped, provide artificial respiration. If symptoms develop or persist, seek medical advice/attention.

**After skin contact:**

Remove contaminated clothing and shoes. Rinse skin with copious amounts of water [shower] for several minutes. Launder contaminated clothing before reuse. If symptoms develop or persist, seek medical advice/attention.

**After eye contact:**

Rinse eyes with plenty of water for several minutes. Remove contact lenses if present and easy to do so. Protect unexposed eye. If symptoms develop or persist, seek medical advice/attention.

**After swallowing:**

If swallowed, DO NOT induce vomiting unless told to do so by a physician or poison control center. Rinse mouth with water. Never give anything by mouth to an unconscious person. If spontaneous vomiting occurs, place on the left side with head down to prevent aspiration of liquid into the lungs. If symptoms develop or persist, seek medical advice/attention.

### Most important symptoms and effects, both acute and delayed

**Acute symptoms and effects:**

Product presents an explosion hazard when suspended in air under certain conditions. Inhalation of large amounts of dust may cause inflammation and irritation of the nose and throat. Symptoms may include cough, sore throat, tightness of the chest, chest pain and lightheadedness.

**Delayed symptoms and effects:**

Not determined or not applicable.

### Immediate medical attention and special treatment

**Specific treatment:**

Not determined or not applicable.

**Notes for the doctor:**

Treat symptomatically.

## SECTION 5: Firefighting measures

### Extinguishing media

#### Suitable extinguishing media:

Dry chemical, sand and carbon dioxide.

#### Unsuitable extinguishing media:

Do not use water, halogenated extinguishing agents and alcohol-based foam.

### Specific hazards during fire-fighting:

May form combustible dust concentrations in air. Reacts with water and alcohols. Reacts violently with oxidants, strong acids and bases and chlorinated hydrocarbons. This generates a fire and explosion hazard. Thermal decomposition may produce irritating/toxic fumes/gases.

### Special protective equipment for firefighters:

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full-face piece operated in positive pressure mode. Use shielding to protect against bursting containers.

### Special precautions:

Violent reactions may result from the use of a water jet or halogenated extinguishing agents. When using extinguishers, avoid dispersing combustible dust into the air. Aim extinguishers directly at the base of the flames and apply the agent as gently as possible. Overall, give preference to using medium to wide spray patterns rather than solid streams. Use only non-sparking tools. Fire fight from a protected location or maximum possible distance. Use water spray/fog for cooling fire exposed containers. Avoid unnecessary run-off of extinguishing media which may cause pollution.

## SECTION 6: Accidental release measures

### Personal precautions, protective equipment and emergency procedures:

Evacuate unnecessary personnel. Extinguish any sources of ignition. Do not ventilate area as this may spread dust. Wear recommended personal protective equipment including suitable respiratory protection (see Section 8). Ensure no sources of electric discharge or ignition are on your person before entering area. Do not get on skin, eyes or on clothing. Avoid breathing dust, fumes. Wash thoroughly after handling. Remove contaminated clothing and launder before reuse.

### Environmental precautions:

Prevent further leakage or spillage if safe to do so. Prevent from reaching drains, sewers and waterways. Discharge into the environment must be avoided.

### Methods and material for containment and cleaning up:

Avoid dust generation or stirring up of dust. Use only non-sparking tools. Ground all equipment used for recovery and clean up. Vacuum up and place in suitable containers for future disposal. Only use vacuum cleaners approved for dust collection. Dispose of in accordance with all applicable regulations (see Section 13).

### Reference to other sections:

For personal protective equipment see Section 8. For disposal see Section 13.

## SECTION 7: Handling and storage

### Precautions for safe handling:

Use appropriate personal protective equipment (see Section 8). Use only with adequate ventilation. Avoid breathing mist/vapor/spray/dust. Do not eat, drink, smoke, or use personal products when handling chemical substances. Avoid contact with skin, eyes and clothing. Use dust explosion proof electrical equipment and lighting. Avoid dust generation and dispersal of dust in air. Dust deposits should not be allowed to accumulate on surfaces. Clean dust residues at regular intervals. Do not use brooms or

compressed air hoses to clean surfaces. Only use vacuums approved for dust collection. Use only non-sparking tools. Dry powders can build static electricity charges when subjected to the friction of transfer and mixing operations. Provide adequate precautions such as electrical grounding and bonding or inner atmospheres. Keep containers tightly closed and grounded when not in use. Workers whose clothing may have been contaminated should change into non-contaminated clothing before leaving the work premises. Contaminated clothing should be segregated in such a manner so that there is no direct personal contact by personnel who handle, dispose or clean the clothing. Contaminated clothing should not be allowed out of the workplace. Wash affected areas thoroughly after handling. Keep away from incompatible materials (See Section 10).

**Conditions for safe storage, including any incompatibilities:**

Store in cool, dry, well-ventilated location out of direct sunlight. Keep away from food and beverages. Protect from freezing and physical damage. Store away from heat, open flames and other sources of ignition. Keep container tightly sealed. Outside or detached storage is preferred. Inside storage should be in a standard flammable storage cabinet. Store away from incompatible materials (See Section 10).

## SECTION 8: Exposure controls/personal protection

Only those substances with limit values have been included below.

**Occupational Exposure limit values:**

| Country (Legal Basis) | Substance | Identifier | Permissible concentration |
|---|---|---|---|
| ACGIH | Tetrahydrofuran | 109-99-9 | 8-Hour TWA: 50 ppm |
| | Tetrahydrofuran | 109-99-9 | 15-Minute STEL: 100 ppm |
| | Chromium (VI) trioxide | 1333-82-0 | 8-Hour TWA: 0.0002 mg/m³ (inhalable particulate matter) |
| | Chromium (VI) trioxide | 1333-82-0 | 15-Minute STEL: 0.0005 mg/m³ (inhalable particulate matter) |
| | Cadmium (non-pyrophoric) | 7440-43-9 | 8-Hour TWA: 0.01 mg/m³ |
| | Cadmium (non-pyrophoric) | 7440-43-9 | 8-Hour TWA: 0.002 mg/m³ (Respirable fraction) |
| | Lead | 7439-92-1 | 8-Hour TWA: 0.05 mg/m³ (Lead and inorganic compounds, as Pb) |
| | Mercury | 7439-97-6 | 8-Hour TWA: 0.025 mg/m³ |
| NIOSH | Tetrahydrofuran | 109-99-9 | REL: 200 ppm |
| | Tetrahydrofuran | 109-99-9 | REL: 590 mg/m³ |
| | Tetrahydrofuran | 109-99-9 | STEL: 250 ppm |
| | Tetrahydrofuran | 109-99-9 | STEL: 735 mg/m³ |
| | Tetrahydrofuran | 109-99-9 | IDLH: 2000 ppm |
| | Chromium (VI) trioxide | 1333-82-0 | 8-Hour TWA: 0.0002 mg/m³ |
| | Cadmium (non-pyrophoric) | 7440-43-9 | IDLH: 9 mg/m³ |
| | Lead | 7439-92-1 | IDLH: 100 mg/m³ |
| | Lead | 7439-92-1 | REL-TWA: 0.05 mg/m³ (up to 10 hr.) |
| | Mercury | 7439-97-6 | IDLH: 10 mg/m³ |
| | Mercury | 7439-97-6 | REL: 0.05 mg/m³ (10 h workday) |
| OSHA | Tetrahydrofuran | 109-99-9 | PEL: 200 ppm |
| | Tetrahydrofuran | 109-99-9 | PEL: 590 mg/m³ |
| | Tetrahydrofuran | 109-99-9 | TWA: 200 ppm |

| Country (Legal Basis) | Substance | Identifier | Permissible concentration |
|---|---|---|---|
| | Tetrahydrofuran | 109-99-9 | TWA: 590 mg/m³ |
| | Tetrahydrofuran | 109-99-9 | STEL: 250 ppm |
| | Tetrahydrofuran | 109-99-9 | STEL: 735 mg/m³ |
| | Chromium (VI) trioxide | 1333-82-0 | 8-Hour TWA-PEL: 5 ug/m³ (Action Level: 2.5 ug/m³ ) |
| | Cadmium (non-pyrophoric) | 7440-43-9 | TWA: 0.005 mg/m³ (29 CFR: 1910.1027) |
| | Cadmium (non-pyrophoric) | 7440-43-9 | 8-Hour TWA: 0.1 mg/m³ (Cadmium fume) |
| | Cadmium (non-pyrophoric) | 7440-43-9 | Ceiling Limit: 0.3 mg/m³ (Cadmium fume) |
| | Cadmium (non-pyrophoric) | 7440-43-9 | 8-Hour TWA: 0.2 mg/m³ (Cadmium dust) |
| | Cadmium (non-pyrophoric) | 7440-43-9 | Ceiling Limit: 0.6 mg/m³ (Cadmium dust) |
| | Lead | 7439-92-1 | 8-Hour TWA-PEL: 0.05 mg/m³ |
| | Lead | 7439-92-1 | 8-Hour TWA-PEL: 0.03 mg/m³ ((Action Level)) |
| | Mercury | 7439-97-6 | Ceiling Limit: 0.1 mg/m³ |
| United States(California) | Tetrahydrofuran | 109-99-9 | PEL-STEL: 735 mg/m³ (250 ppm) |
| | Tetrahydrofuran | 109-99-9 | 8-Hour TWA-PEL: 590 mg/m³ (200 ppm) |
| | Chromium (VI) trioxide | 1333-82-0 | 8-Hour TWA-PEL: 0.005 ug/m³ (Cal/OSHA) |
| | Chromium (VI) trioxide | 1333-82-0 | PEL Ceiling: 0.1 mg/m³ (Cal/OSHA) |
| | Cadmium (non-pyrophoric) | 7440-43-9 | 8-Hour TWA: 0.0025 mg/m³ |
| | Cadmium (non-pyrophoric) | 7440-43-9 | 8-Hour TWA: 0.005 mg/m³ |
| | Lead | 7439-92-1 | 8-Hour TWA-PEL: 0.05 mg/m³ (Lead, metallic and inorganic compounds, dust and fume, as Pb) |
| | Mercury | 7439-97-6 | 8-Hour TWA: 0.025 mg/m³ |
| | Mercury | 7439-97-6 | Ceiling Limit: 0.1 mg/m³ |

**Biological limit values:**

| Country (Legal Basis) | Substance | Identifier | Determinant | Specimen | Sampling time | Permissible limits |
|---|---|---|---|---|---|---|
| ACGIH | Tetrahydrofuran | 109-99-9 | Tetrahydrofuran | Urine | End of shift. | 2 mg/L |
| | Cadmium (non-pyrophoric) | 7440-43-9 | Cadmium | Blood | Not critical | 5 ug/g |
| | Cadmium (non-pyrophoric) | 7440-43-9 | Cadmium | Creatinine in Urine | Not critical | 5 ug/g |
| | Lead | 7439-92-1 | Lead | Blood | Not critical | 200 ug/L |
| | Mercury | 7439-97-6 | Mercury | Creatinine in Urine | Prior to shift | 20 ug/g |

**Information on monitoring procedures:**

Not determined or not applicable.

**Appropriate engineering controls:**

This product is a combustible material which may be ignited by friction, heat, sparks or flames. It is recommended that all dust control equipment (such as local exhaust ventilation and material transport systems) involved in handling this product contain explosion relief vents or an explosion suppression system. Ensure that dust-handling systems (such as exhaust ducts, dust collectors, vessels, and processing equipment) are designed in a manner to prevent the escape of dust into the work area. Keep static electricity under control, which includes the bonding and grounding of equipment. Emergency eye wash stations and safety showers should be available in the immediate vicinity of use or handling. Provide adequate ventilation to maintain the airborne concentrations of vapor, mists, and/or dusts below the applicable workplace exposure limits, while observing recognized national standards (or equivalent).

**Personal protection equipment**

**Eye and face protection:**

Use safety glasses with side shields or goggles. Do not wear contact lenses when handling or processing this product. Use eye protection equipment that has been tested and approved by recognized national standards (or equivalent).

**Skin and body protection:**

Chemical resistant, impervious gloves approved by the appropriate standards. Gloves must be inspected prior to use. Avoid skin contact with used gloves. Appropriate techniques should be used to remove used gloves and contaminated clothing. Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Ensure that all personal protective equipment is approved by recognized national standards (or equivalent).

**Respiratory protection:**

If engineering controls do not maintain airborne concentrations below the applicable workplace exposure limits, or to an acceptable level (if exposure limits have not been established), a respirator approved by recognized national standards (or equivalent) must be worn. Use a positive pressure air supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air purifying respirators may not provide adequate protection.

**General hygienic measures:**

When handling chemical products, do not eat, drink or smoke. Wash hands after handling, before breaks, and at the end of the workday. Avoid contact with skin, eyes and clothing. Contaminated clothing should be removed and separated for decontamination. Do not allow contaminated work clothing out of the workplace. Perform routine housekeeping.

## SECTION 9: Physical and chemical properties

**Information on basic physical and chemical properties**

| | |
|---|---|
| **Appearance** | Not determined or not available. |
| **Odor** | Not determined or not available. |
| **Odor threshold** | Not determined or not available. |
| **pH** | Not determined or not available. |
| **Melting point/freezing point** | Not determined or not available. |
| **Initial boiling point/range** | Not determined or not available. |
| **Flash point (closed cup)** | Not determined or not available. |
| **Evaporation rate** | Not determined or not available. |
| **Flammability (solid, gas)** | Not determined or not available. |
| **Upper flammability/explosive limit** | Not determined or not available. |

| | |
|---|---|
| **Lower flammability/explosive limit** | Not determined or not available. |
| **Vapor pressure** | Not determined or not available. |
| **Vapor density** | Not determined or not available. |
| **Density** | Not determined or not available. |
| **Relative density** | Not determined or not available. |
| **Solubilities** | Not determined or not available. |
| **Partition coefficient (n-octanol/water)** | Not determined or not available. |
| **Auto/Self-ignition temperature** | Not determined or not available. |
| **Decomposition temperature** | Not determined or not available. |
| **Dynamic viscosity** | Not determined or not available. |
| **Kinematic viscosity** | Not determined or not available. |
| **Explosive properties** | Not determined or not available. |
| **Oxidizing properties** | Not determined or not available. |

**Other information**

## SECTION 10: Stability and reactivity

**Reactivity:**
Not reactive under recommended handling and storage conditions.

**Chemical stability:**
Stable under recommended handling and storage conditions.

**Possibility of hazardous reactions:**
Hazardous reactions are not anticipated under recommended conditions of handling and storage.

**Conditions to avoid:**
Extreme heat, open flames, hot surfaces, sparks, static discharge, ignition sources, dust generation and accumulation and incompatible materials.

**Incompatible materials:**
None known.

**Hazardous decomposition products:**
Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## SECTION 11: Toxicological information

**Acute toxicity**

**Assessment:** Based on available data, the classification criteria are not met.

**Product data:** No data available.

**Substance data:**

| Name | Route | Result |
|---|---|---|
| Tetrahydrofuran | inhalation | LC50 Rat: >2500 ppmV (4 h) |
| | oral | LD50 Rat: 1650 mg/kg |
| | dermal | LD50 Rat: >2000 mg/kg |
| Chromium (VI) trioxide | oral | LD50 Rat: 52 mg/kg |
| | dermal | LC50 Rabbit: 217 mg/m³ |
| | inhalation | LD50 Rat: 57 mg/kg |
| Cadmium (non-pyrophoric) | oral | LD50 Rat: 2330 mg/kg |
| | inhalation | LC50 Rat: 0.056 mg/L (4 h (Dust)) |

| Name | Route | Result |
|---|---|---|
| Lead | dermal | LD50 Rat: >2000 mg/kg |
| | inhalation | LC50 Rat: >5.05 mg/L (4 h (Dust)) |
| | oral | LD50 Rat: >2000 mg/kg |
| Mercury | oral | LD50 Rat: 26 mg/kg |
| | inhalation | LC50 Rat: >0.0133 mg/L (4 h (Vapor)) |

**Skin corrosion/irritation**

**Assessment:** Based on available data, the classification criteria are not met.

**Product data:**

No data available.

**Substance data:**

| Name | Result |
|---|---|
| Chromium (VI) trioxide | Causes severe skin burns and eye damage. |

**Serious eye damage/irritation**

**Assessment:** Based on available data, the classification criteria are not met.

**Product data:**

No data available.

**Substance data:**

| Name | Result |
|---|---|
| Tetrahydrofuran | Causes serious eye irritation. |

**Respiratory or skin sensitization**

**Assessment:** Based on available data, the classification criteria are not met.

**Product data:**

No data available.

**Substance data:**

| Name | Result |
|---|---|
| Chromium (VI) trioxide | May cause an allergic skin reaction. |
| | May cause allergy or asthma symptoms or breathing difficulties if inhaled. |

**Carcinogenicity**

**Assessment:** Based on available data, the classification criteria are not met.

**Product data:** No data available.

**Substance data:**

| Name | Species | Result |
|---|---|---|
| Tetrahydrofuran | Not applicable | Suspected of causing cancer. |
| Chromium (VI) trioxide | Rat | This classification is based on the results of studies in animals, the genotoxicity of chromium (VI) trioxide, and findings of increased lung tumors in occupationally exposed humans. |

| Name | Species | Result |
|---|---|---|
| Cadmium (non-pyrophoric) | Rat | Data from experimental studies clearly indicates that cadmium is an animal carcinogen. Only one study reported an increase in cancer after oral exposure to soluble cadmium compounds. However, strong evidence exists that inhalation of cadmium oxide dust and fumes or cadmium chloride causes lung cancer in rat. Intrathoracic, intratracheal and subcutaneous exposure to cadmium compounds have also been shown to produce carcinogenic responses in rat. |
| Lead | Not Applicable | Lead and lead compounds are reasonably anticipated to be human carcinogens based on limited evidence of carcinogenicity from studies in humans and sufficient evidence of carcinogenicity from studies in experimental animals. |
| Mercury | | The evidence for a mutagenic or carcinogenic potential of Hg in both animal (oral exposure) and epidemiological studies (occupational inhalation exposure) is equivocal, and it is so far lacking in humans at low exposure concentrations < 50 µg/g creatinine in urine. |

**International Agency for Research on Cancer (IARC):**

| Name | Classification |
|---|---|
| Tetrahydrofuran | Group 2B |
| Chromium (VI) trioxide | Group 1 |
| | Not Applicable |
| Cadmium (non-pyrophoric) | Group 1 |
| Lead | Group 2B |
| Mercury | Group 3 |

**National Toxicology Program (NTP):**

| Name | Classification |
|---|---|
| Tetrahydrofuran | Not Applicable |
| Chromium (VI) trioxide | Known to be human carcinogens |
| | Not Applicable |
| Cadmium (non-pyrophoric) | Known to be human carcinogens |
| Lead | Reasonably anticipated to be human carcinogens |

**OSHA Carcinogens:**

| Ingredient Name | CAS | OSHA Carcinogens Status |
|---|---|---|
| Lead | 7439-92-1 | Yes |

**Germ cell mutagenicity**

**Assessment:** Based on available data, the classification criteria are not met.

**Product data:**

No data available.

**Substance data:**

| Name | Result |
|---|---|
| Chromium (VI) trioxide | May causes genetic defects. |

| Name | Result |
|---|---|
| Cadmium (non-pyrophoric) | Data from in vitro and in vivo experimental systems suggests that cadmium, in certain forms, has mutagenic properties. With regard to human exposure, a mutagenic potential both via oral and inhalation exposure routes cannot be excluded. |

**Reproductive toxicity**

**Assessment:** Based on available data, the classification criteria are not met.

**Product data:**

No data available.

**Substance data:**

| Name | Result |
|---|---|
| Chromium (VI) trioxide | Suspected of damaging fertility. |
| Cadmium (non-pyrophoric) | Effects of cadmium treatment on male and female reproductive organs have been observed after oral administration of cadmium compounds in rats and mice. In several studies, effects were detected at dose levels which also caused general toxicity. In male rats and mice, acute exposure to cadmium compounds at doses higher than 50 mg/kg bw was shown to cause testicular atrophy and necrosis and concomitant decreased fertility. In females, effects on length of estrous cycle after administration of cadmium compounds by gavage were observed at a dose of 40 mg/kg bw/d. Fertility was however reported to be affected at doses of 10 mg/kg bw/d. In male rats exposed by inhalation to 1 mg CdO/m3 for 13 weeks (Dunnick, 1995), the number of spermatids per testis, as evaluated at necropsy, was reduced compared to controls. Exposure to cadmium oxide at a concentration of 1 mg/m3 (for more than 10 weeks) has been associated with an increase in estrous cycle length in rats in two studies. |
| Lead | May damage fertility; May damage the unborn child. |
| | May cause harm to breast-fed children. |
| Mercury | Toxicokinetic animal data has shown that mercury does penetrate the placental barrier and accumulates in the fetus when the mother is exposed to metallic Hg vapor. Even though there are inter-species differences, limited epidemiological studies in humans show that there is a transfer from mother to fetus during Hg vapor exposure. |

**Specific target organ toxicity (single exposure)**

**Assessment:** Based on available data, the classification criteria are not met.

**Product data:**

No data available.

**Substance data:**

| Name | Result |
|---|---|
| Tetrahydrofuran | May cause respiratory irritation. |

**Specific target organ toxicity (repeated exposure)**

**Assessment:** Based on available data, the classification criteria are not met.

**Product data:**

No data available.

**Substance data:**

| Name | Result |
|---|---|
| Chromium (VI) trioxide | Causes damage to organs through prolonged or repeated exposure. |

| Name | Result |
|---|---|
| Cadmium (non-pyrophoric) | Available NOAELs from repeated dose oral and inhalation studies range between 0.12 - 3 mg/kg bw/day and 0.013. 10-3- 0.022 x 10-3mg/L, respectively. This data supports a classification of STOT RE, category 1. The identified organs that can be affected by cadmium dust are the blood, kidneys, prostate and respiratory system. |
| Lead | Causes damage to central nervous system, blood and kidneys through prolonged or repeated exposure by inhalation or ingestion |
| Mercury | May cause damage to organs (CNS, Eyes, Kidneys, Respiratory System, Skin) through prolonged or repeated exposure. |

**Aspiration toxicity**

**Assessment:** Based on available data, the classification criteria are not met.

**Product data:**

No data available.

**Substance data:** No data available.

**Information on likely routes of exposure:**

No data available.

**Symptoms related to the physical, chemical and toxicological characteristics:**

No data available.

**Other information:**

No data available.

## SECTION 12: Ecological information

**Acute (short-term) toxicity**

**Assessment:** Based on available data, the classification criteria are not met.

**Product data:** No data available.

**Substance data:**

| Name | Result |
|---|---|
| Tetrahydrofuran | LC50 Pimephales promelas: 2160 mg/L (96 h) |
| Cadmium (non-pyrophoric) | EC50 Daphnia pulex: 0.042 mg/L (48 h) |
| | LC50 Pimephales promelas: 0.0003 mg/L (96 h) |
| Lead | LC50 Pimephales promelas: 0.0408 mg/L (96 h) |
| | EC50 Ceriodaphnia dubia: 0.0264 mg/L (48 h) |
| | EC50 Pseudokirchneriella subcapitata: 0.0205 mg/L (72 h) |
| Mercury | LC50 Cyprinus carpio: 0.16 mg/L (96 h) |

**Chronic (long-term) toxicity**

**Assessment:** Based on available data, the classification criteria are not met.

**Product data:** No data available.

**Substance data:**

| Name | Result |
|---|---|
| Tetrahydrofuran | NOEC Pimephales promelas: 216 mg/L (33 d) |
| Cadmium (non-pyrophoric) | NOEC Oncorhynchus kisutch: 0.0013 mg/L (27 d) |
| Lead | NOEC Cyprinus carpio: 0.0178 mg/L (7 d) |
| | NOEC Daphnia magna: 0.009 mg/L (21 d) |
| Mercury | NOEC Brachydanio rerio: 0.001 mg/L (14 d) |
| | NOEC Mysidopsis bahia: 0.0008 mg/L (35 d) |

**Persistence and degradability**

**Product data:** No data available.

**Substance data:**

| Name | Result |
|---|---|
| Tetrahydrofuran | This substance is inherently biodegradable. |
| 1,4-Benzenedicarboxylic acid, 1,4-dimethyl ester, polymer with 1,4-butanediol | Not expected to be persistent. |
| Cadmium (non-pyrophoric) | Biodegradation is not applicable to metals/inorganic substances. |
| Lead | Lead will not degrade in water. |
| Mercury | The substance will not be biodegradable, as it is an inorganic substance. |

**Bioaccumulative potential**

**Product data:** No data available.

**Substance data:**

| Name | Result |
|---|---|
| 1,4-Benzenedicarboxylic acid, 1,4-dimethyl ester, polymer with 1,4-butanediol | Not expected to bioaccumulate. |
| Cadmium (non-pyrophoric) | Not considered as bioaccumulative. |
| Lead | Because inorganic substances are outside the scope of PBT assessments, the bioaccumulative criterion is not applicable. |
| Mercury | Because inorganic substances are outside the scope of PBT assessments, the bioaccumulative criterion is not applicable. |

**Mobility in soil**

**Product data:** No data available.

**Substance data:** No data available.

**Results of PBT and vPvB assessment**

**Product data:**

**PBT assessment:** This product does not contain any substances that are assessed to be a PBT.

**vPvB assessment:** This product does not contain any substances that are assessed to be a vPvB.

**Substance data:**

**PBT assessment:**

| | |
|---|---|
| Tetrahydrofuran | This substance is not PBT. |
| Chromium (VI) trioxide | This substance is not PBT. |
| Cadmium (non-pyrophoric) | A PBT assessment does not apply as Cadmium is an inorganic compound. |
| Lead | PBT assessment does not apply to inorganic substances. |
| Mercury | PBT assessment does not apply to inorganic substances. |

**vPvB assessment:**

| | |
|---|---|
| Tetrahydrofuran | This substance is not vPvB. |
| Chromium (VI) trioxide | This substance is not vPvB. |
| Cadmium (non-pyrophoric) | A vPvB assessment does not apply as Cadmium is an inorganic compound. |
| Lead | vPvB assessment does not apply to inorganic substances. |
| Mercury | vPvB assessment does not apply to inorganic substances. |

**Other adverse effects:** No data available.

## SECTION 13: Disposal considerations

**Disposal methods:**

It is the responsibility of the waste generator to properly characterize all waste materials according to applicable regulatory entities

**Contaminated packages:**

Not determined or not applicable.

## SECTION 14: Transport information

**United States Transportation of dangerous goods (49 CFR DOT)**

| | |
|---|---|
| **UN number** | Not regulated |
| **UN proper shipping name** | Not regulated |
| **UN transport hazard class(es)** | None |
| **Packing group** | None |
| **Environmental hazards** | None |
| **Special precautions for user** | None |

**International Maritime Dangerous Goods (IMDG)**

| | |
|---|---|
| **UN number** | Not regulated |
| **UN proper shipping name** | Not regulated |
| **UN transport hazard class(es)** | None |
| **Packing group** | None |
| **Environmental hazards** | None |
| **Special precautions for user** | None |

**International Air Transport Association Dangerous Goods Regulations (IATA-DGR)**

| | |
|---|---|
| **UN number** | Not regulated |
| **UN proper shipping name** | Not regulated |
| **UN transport hazard class(es)** | None |
| **Packing group** | None |
| **Environmental hazards** | None |
| **Special precautions for user** | None |

## SECTION 15: Regulatory information

**United States regulations**

**Inventory listing (TSCA):** All ingredients are listed or exempt.

**Significant New Use Rule (TSCA Section 5):**

| | | |
|---|---|---|
| 109-99-9 | Tetrahydrofuran | Not Listed |
| 1333-82-0 | Chromium (VI) trioxide | Not Listed |
| 1333-82-0 | Chromium (VI) trioxide | Not Listed |

| | | |
|---|---|---|
| 30965-26-5 | 1,4-Benzenedicarboxylic acid, 1,4-dimethyl ester, polymer with 1,4-butanediol | Not Listed |
| 7440-43-9 | Cadmium (non-pyrophoric) | Not Listed |
| 7439-92-1 | Lead | Not Listed |
| 7439-97-6 | Mercury | Listed |

**Export notification under TSCA Section 12(b):**

| | | |
|---|---|---|
| 109-99-9 | Tetrahydrofuran | Not Listed |
| 1333-82-0 | Chromium (VI) trioxide | Not Listed |
| 30965-26-5 | 1,4-Benzenedicarboxylic acid, 1,4-dimethyl ester, polymer with 1,4-butanediol | Not Listed |
| 7440-43-9 | Cadmium (non-pyrophoric) | Not Listed |
| 7439-92-1 | Lead | Listed |
| 7439-97-6 | Mercury | Listed |

**SARA Section 302 extremely hazardous substances:** None of the ingredients are listed.

**SARA Section 313 toxic chemicals:**

| | | |
|---|---|---|
| 109-99-9 | Tetrahydrofuran | Not Listed |
| 1333-82-0 | Chromium (VI) trioxide | Listed |
| 30965-26-5 | 1,4-Benzenedicarboxylic acid, 1,4-dimethyl ester, polymer with 1,4-butanediol | Not Listed |
| 7440-43-9 | Cadmium (non-pyrophoric) | Listed |
| 7439-92-1 | Lead | Listed |
| 7439-97-6 | Mercury | Listed |

**CERCLA:**

| | | | |
|---|---|---|---|
| 109-99-9 | Tetrahydrofuran | Listed | 1000 lbs. |
| 1333-82-0 | Chromium (VI) trioxide | Listed | 5000 lbs. |
| 7440-43-9 | Cadmium (non-pyrophoric) | Listed | 10 lb |
| 7439-92-1 | Lead | Listed | 10 lb |
| 7439-97-6 | Mercury | Listed | 1 lb |

**RCRA:**

| | | | |
|---|---|---|---|
| 109-99-9 | Tetrahydrofuran | Listed | U213 |
| 1333-82-0 | Chromium (VI) trioxide | Listed | D007 (Chromium) |
| 7440-43-9 | Cadmium (non-pyrophoric) | Listed | D006 |
| 7439-92-1 | Lead | Listed | D008 |
| 7439-97-6 | Mercury | Listed | D009 |

**Section 112(r) of the Clean Air Act (CAA):** None of the ingredients are listed.

**Massachusetts Right to Know:**

| | | |
|---|---|---|
| 109-99-9 | Tetrahydrofuran | Listed |
| 1333-82-0 | Chromium (VI) trioxide | Listed |

| | | |
|---|---|---|
| 1333-82-0 | Chromium (VI) trioxide | Listed |
| 30965-26-5 | 1,4-Benzenedicarboxylic acid, 1,4-dimethyl ester, polymer with 1,4-butanediol | Not Listed |
| 7440-43-9 | Cadmium (non-pyrophoric) | Listed |
| 7439-92-1 | Lead | Listed |
| 7439-97-6 | Mercury | Listed |

**New Jersey Right to Know:**

| | | |
|---|---|---|
| 109-99-9 | Tetrahydrofuran | Listed |
| 1333-82-0 | Chromium (VI) trioxide | Listed |
| 1333-82-0 | Chromium (VI) trioxide | Listed |
| 30965-26-5 | 1,4-Benzenedicarboxylic acid, 1,4-dimethyl ester, polymer with 1,4-butanediol | Not Listed |
| 7440-43-9 | Cadmium (non-pyrophoric) | Listed |
| 7439-92-1 | Lead | Listed |
| 7439-97-6 | Mercury | Listed |

**New York Right to Know:**

| | | |
|---|---|---|
| 109-99-9 | Tetrahydrofuran | Listed |
| 1333-82-0 | Chromium (VI) trioxide | Listed |
| 1333-82-0 | Chromium (VI) trioxide | Listed |
| 30965-26-5 | 1,4-Benzenedicarboxylic acid, 1,4-dimethyl ester, polymer with 1,4-butanediol | Not Listed |
| 7440-43-9 | Cadmium (non-pyrophoric) | Listed |
| 7439-92-1 | Lead | Listed |
| 7439-97-6 | Mercury | Listed |

**Pennsylvania Right to Know:**

| | | |
|---|---|---|
| 109-99-9 | Tetrahydrofuran | Listed |
| 1333-82-0 | Chromium (VI) trioxide | Listed |
| 1333-82-0 | Chromium (VI) trioxide | Listed |
| 30965-26-5 | 1,4-Benzenedicarboxylic acid, 1,4-dimethyl ester, polymer with 1,4-butanediol | Not Listed |
| 7440-43-9 | Cadmium (non-pyrophoric) | Listed |
| 7439-92-1 | Lead | Listed |
| 7439-97-6 | Mercury | Listed |

**California Proposition 65:**

⚠**WARNING:** This product can expose you to Mercury; which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

⚠**WARNING:** This product can expose you to chemicals including Chromium (VI) trioxide, Cadmium (non-pyrophoric) and Lead; which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

## SECTION 16: Other information

**Abbreviations and Acronyms:** None

**Disclaimer:**

This product has been classified in accordance with OSHA HCS 2012 guidelines. The information provided in this SDS is correct, to the best of our knowledge, based on information available. The information given is

designed only as a guidance for safe handling, use, storage, transportation and disposal and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials, unless specified in the text. The responsibility to provide a safe workplace remains with the user.

**NFPA:** 0-0-0
**HMIS:** 0-0-0
**Initial preparation date:** 08.07.2020

**End of Safety Data Sheet**