

1. Product and company identification

| | |
|-----------------------------------|---|
| Product name | YELLOW POLYETHYLENE ETHENE-HEXENE-1 COPOLYMER |
| Supplier | INEOS USA LLC 2600 South Shore Blvd. League City, Texas 77573 |
| Trade name | Not available. |
| Material uses | Industrial applications. |
| MSDS # | 0000002217(NAP) |
| Emergency telephone number | 1 (800) 424-9300 Outside the US: +1 703-527-3887 (CHEMTREC) |

2. Hazards identification

| | |
|---------------------------------------|---|
| Physical state | Granular solid. Pellets. Flakes. |
| Emergency overview | MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA. SUSPECT CANCER HAZARD - MAY CAUSE CANCER. Avoid exposure - obtain special instructions before use. May cause target organ damage, based on animal data. May cause cancer, based on animal data. Risk of cancer depends on duration and level of exposure. |
| Routes of entry | Dermal contact. Eye contact. Inhalation. Ingestion. |
| Potential acute health effects | |
| Inhalation | May cause cancer |
| Ingestion | Contains material which can cause cancer. |
| Skin | No known significant effects or critical hazards. |
| Eyes | No known significant effects or critical hazards. |

3. Composition/information on ingredients

| Name | CAS number | % |
|------------------------------------|------------|--------------|
| Ethylene-Hexene-1 Copolymer (Pure) | 25213-02-9 | > 97 |
| CADMIUM SULFIDE (PURE) | 1306-23-6 | 0.025 - 0.15 |
| TITANIUM DIOXIDE (PURE) | 13463-67-7 | 0.10 - 0.30 |

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

4. First aid measures

| | |
|---------------------|--|
| Eye contact | Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately. |
| Skin contact | In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention immediately. |
| Inhalation | Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately. |

4 . First aid measures

Ingestion Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.

5 . Fire-fighting measures

Flammability of the product No specific fire or explosion hazard.

Extinguishing media

Suitable Use an extinguishing agent suitable for the surrounding fire.

Not suitable None known.

Special exposure hazards Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Hazardous thermal decomposition products Decomposition products may include the following materials:
carbon dioxide
carbon monoxide

Special protective equipment for fire-fighters Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Special remarks on fire hazards Fire temperatures in excess of 700 °C (1292 °F) will generate water soluble cadmium decomposition products. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Special remarks on explosion hazards Not available.

6 . Accidental release measures

Personal precautions No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see section 8).

Environmental precautions Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods for cleaning up

Small spill Move containers from spill area. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.

Large spill Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor. Note: see section 1 for emergency contact information and section 13 for waste disposal.

7 . Handling and storage

Handling Put on appropriate personal protective equipment (see section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Do not get in eyes or on skin or clothing. Do not ingest. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

7 . Handling and storage

Storage Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

8 . Exposure controls/personal protection

| Ingredient | Exposure limits |
|------------------------------------|---|
| Ethylene-Hexene-1 Copolymer (Pure) | ACGIH TLV (United States). TWA: 10 mg/m ³ 8 hour(s). Form: Inhalable |
| TITANIUM DIOXIDE (PURE) | TWA: 3 mg/m ³ 8 hour(s). Form: Respirable fraction |
| | OSHA PEL 1989 (United States, 3/1989). TWA: 10 mg/m ³ 8 hour(s). Form: Total dust |
| | ACGIH TLV (United States, 1/2007). TWA: 10 mg/m ³ 8 hour(s). |
| | OSHA PEL (United States, 11/2006). TWA: 15 mg/m ³ 8 hour(s). Form: Total dust |
| CADMIUM SULFIDE (PURE) | ACGIH TLV (United States, 1/2007). Absorbed through skin. Notes: as Cd TWA: 0.002 mg/m ³ , (as Cd) 8 hour(s). |
| | ACGIH TLV (United States, 9/2004). Absorbed through skin. Notes: Substance identified by other sources as a suspected or confirmed human carcinogen. Respirable fraction. The concentration of respirable dust for the application of this limit is to be determined for the fraction passing a size-selector with the characteristics defined in the "C." paragraph of Appendix D. Substances for which the TLV is higher than the OSHA Permissible Exposure Limit (PEL) and/or the NIOSH Recommended Exposure Limit (REL). See CFR 58(124) :36338-33351, June 30, 1993, for revised OSHA PEL. Identifies substances identified in the BEI documentation for Methemoglobin inducers (for which methemoglobin is the principle toxicity) and organophosphorous cholinesterase inhibitors are part of this notation. Refers to Appendix A -- Carcinogens. |
| | ACGIH TLV (United States, 1/2007). Absorbed through skin. Notes: as Cd |
| | ACGIH TLV (United States, 9/2004). Absorbed through skin. Notes: Substance identified by other sources as a suspected or confirmed human carcinogen. Respirable fraction. The concentration of respirable dust for the application of this limit is to be determined for the fraction passing a size-selector with the characteristics defined in the "C." paragraph of Appendix D. Substances for which the TLV is higher than the OSHA Permissible Exposure Limit (PEL) and/or the NIOSH Recommended Exposure Limit (REL). See CFR 58(124) :36338-33351, June 30, 1993, for revised OSHA PEL. Identifies substances identified in the BEI documentation for Methemoglobin inducers (for which methemoglobin is the principle toxicity) and organophosphorous cholinesterase inhibitors are part of this notation. Refers to Appendix A -- Carcinogens. |
| | TWA: 0.01 mg/m ³ 8 hour(s). Form: Inhalable fraction |
| | TWA: 0.002 mg/m ³ 8 hour(s). Form: Respirable fraction |

8 . Exposure controls/personal protection

Engineering measures

If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Hygiene measures

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal protection

Respiratory

Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Hands

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Eyes

Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts.

Skin

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.

9 . Physical and chemical properties

Physical state

Granular solid. Pellets. Flakes.

Flash point

Closed cup: >343°C (>649.4°F)

Auto-ignition temperature

>343°C (>649.4°F)

Color

Yellow.

Odor

Odorless.

Melting/freezing point

110 to 135°C (230 to 275°F)

Solubility at room temperature (g/l)

Not available.

Density

0.93 to 1.15 g/cm³ [23°C (73.4°F)]

10 . Stability and reactivity

Chemical stability

The product is stable.

Hazardous polymerization

Will not occur.

Conditions to avoid

Avoid exposure - obtain special instructions before use.

Materials to avoid

No specific data.

Hazardous decomposition products

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

Incompatibility with various substances

None identified.

11 . Toxicological information

| | |
|--------------------------|---|
| Carcinogenicity | Contains material which can cause cancer. |
| Mutagenicity | Not available. |
| Teratogenicity | Not available. |
| Fertility effects | Not available. |

12 . Ecological information

| | |
|------------------------------|---|
| Environmental effects | No known significant effects or critical hazards. |
| Mobility | Not available. |
| Other adverse effects | No known significant effects or critical hazards. |

13 . Disposal considerations

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|----------------------------|---|
| Waste disposal | The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. |
| RCRA classification | : Not available. |

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

14 . Transport information

Not classified as hazardous for transport (IMO, IATA/ICAO, DOT, TDG, Mexico).

15 . Regulatory information

| | |
|---------------------------------|---|
| HCS Classification | Carcinogen Target organ effects |
| U.S. Federal regulations | United States inventory (TSCA 8b): All components are listed or exempted. SARA 302/304/311/312 extremely hazardous substances: No products were found. SARA 302/304 emergency planning and notification: No products were found. SARA 302/304/311/312 hazardous chemicals: No products were found. SARA 311/312 MSDS distribution - chemical inventory - hazard identification: No products were found. Clean Water Act (CWA) 307: cadmium sulphide; zinc sulphide Clean Water Act (CWA) 311: No products were found. Clean Air Act (CAA) 112 accidental release prevention: No products were found. Clean Air Act (CAA) 112 regulated flammable substances: No products were found. Clean Air Act (CAA) 112 regulated toxic substances: No products were found. |

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15 . Regulatory information

| | <u>Product name</u> | <u>CAS number</u> | <u>Concentration</u> |
|--|---------------------|-------------------|----------------------|
| Form R - Reporting requirements | Not available. | Not available. | Not available. |
| Supplier notification | Not available. | Not available. | Not available. |

SARA 313 notifications must not be detached from the MSDS and any copying and redistribution of the MSDS shall include copying and redistribution of the notice attached to copies of the MSDS subsequently redistributed.

State regulations

Connecticut Carcinogen Reporting: None of the components are listed.
Connecticut Hazardous Material Survey: None of the components are listed.
Florida substances: None of the components are listed.
Illinois Chemical Safety Act: None of the components are listed.
Illinois Toxic Substances Disclosure to Employee Act: None of the components are listed.
Louisiana Reporting: None of the components are listed.
Louisiana Spill: None of the components are listed.
Massachusetts Spill: None of the components are listed.
Massachusetts Substances: None of the components are listed.
Michigan Critical Material: None of the components are listed.
Minnesota Hazardous Substances: None of the components are listed.
New Jersey Hazardous Substances: The following components are listed: TITANIUM DIOXIDE; CADMIUM SULFIDE
New Jersey Spill: None of the components are listed.
New Jersey Toxic Catastrophe Prevention Act: None of the components are listed.
New York Acutely Hazardous Substances: None of the components are listed.
New York Toxic Chemical Release Reporting: None of the components are listed.
Pennsylvania RTK Hazardous Substances: The following components are listed: TITANIUM OXIDE (TIO₂); CADMIUM SULFIDE (CDS)
Rhode Island Hazardous Substances: None of the components are listed.

United States inventory (TSCA 8b)

All components are listed or exempted.

WHMIS (Canada)

Class D-2B: Material causing other toxic effects (Toxic).



CEPA Toxic substances: None of the components are listed.
Canadian ARET: None of the components are listed.
Canadian NPRI: None of the components are listed.
Alberta Designated Substances: None of the components are listed.
Ontario Designated Substances: None of the components are listed.
Quebec Designated Substances: None of the components are listed.

International regulations

International lists

Please go to RPS online at www.ineos-op.com

16 . Other information

Label requirements

MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA. SUSPECT CANCER HAZARD - MAY CAUSE CANCER.

Hazardous Material Information System (U.S.A.)

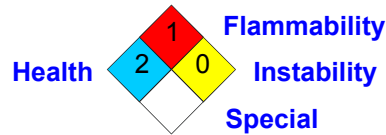
| | |
|------------------|---|
| Health | 2 |
| Flammability | 1 |
| Physical hazards | 0 |
| | |

16 . Other information

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

National Fire Protection
Association (U.S.A.)



References : Not available.

Other special considerations : Not available.

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Version 0.09

Prepared by Product Stewardship

✔ Indicates information that has changed from previously issued version.

Notice to reader

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