

Product Name: **UHMW-PE**

Synonyms: **Polyethylene Ethene Homopolymer**

UHMW

Composition / Information on Ingredients

Ingredient: Base Resin

While this product is not classified as hazardous under OSHA Regulations, this MSDS contains valuable information critical to the safe handling and proper use of the product. This MSDS should be retained and made available for employees and other users of the product.

This product is not regulated by WHMIS

Physical and Chemical Properties

Vapor Pressure: N/A

Vapor Density: N/A

Solubility in water: < 0.00 l Wt %

Specific Gravity: 0.925-0.940 @25°C

Physical State: Solid

Appearance and Odor: White powder, slight to no odor

Fire and Explosion Hazards

Flashpoint: Not applicable.

Hazardous Products of Combustion: Carbon monoxide and carbon dioxide.

Extinguishing Media: Water spray, foam, carbon dioxide, or dry chemical.

Firefighting Instructions: Firefighters should wear self-contained breathing apparatus and full fire-fighting turn-out gear (bunker gear). Keep personnel removed from and upwind of fire. Water should be used to keep fire-exposed containers cool. Water, foam and dry chemical may cause damage to electrical equipment.

Stability and Reactivity

Chemical Stability: Stable under ordinary conditions of use and storage.

Conditions to Avoid: Flame; avoid prolonged heating at processing temperatures. Thermal decomposition occurs at 330°C (626°F). Fine powder may present a dust explosion hazard. Appropriate measures should be taken to control the generation of and accumulation of dust during conveying and processing operations. Electrical grounding of equipment and the minimization of ignition sources is required when handling powder to avoid possible dust explosion.

Incompatibility: Halogens, strong oxidizers and aromatic solvents.

Hazardous Decomposition Products: Aliphatic hydrocarbons.

Hazardous Polymerization: Will not occur.

Health Hazard Identification

Emergency Overview:

Fine white powder with slight to no odor. Fine powder may present a dust explosion hazard. Combustion and decomposition may produce hazardous fumes. Hot or molten material can cause thermal burns on contact with skin or eyes. Spilled powder may create a slipping hazard.

Potential Health Effects:

Routes of exposure: Skin and eye contact, inhalation of dust and inhalation of vapors, if overheated.

Signs and Symptoms of Exposure: This specific product has not been tested.

UHMW (cont.)

Immediate Effects:

Skin: This specific product has not been tested. Hot or molten material has the potential to cause thermal burns. Polymer particles can cause mechanical irritation.

Eyes: This specific product has not been tested. Polymer particles can cause mechanical irritation. Degradation vapors may cause irritation.

Inhalation: This specific product has not been tested. In the form supplied, this material is not considered an inhalation hazard; polymer particles may be considered an inert nuisance particulate. Overheating in processing may generate hazardous, irritating vapors.

Ingestion: This specific product has not been tested; however, low toxicity by this route is expected based on the biological activity of similar materials.

Long Term/Delayed Effects: This specific product has not been tested.

Medical Conditions Aggravated by Exposure: This specific product has not been tested.

First Aid Procedures

Skin: If hot or molten polymer or hot vapors contact skin, cool rapidly with cold water. If polymer is stuck to skin, do not remove. Seek medical attention. Allow adhered polymer to come off naturally. Removal of adhered polymer may result in more tissue damage than if polymer is allowed to come off over time.

Eyes: Flush with plenty of water. Seek medical attention if discomfort persists, and to remove foreign body.

Inhalation: Remove to fresh air. Seek medical attention if difficulties in breathing occur.

Ingestion: If a significant quantity has been swallowed, give two glasses of water to dilute. Seek medical attention.

Note to Physician: This product is essentially inert and nontoxic. However, if it is heated at too high a temperature or if it is burned, gases may be released (see Sections 3 and 4 for off-gases). Patients who have been exposed to off-gases may need to have their arterial blood gases and carboxyhemoglobin levels checked. If the carboxyhemoglobin levels are normal, asphyxia (carbon dioxide replacing oxygen) is a possibility. As with any fire, irritant gases may have formed. If patients may have inhaled high concentrations of irritating fumes, they should be monitored for delayed onset pulmonary edema.

Disposal Considerations / Spill or Leak Procedures

Recycling is encouraged. Dispose of in accordance with federal, state, and local regulations. This product, as shipped, is not a RCRA hazardous waste under present EPA regulations.

Spills: Sweep or gather up spills and place in proper container for recovery or disposal.

Exposure Controls / Personal Protection

Engineering Controls:

Local Exhaust: Recommended when appropriate to control employee exposure to dust or process vapors.
General: May not be adequate as the sole means to control employee exposure.

Protective Equipment:

Skin: When thermal or melt processing, wear long pants, long sleeves, well insulated gloves, and face shield when there is a chance of contact.
Eyes: Safety eyewear recommended.
Inhalation: A NIOSH approved respirator is recommended if there is a possibility of dust generation above permissible exposure limits or that decomposition vapors may be generated.

Exposure Guidelines:	Ingredient	Agency	Value
	Nuisance / inert dust	OSHA PEL	15 mg/cu m (total)
			5 mg/cu m (respirable)
	Nuisance particulates	ACGIH TLV	10 mg/cu m (total)
			3 mg/cu m (respirable)

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Accidental Release Measures

*For more information, see regulatory section 14.

Handling and Storage

Handling: Do not handle hot or molten material without appropriate protective equipment. Maintain good housekeeping in work areas. Do not exceed recommended process temperatures to minimize release of decomposition products. Do not smoke in areas where polymer dust is present. Appropriate measures should be taken to control the generation and accumulation of dust during conveying and processing operations. Electrical grounding of equipment and the minimization of ignition sources is required when handling powder to avoid possible dust explosion.

Storage: Store in a cool dry place. Maintain dryness of resin.

Toxicological Information

No specific information available on the product. Inhalation of carbon black, a possible ingredient, has been shown to cause lung tumors in rats at high exposure concentrations. These concentrations appear to exceed the capacity of the lung to clear the carbon black particles, thus resulting in significant toxicity.

Ecological Information

Ecotoxicity: No specific information available on the product.

Environmental Fate/Information: This material is considered to be non-biodegradable.

Transport Information

Not regulated under US Department of Transportation.

Regulatory Information

TSCA: All the components of this product comply with TSCA Regulations.

SARA: This product does not contain any toxic chemicals subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-to-Know Act of 1986 and of 40 CFR 372.

Other Information

Hazard Ratings:

Agency	Health	Flammability	Reactivity	Other
NFPA	1	1	0	-
HMIS	1	0	0	-

Disclaimer: This product is not intended for use in medical or dental implants. The information contained herein is accurate to the best of our knowledge. We do not suggest or guarantee that any hazards listed herein are the only ones which exist. We make no warranty of any kind, express or implied, concerning the safe use of this material in your process or in combination with other substances. Effects can be aggravated by other materials and/or this material may aggravate or add to the effects of other materials. User has the sole responsibility to determine the suitability of the materials for any use and the manner of use contemplated. User must meet all applicable safety and health standards.