

**Material Data Safety Sheet  
Polyvinyl Chloride (PVC)**

**Technical Information**

**Material: 46010 – Rigid Vinyl Compound – Molding Grade, Interior**

Physical Properties	ASTM #	Typical Value
Specific Gravity	D-792	1.39
Tensile Strength (psi)	D-638	7000
Tensile Modulus (psi)	D-638	480,000
Flexular Strength (psi)	D-790	12,200
Flexular Modulus (psi)	D-790	400,000
Durometer – Shore D (pts)	D-2240	80
Notched Izod Impact 1/8"	D-256	0.8
Heat Deflection @ 264 psi	D-256	69
Temperature °C		
Typical Mold Shrinkage		0.003-0.005 in/in

Viking Polymers' 46010 is a molding rigid vinyl Type 1 compound formulated for interior applications requiring good chemical resistance and good flow characteristics.

**Section 1 – Product Identification**

Item Number: 35104003BB  
Item Description: Rigid Pellet  
Product Description: 30010-54999, 70000-70999  
Chemical Family: Vinyl

**Section 2 – Hazardous Identification**

This product may contain, as components, the substances listed below which are identified as hazardous chemicals under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910-1200):

Hazards	CAS #	Weight %
Polyvinyl Chloride Resin	9002-86-2	>30
Organo Tm	Proprietary	<5
Calcium Carbonate	471-34-1	<30
Acrylic Polymers	Proprietary	<25
Acrylic Polymers	Proprietary	<5
Paraffin Wax	Proprietary	<5
Nonhazardous Proprietary Ingredients	Proprietary	<60

**Section 3 – Hazards Identification**

Emergency Overview

Solid plastic compounds are, in general, non-hazardous polymeric material and do not present any serious hazards during normal handling and use. However, if proper compound processing procedures are not followed, processing vapors and fumes can be liberated at elevated temperatures. The presence of these vapors or fumes may result in harmful exposure. The composition of these vapors or fumes may vary widely according to materials used and the individual processing procedures. Processors should take the necessary precautions to ensure airborne levels of any vapors that may be released during heating or processing are below regulated levels.

### Potential Health Effects

#### Acute Exposure:

Primary Routes of Exposure, Inhalation, Skin, Eyes, Ingestion. See Section 11 for more information.

#### Inhalation:

Inhalation of process emissions can cause throat and lung irritation. Low Levels of dust or powder, may present an inhalation exposure.

#### Skin Contact:

Not considered hazardous through routine handling. No absorption is likely to occur.

#### Eye:

Solid or dust may cause irritation or scratch the surface of the eye. Vapors or fumes emitted during elevated processing temperatures may cause eye irritation.

#### Ingestion:

Ingestion of this product may cause irritation to the mouth, esophagus, and other tissues of the digestive system. Symptoms of the ingestion overexposure may include nausea, vomiting, and diarrhea. Obtain medical attention if large amount is ingested.

#### Chronic Exposure:

##### Chronic/Carcinogenicity:

Chronic exposure to fumes or vapors from thermally decomposed material may cause an asthma-like syndrome due to the inhalation of HCL fumes or vapors.

*\*Polyvinyl Chloride is not listed as a carcinogen by OSHA, NIOSH, NTP or EPA. IARC has determined that there is inadequate evidence of carcinogenicity of 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).*

Some pigments in this compound 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. The low levels of pigments used in the compound are also bound in the polymer matrix and to the best of our knowledge do not present a significant health risk.

#### Section 4 – First Aid Measures

Inhalation:	No adverse effects anticipated under normal conditions. If irritation occurs from vapors due to excessive heating, move to a well ventilated area. If irritation persists, obtain medical attention.
Skin Contact:	No adverse effects anticipated under normal conditions. Wash with soap and water if skin is irritated. If irritation persists obtain medical attention.
Eye Contact:	If irritation occurs, immediately flush eyes with water for at least 15 minutes. DO NOT RUB EYES! If eye irritation persists, obtain medical attention.
Ingestion:	Rinse mouth with water. Call a physician or poison control center for most current information. Do not induce vomiting, unless directed by medical personnel.

#### Section 5 – Fire Fighting Measures

Flash Point (°F):	Not applicable
Auto-Ignition Temp. (°F):	>600
Lower Explosive Level:	Not applicable
Upper Explosive Level:	Not applicable
Extinguishing Medium:	Water spray and foam. Water is the best extinguishing medium. Carbon Dioxide and dry chemicals are not generally recommended because of their lack of cooling capacity may permit re-ignition.
Special Fire Fighting Procedures:	Wear protective clothing and self-contained breathing apparatus in any closed area.
Hazardous Combustion Products:	Combustion gases may include Hydrochloride Acid and Carbon Monoxide.
Unusual Fire or Explosion Hazards:	Dense smoke emitted when burned without sufficient oxygen. Polyvinyl Chloride polymers can cause respiratory and dermal sensitization in susceptible individuals; therefore, this product may pose a contact hazard to fire fighters. When involved in a fire, this material may decompose and produce irritating vapors, acrid smoke, and toxic gases (e.g., Carbon Monoxide, Carbon Dioxide, Hydrogen Chloride, Vinyl Chloride). Polyvinyl Chloride based material will not continue to burn after ignition without external fire source. Do not allow fire fighting runoff water to enter streams, rivers or lakes as the water may contain HCl.

#### Section 6 – Accidental Release Measures

Personal Precautions:	Use appropriate personal protection equipment recommended
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Environmental Precautions:	in Section 8. Contain and don't allow product to contaminate soil, surface water or ground water.
Spill/Leak Procedures:	Vacuum or sweep up spills and place in containers for recovery or dispose of in accordance with applicable federal, state and local regulations.
Regulatory Requirements:	Follow applicable OSHA regulations (29 CFR 1910.10).

### Section 7 – Handling and Storage

Handling Precautions:	Use proper personnel protective equipment when handling material. Minimize dust generation. Avoid breathing hot fumes or vapors. Take proper care to prevent build up of electrostatic charge when handling material. Any disposal practice must be in compliance with local, state and federal laws and regulations (contact local or state environmental agency for specific rules).
Storage Requirements:	Store in a cool, dry and protected area.

### Section 8 – Exposure Controls/Personal Protection

Engineering Controls:	Provide appropriate exhaust ventilation to provide general and/or local ventilation to help maintain airborne concentrations below exposure guidelines.
Respiratory Protection:	No respiratory protection is normally required. In a dusty atmosphere, a NIOSH approved air purifying filter respirator that meets the requirements of 29 CFR 1910.134 may be needed. Wear a full-face self-contained breathing apparatus for respiratory protection when material is overheated or smoldering.
Eye/Face Protection:	For most conditions, eye protection should not be needed; however, in dusty atmosphere and/or conditions, where particles are airborne, wear safety glasses.
Skin Protection:	Wear protective gloves and appropriate clothing to protect the body from hot materials.
General Hygiene Considerations:	Make emergency eyewash stations, safety/quick-drench showers, and washing facilities available in work area.

#### Exposure Guidelines:

No Polymer compound exposure limits have been established. It is suggested that exposure be kept below the limits for respirable and total nuisance dust.

OSHA-PEL: 15 milligrams per cubic meter 8 hr – TWA (total dust)  
5 milligrams per cubic meter 8 hr – TWA (respirable)

ACGIH-TLV: 10 milligrams per cubic meter 8 hr – TWA (total dust)  
3 milligrams per cubic meter hr – TWA (respirable)

The following materials may be present in this product, but under normal conditions are not anticipated to exceed exposure limits:

Chemical	OSHA-PEL	ACGIH-TLV
Calcium Carbonate	15 mg/m <sup>3</sup> 8 hr – TWA (total dust) 5 mg/m <sup>3</sup> 8 hr – TWA (respirable)	10 mg/m <sup>3</sup> 8 hr-TWA
Tin, organic compounds	0.1 mg/m <sup>3</sup> 8 hr – TWA 0.2 mg/m <sup>3</sup> 8 hr – STEL	0.1 mg/m <sup>3</sup> 8 hr – TWA
Hydrogen Chloride	5 ppm Ceiling	2 ppm Ceiling

Acrylic Polymers\*  
Acrylic Copolymers\*  
Paraffin Wax\*

*\*OSHA and ACGIH have not established specific exposure limits for these materials.*

No occupational exposures to Vinyl Chloride monomer exceeding the established exposure limits for this material are anticipated; under normal processing conditions. The OSHA-PEL for Vinyl Chloride is 1 ppm over an 8 hr TWA. The OSHA-STEL for Vinyl Chloride is 5 ppm for any 15 minute period.

During processes involving elevated temperatures, additional hazardous constituents may be released. These constituents should be verified by processor since they are dependent on processing conditions.

### Section 9 – Physical and Chemical Properties

Boiling Point (°F)	N/A
Specific Gravity (H <sub>2</sub> O = 1)	1.10 – 2.60
Vapor Pressure (mm Hg)	N/A
Percent Volatile by Volume (%)	N/A
Vapor Density (Air = 1)	N/A
Evaporation Rate	N/A
Solubility in Water	Negligible

*Appearance and Odor: Powder or Pellets, Opaque or Pigments, Slight Odor*

### Section 10 – Stability and Reactivity

Stability: Material is stable at room temperature under normal storage and handling conditions.

Chemical Incompatibilities: Polyvinyl Chloride compounds should not come in contact with Acetal Homopolymers or Acetal Copolymers in elevated temperature processing equipment. PVC compounds are not compatible with Acetal Polymers or Copolymers and will react in violent decomposition when mixed under conditions of heat and pressure.

Conditions to Avoid: Overheating PVC compound may cause thermal degradation

and may result in product decomposition and evolution of Carbon Monoxide and Hydrogen Chloride. Emissions are also possible during normal processing conditions and may accumulate within an inadequately ventilated facility. Keep away from open flame and oxidizing agents.

Hazardous Decomposition Products: Vapors and fumes including Carbon Monoxide, Carbon Dioxide, Hydrogen Chloride, Oxides of Nitrogen, other hazardous materials and smoke are all possible.

Hazardous Polymerization: Will not occur.

### Section 11 – Toxicological Information

The mixture has not been evaluated as a whole for health effects.

#### Acute Effects:

Eye Effects:	Possible irritation due to dust particles
Acute Inhalation Effects:	Not known
Acute Oral Effects:	Not known

#### Chronic Effects:

Carcinogenicity:	Not a carcinogen
Mutagenicity:	Not known
Teralogenicity:	Not known

### Section 12 – Ecological Information

Persistence and degradability:	Not subject to biodegradation
Ecotoxicity:	Adverse ecological impact is not known or expected under normal use
Bioaccumulation Potential:	No data available

### Section 13 – Disposal Considerations

Recover or recycle:	The product can be recycled like most thermoplastics
Disposal:	Do not dump into any sewers, on the ground, or into any body of water. Dispose of in accordance with federal, state and local laws and regulations. The generator of waste material has the responsibility for proper waste classification, transportation and disposal in accordance with applicable federal, state and local laws and regulations.

### Section 14 – Transport Information

Proper Shipping:	Polyvinyl Chloride
DOT Hazard Class:	None
DOT Shipping Identification Number:	None
DOT Labeling:	None

### Section 15 – Regulatory Information

Regulatory information is not intended to be a comprehensive list of all the regulations. It is the user's responsibility to ensure compliance with federal, state and local laws.

U.S. Regulations:

SARA Title III

Section 302 and 304 (EPCRA emergency planning and release notification). Extremely Hazardous Substances (40 CFR 355): None – Not listed

Section 311 (APCRA hazardous chemical storage reporting requirements); Hazardous Categorization (40 CFR 370): None – Not listed

Section 313: Toxic Substances (40 CFR 372.65): This product does not contain reportable quantities of substances subjected to supplier notification.

CERCLA Hazardous Substances (40 CFR 302.4): None

RCRA: Not applicable

TSCA: All components of this product are listed on or exempt from the TSCA Inventory

CA Proposition 65: This product contains substances known to the State of California to cause cancer and/or reproductive toxicity.

OSHA 29 CFR 1910.1017: This product may contain trace levels (<0.001%) of VCM (CAS number 75-01-4). 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.

Canadian Regulations:

This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations and the MSDS contains all of the information required by the Canadian Controlled Products Regulations.

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.

**Section 16 – Other Information**

NFPA 704: National Fire Protection Association

Health = 1 Fire = 1 Reactivity = 0

*0 = minimal hazard, 1 = slight hazard, 2 = moderate hazard, 3 = sever hazard, 4 = extreme hazard*

Disclaimer:

This information contained herein is furnished without warranty of any kind. Users should consider this data only as a supplement to other information gather by them and must make independent

determinations of suitability and completeness of information from all sources to assure proper use and disposal of these materials and the safety and health of employees and customers and the protection of the environment.

**Definitions and abbreviation:**

ACGIH:	American Conference of Governmental Industrial Hygienists
CA:	California
CAS #:	Chemical Abstracts Service Registry Number
CEPA:	Canadian Environmental Protection Act (Canada)
CEFCLA:	Comprehensive Environmental Response, Compensation, and Liability Act
DOT:	Department of Transportation
DSL:	Domestic Substance List (Canada)
EPA:	Environmental Protection Agency
EPCRA:	Emergency Planning and Community Right-to-Know Act
HCl:	Hydrogen Chloride gas, Hydrochloride acid
HSDB:	Hazardous Substance Data Base
IARC:	International Agency for Research on Cancer
MSDS:	Material Safety Data Sheet
NFPA:	National Fire Protection Association
NIOSH:	National Institute for Occupational Safety and Health
NTP:	National Toxicology Program
OSHA:	Occupational Safety and Health Administration
PEL:	Permissible Exposure Limit
PMMA:	Polymethyl Methacrylate
ppm:	Parts per Million
PVC:	Polyvinyl Chloride
RCRA:	Resource Conservation and Recovery Act
RTECS:	Registry of Toxic Effects of Chemical Substances
SARA:	Superfund Amendments and Reauthorization Act
STEL:	Short Term Exposure Limit
TLV:	Threshold Limit Values
TSCA:	Toxic Substance Control Act
TWA:	Time Weighted Average
VCM:	Vinyl Chloride Monomer
WHMIS:	Workplace Hazardous Material Information System (Canada)