

Safety Data Sheet

PVC Powder Compound

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

BlendTech Polymers Inc.
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Product: PVC Powder Compounds – ALL COLORS
Product Code: PVC Compounds

Chemical Name: Non-Applicable (Mixture)
Chemical Family: Organic Polymer Composite
Formula: Proprietary composite of PVC resin and functional ingredients
Effective Date: October 2018

2. COMPOSITION/INFORMATION ON INGREDIENTS

Polyvinyl Chloride Resin CAS No. 9002-86-2 WT % >30%
This product is predominately polyvinyl chloride, a substance not considered to be a hazardous chemical.

Hazardous Components	OSHA PEL	ACGIH-TLV	CAS Number
Vinyl Chloride Monomer	1 ppm/8hr TWA	5 ppm	75-01-4
Acrylic Copolymer	100 ppm	50ppm	Proprietary
Titanium Dioxide	15 mg/CM	10 mg/CM	13463-67-7
Organic Tin Stabilizer	0.1 mg/ M ₃	0.1 mg/ M ₃	Mixture
Calcium Stearate	(Not established)	10 mg/CM	1592-23-0

3. HAZARDOUS IDENTIFICATION

PRECAUTIONARY INFORMATION

Caution: If proper procedures for processing PVC compounds are not followed, processing fumes and vapors can be liberated at elevated temperatures. The presence of these fumes or vapors may result in exposure. Additionally, the composition of these fumes or vapors may vary widely according to the individual processing procedures and materials used. Processors must determine for themselves the appropriate equipment and procedures for their use.

POTENTIAL HEALTH EFFECTS

Primary Routes of Exposure: Inhalation of process emissions during periods of elevated temperature due to other than normal processing conditions.

Eye: Vapors or fumes emitted, due to other than normal processing conditions, may cause eye irritation. Dust resulting from the handling of powder may be irritating to the eyes.

Skin Contact: Vapors or fumes emitted during processes involving elevated temperatures may cause skin irritation. Dust resulting from the handling of powder may be irritating to the skin.

Skin Absorption: This material is initially a dry solid pellet or powder; no absorption is likely to occur in its initial form. Vapors or fumes emitted during processes involving elevated temperatures may absorb through the skin at low levels.

Ingestion: Slightly toxic by ingestion. Powder form may become airborne during handling, resulting in the potential for incidental ingestion. Vapors or fumes emitted during processes involving elevated temperature may be ingested at low levels. Adequate ventilation should be provided.

Inhalation: Powder form may become airborne during handling, resulting in potential inhalation exposure. Vapors or fumes emitted during processes involving elevated temperatures may be inhaled if not adequately ventilated.

Acute Effects:

Dust associated with the handling of PVC powder as well as fumes or vapors liberated from both PVC powder and pellets at high temperatures may be irritating to the eyes, skin and respiratory tract if not adequately ventilated.

Chronic Effects:

Chronic exposure to fumes and vapors from heated or thermally decomposed plastics may cause an asthma-like syndrome due to the inhalation of process vapors or fumes. The onset of irritation maybe delayed for several hours. Fumes or vapors may accumulate within the facility during normal operating procedures that involve elevated temperatures. Exposure to these elevated concentrations, if not adequately ventilated, may have significant health effects.

Carcinogenic:

IARC has determined that there is inadequate evidence of carcinogenicity of a polyvinyl chloride resin in both animals and humans. The overall evaluation of polyvinyl chloride is Group 3, meaning that it is not classifiable as a carcinogen (IARC Vol. 19, 1979). Polyvinyl chloride is not listed as a carcinogen by OSHA, NIOSH, NTP, IARC or EPA. Some pigments used to color PVC compounds may contain metals, which in some of their chemical forms are suspected or confirmed carcinogens. These metals are bound in the crystalline structure of the pigment, and to the best of the supplier's knowledge, do not present a significant health risk. Additionally, the low levels of pigments used in PVC pellet compounds are also bound in the polymer matrix and to the best of our knowledge do not present a significant health risk.

4. FIRST AID MEASURES

Inhalation

No adverse effects anticipated under normal conditions if adequately ventilated. However, if exposure occurs, remove victim to fresh air. Obtain medical attention if irritation persists.

Skin Contact

No adverse effects anticipated under normal conditions. However, if vapor or fume exposure occurs, wash skin thoroughly with soap and water. Obtain medical attention if irritation persists.

Eye Contact

In the event of eye irritation, flush eyes with water for at least 15 minutes. Do not rub the eyes. Obtain medical attention if irritation persists.

Ingestion

If ingestion occurs, vomiting can be induced after diluting gastric fluids with water or milk. Call a physician for additional medical advice.

5. FIRE FIGHTING MEASURES

Flash Ignition Temperature >600°F

Flammable Limits (% By Vol.)

Lower Explosive Limit (LEL) Not Applicable

Upper Explosive Limit (UEL) Not Applicable

Autoignition Temperature Not Applicable

Fire Fighting Procedures/Fire Extinguishing Media

Carbon dioxide or water. Use extinguishing measures that are appropriate to the local circumstances and the surrounding environment.

Unusual Fire and Explosion Hazards

Dense smoke may be emitted when burned. Rigid PVC Compounds will not normally continue to burn after ignition without an external fire source. Rigid PVC Compound, in the form of a powder, may present a limited risk of dust explosion when mixed with air, but only under particular conditions. A strong energy source is necessary for ignition. Avoid dispersing the dust into clouds when extinguishing. Do not allow firefighting runoff water to enter streams, rivers or lakes. The water may collect HCl and other combustion products. See Section 10 for additional information.

Fire-Fighting Equipment

Wear full bunker gear including a positive pressure self-contained breathing apparatus in any closed space.

6. ACCIDENTAL RELEASE MEASURES

Protect People

Remove unnecessary personnel from the release area. Wear appropriate personal protection equipment during clean-up.

Protect the Environment

Contain material to prevent contamination of the soil, surface water or ground water.

Clean Up

Cleanup uncontaminated material and recycle into process. Clean spills in a manner that does not disperse dust into the air. Spill area can be washed with water. Place unusable material into a closed, properly labeled container compatible with the product. See MSDS Section 15 for Regulatory Information.

7. HANDLING AND STORAGE

Advice on Safe Handling

Avoid contact with eyes. Avoid breathing dust. Minimize dust generation and accumulation. Store in dry protected area. Employees working with dried polymer should wear respiratory protective equipment.

Protective Measures

Use methods to minimize generation of dust. Wash thoroughly after handling. PVC resin processing may result in the release of low levels of vinyl chloride. Use only in well-ventilated areas.

Technical Measures

Precautions Against Fire and Explosion

PVC dust is capable of propagating a secondary dust explosion. This potential can be reduced by good housekeeping, prevention of dust from process equipment, preventing accumulation of dust on overhead horizontal surfaces and eliminating potential ignition sources. Avoid heat, flames, sparks, and other sources of ignition. Use properly grounded electrically conductive materials for piping circuits and equipment.

Storage

Store in a dry place away from direct sunlight, heat, and incompatible materials. Store away from food and beverages. Reseal containers immediately after use. Store in a well-ventilated, cool area equipped with high volume sprinkler heads.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls

Provide general and/or local exhaust ventilation to control airborne levels below the exposure guidelines. Adequate ventilation should be provided as conditions warrant. Local exhaust ventilation should comply with OSHA regulations and the American Conference of Governmental Industrial Hygienists, Industrial Ventilation - A Manual of Recommended Practice.

Respiratory Protection

For most conditions, no respiratory protection should be needed. However, in cases of dust formation, NIOSH-approved respiratory protection meeting the requirements of 29 CFR 1910.134 may be needed. If the material is overheated and starts smoldering, wear a positive pressure self-contained breathing apparatus for respiratory protection.

Eye Protection

Use safety glasses. If there is a potential for exposure to particles, which could cause mechanical injury to the eye, wear chemical or dust proof goggles.

Skin Protection

Normally clean clothing should be sufficient. However, skin protection meeting the requirements of 29 CFR 1910.132 may be needed. Wash skin if contacted by PVC powder or pellets. Wash contaminated clothing before reusing.

Exposure Guidelines

No exposure limits have been established for this material. It is recommended that exposure be kept below the limits for Particulates not otherwise classified.

OSHA-PEL: 15 mg/m³ 8 hr-TWA (total dust)
5 mg/m³ 8 hr-TWA (respirable)

The American Conference of Governmental Industrial Hygienist (ACGIH) has established a Threshold Limit Value (TLV) (based on an 8-HR TWA exposure) of 1 mg/m³ for the respirable fraction. This TLV applies only to the polymerized form of vinyl chloride and not the vinyl chloride monomer. The following materials may be present in this product, but are not anticipated to exceed exposure limits under normal conditions:

Hazardous Components	OSHA PEL	ACGIH-TLV	CAS Number
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Hazardous constituents may be released during processes involving elevated temperatures. These constituents are dependent on processing conditions and should be verified by processor.

Under normal processing conditions, no occupational exposures to vinyl chloride monomer exceeding the established exposure limits for this material are anticipated. The OSHA-PEL for vinyl chloride is 1 ppm over an 8-hr TWA. The OSHASTEL for vinyl chloride is 5 ppm for any 15 minute period.

Local and state regulations regarding the handling and storage of chemicals may vary widely. The user should acquire knowledge of these and other appropriate federal and state laws and regulations as well as consult with the proper authority for guidance in developing adequate handling procedures and constructing appropriate storage facilities.

9. PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point:	Non-Applicable	Vapor Density:	Non-Applicable
Vapor Pressure:	Non-Applicable	% Volatiles by weight:	0.5% Max
Solubility In Water:	Slight	Specific Gravity (H₂O=1)	>1.2
Viscosity:	Non-Applicable	Melting point:	Softens above 70 C
Flash Point:	Not established for the product; the vinyl resin portion of the product has a flash ignition temperature of approximately 391 C (735 F)		

Appearance and Odor: Free flowing granulated solid powder of various colors. Bland odor.

10. STABILITY AND REACTIVITY DATA

Stability:

Stable

Hazardous Polymerization:

Will Not Occur

Hazardous Decomposition or Byproducts:

Hydrogen Chloride, Carbon Monoxide, and Carbon Dioxide

Caution!

Prolong heating (approximately 30 minutes or more) of the product above 200 C (392 F) or short term heating at 250 C (482 F) may result in rapid evolution of Hydrogen Chloride.

Conditions to Avoid:

Avoid contact with strong oxidizers. Prevent cross contamination of feedstocks. Instantaneous temperatures above 420 F/215 C, prolonged heating at processing temperatures, or excessive shear/heat combinations during processing can generate hazardous decomposition products.

Incompatible Materials

Polyvinyl chloride compounds should not come into contact with acetal or acetal copolymers in elevated temperature processing equipment. The two materials are not compatible and will react in a violent decomposition when mixed under conditions of heat and pressure.

11. TOXICOLOGICAL INFORMATION

The following information on polyvinyl chloride is extracted from both the HSDB and NTP databases.

Animal Toxicity

Oral:	Rat, TDLO	210 gm/kg
Inhalation:	Mouse, LC50	140 mg/ M ₃ /10M

TD_{LO} = Lowest toxic dose in a given species by a given route of exposure.

LC₅₀ = Concentration that is lethal to 50% of a given species by a given route of exposure.

While PVC is generally considered an inert polymer, exposure to PVC dust has been reported to cause lung changes in animals and humans, including decreased respiratory capacity and inflammation.

12. ECOLOGICAL INFORMATION

Environmental Fate:

Aquatic: No data available

Biodegradation: Not subject to biodegradation

Ecotoxicity: Based on the high molecular weight of this polymeric material, transport of this compound across biological membranes is unlikely. Accordingly, the probability of environmental toxicity or bioaccumulation in organisms is remote. Due caution should be exercised to prevent the accidental release of this material to the environment.

13. DISPOSAL CONSIDERATIONS

Waste Management Information: Do not dump into any sewers, on the ground, or into any body of water. Any disposal practice must be in compliance with local, state and federal laws and regulations (contact local or state environmental agency for specific rules). Waste characterization and compliance with applicable laws are the responsibility of the waste generator.

14. TRANSPORTATION INFORMATION

Proper Shipping Name	Polyvinyl Chloride
DOT - Hazard Class	None
DOT - Shipping ID No.	None
DOT - Labeling	None

15. REGULATORY INFORMATION

Regulatory information is not meant to be all-inclusive. It is the user's responsibility to ensure compliance with federal, state or provincial and local laws.

SARA Title III

Section 302 and 304 of the Act; Extremely Hazardous Substances (40 CFR 355)

<u>COMPONENT</u>	<u>CAS No.</u>	<u>TPQ (lbs)</u>	<u>RQ (lbs)</u>
None	N/A	N/A	N/A

Note: TPQ - Threshold Planning Quantity RQ - Reportable Quantity

Specific state and local requirements regarding reportable quantities should be reviewed prior to chemical use, as they may differ from the federal reportable quantity requirement as stated above.

Section 311 Hazard Categorization (40 CFR 370)

<u>ACUTE</u>	<u>CHRONIC</u>	<u>FIRE PRESSURE</u>	<u>REACTIVE</u>
Not Listed			

Section 313 Toxic Chemicals (40 CFR 372.65)

This product contains the following EPCRA Section 313 chemicals subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-to-Know Act of 1986

<u>COMPONENT</u>	<u>CAS No.</u>	<u>WT.%</u>
Antimony Compounds	N010	0-20%
Barium Compounds	N040	0-10%
Zinc Compounds	N982	0-10%

CERCLA

Section 102(a) Hazardous Substances (40 CFR 302.4)

<u>COMPONENT</u>	<u>CAS No.</u>	<u>WT.%</u>	<u>RQ (lbs)</u>
None	N/A	N/A	N/A

RCRA

This product, as supplied, is not a hazardous waste according to the USEPA's Toxicity Characteristic Leaching Procedure. Any physical or chemical modification of this product may change the TCLP test results.

TSCA

All components are listed on the TSCA inventory or are exempt.

Proposition 65

This product contains substances known to the State of California to cause cancer and/or

reproductive toxicity.

Canadian Regulations

This product has been classified according to the hazard criteria of the Canadian Controlled Products Regulations, Section 33 and the MSDS contains all information required by this regulation. WHMIS Classification- Not a Controlled Product

Canadian Environmental Protection Act (CEPA)

All substances in this product are listed on the Canadian Domestic Substances (DSL) list or are not required to be listed.

OSHA 29 CFR 1910.1017:

This compound may contain trace levels (<0.001%) of VCM. Under normal working conditions with adequate ventilation, neither the OSHA-PEL of 1 ppm (8-hr TWA), nor the OSHA-STEL (5.0 ppm) should be exceeded. The workplace should be monitored and if the level exceeds any of the PELs or action levels, refer to 29 CFR 1910.1017.

16. DISCLAIMER OF LIABILITY

As the condition or methods of use are beyond our control, we do not assume any responsibility and expressly disclaim any liability for any use of this material. Information contained herein is believed to be true and accurate, but all statements or suggestions are made without warranty, expressed or implied, regarding the accuracy of the information, the hazards connected with the use of the material or the results to be obtained from the use thereof. Compliance with all local, provincial, state and federal laws/ regulations remains the responsibility of the user.