

## MATERIAL SAFETY DATA SHEET

Flexible PVC Compound  
Category 4 (Non-Lead, Non-Antimony)  
Update February 27, 2015

### 1. CONTACT INFORMATION

**Manufacturer's Name/Address:**

B. Schoenberg & Co., Inc., 345 Kear Street, Yorktown NY 10598

**Emergency Phone/Information Phone:**

914-962-1200

### 2. COMPOSITION/INFORMATION ON INGREDIENTS

Compounded PVC is an inert material in its normal usage. All the components listed below are encapsulated in the PVC matrix. *Typical* compositions are listed below.

Component	Wt. %	CAS #	
Polyvinyl Chloride polymer	45-80%		
Inert fillers	0 – 40%	1317-65-3	Limestone
Plasticizers	0- 60%		High molecular weight esters
Colorant	0 – 5%		Organic and inorganic colorants

### 3. HAZARDS IDENTIFICATION

#### PRECAUTIONARY INFORMATION

**Caution:** If proper procedures for processing PVC compounds are not followed, processing vapors can be liberated at elevated temperatures. The presence of these vapors may result in exposure. Additionally, the composition of these 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 processing emissions during periods of elevated temperature.

**Eye:**

Vapors emitted during processing involving elevated temperatures may cause eye irritation. Dust resulting from the handling of powder may be irritating to the eyes.

**Skin Contact:**

Vapors emitted during processing involving elevated temperatures may cause skin irritation. Dust resulting from the handling of powder may be irritating to the skin.

### 3. HAZARDS IDENTIFICATION (continued)

**Skin Absorption:**

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

**Ingestion:**

Slightly toxic by ingestion. Dust may become airborne during handling, resulting in the potential for incidental ingestion. Vapors emitted during processing involving elevated temperatures may be ingested at low levels. Adequate ventilation should be provided.

**Inhalation:**

Dust may become airborne during handling, resulting in potential inhalation exposure. Vapors emitted during processing involving elevated temperatures may be inhaled if not adequately ventilated.

**HAZARD CLASSIFICATION:****Acute Effects:**

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

**Chronic Effects:**

Chronic exposure to vapors heated or thermally decomposed plastics may cause an asthma-like syndrome due to the inhalation of processing vapors or fumes. The onset of irritation may be delayed for several hours. 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 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 additives used to make PVC compound may contain metals, which in some chemical forms are suspended or confirmed carcinogens. These metals, if present, are bound in the crystalline structure of the additive, and to the supplier's best knowledge, do not present a significant health risk. Additionally, the low levels of additives used in PVC compounds are also bound in the polymer matrix and to the best of the supplier's knowledge, do not present a significant health risk.

### 4. FIRST AID MEASURES

**Inhalation:**

Remove to fresh air. Obtain medical attention immediately if irritation persists.

**Skin Contact:**

Flush with water to remove material from skin. Obtain medical attention if irritation persists.

**Eye Contact:**

Flush with large amounts of water for 15 minutes. Obtain medical attention if irritation persists.

## 4. FIRST AID MEASURES (continued)

**Ingestion:**

No effect expected. If large amounts are ingested seek medical attention. Only induce vomiting at the instructions of a physician.

## 5. FIRE FIGHTING MEASURES

**Flash Ignition Temperature** >600 Fahrenheit

**Flammable Limits (% by volume)**

Lower Explosive Limit Not applicable

Upper Explosive Limit Not applicable

**Auto ignition Temperature** Not applicable

**Fire Fighting Procedures/Fire Extinguishing Media:**

Carbon dioxide or water

**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.

**Protect the Environment:**

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

**Clean Up:**

Sweep or vacuum material and place in a disposal container. See section 11.

## 7. HANDLING AND STORAGE

**Handling:**

Use the proper personal protective equipment during handling. Minimize dust generation and accumulation. Use good housekeeping practices.

**Storage:**

Store in a cool, dry, protected area away from heat, sparks and flame.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

*All personal protective equipment should be selected in accordance with the hazard assessment required by 29 CFR 1910.132 (d).*

**Respiratory Protection:**

For most conditions, no respiratory protection should be needed. However, if dust is produced during handling, a NIOSH approved air purifying filter respirator that meets the requirements of 29 CFR 1910.134 should be used. Full-face self-contained breathing apparatus may be needed when dealing with vapors from the

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION (continued)

combustion of product. Respirators must be selected based on the airborne levels found in the workplace and must not exceed the working limits of the respirator.

### Eye Protection:

Safety glasses/chemical goggles.

### Skin Protection:

Skin protection meeting the requirements of 29 CFR 1910.132 may be needed. Under normal conditions, work clothing should be sufficient. Wash skin if contacted by PVC powder or pellets. Wash contaminated clothing before reusing. Gloves for thermal protection may be necessary when handling hot or molten compound.

### Ventilation:

May be necessary to provide general and/or local ventilation to help maintain airborne concentrations below exposure guidelines. Local exhaust ventilation should comply with OSHA regulations and the American Conference of Industrial Hygienists' *Industrial Ventilation – a Manual of Recommended Practice*".

### 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	15mg/M <sup>3</sup> 8-hr TWA (total dust)	ACGIH	10mg/M <sup>3</sup> 8-hr TWA (inhalable)*
	5mg/M <sup>3</sup> 8-hr TWA (respirable)		3mg/M <sup>3</sup> 8-hr TWA (respirable)*

\*The ACGIH has withdrawn the TLV for particulates not otherwise identified. The values listed above are recommendations from Appendix B of ACGIH TLV book.

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

Chemical	OSHA-PEL	ACGIH-TLV
Calcium carbonate	15mg/M <sup>3</sup> 8 hr. TWA (total dust) 15mg/M <sup>3</sup> 8-hr TWA (respirable)	10mg/M <sup>3</sup> 8-hr TWA
Carbon black	3.5mg/M <sup>3</sup> 8-hr TWA	3.5mg/M <sup>3</sup> 8-hr TWA
Titanium dioxide	15mg/M <sup>3</sup> 8-hr TWA	10mg/M <sup>3</sup> 8-hr TWA (total dust)
Hydrogen chloride	5 ppm ceiling	2 ppm ceiling

Additional hazardous constituents may be released during processing 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 OSHA-STEL for vinyl chloride is 5 ppm for any 15-minute period.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Pellets of varying size, hardness and color
Odor	No distinct odor
Boiling point	Solid
Melting point	Varies
Solubility	None
Specific gravity (Water = 1.0)	1.15-1.7
Vapor density (Air = 1.0)	N/A
Vapor Pressure	N/A
pH	N/A

## 10. STABILITY AND REACTIVITY

### Stability:

Stable under normal conditions.

### Polymerization:

Hazardous polymerization does not occur.

### Hazardous Decomposition Products:

Overheating may cause thermal degradation of PVC compound. Fumes and vapors (including CO, CO<sub>2</sub> and HCl) may be generated during this thermal degradation. Emissions are also possible during normal operating conditions and may accumulate within an inadequately ventilated facility.

### Incompatible Materials:

Do not allow this product to come in contact with acetal or acetal copolymers within the extruder or molding machine. At processing conditions, the two materials are mutually destructive and involve rapid degradation of the products. Equipment should be purged with acrylic, ABS, polystyrene or other purge compound to avoid even trace amounts of this product and acetals coming in contact with each other.

## 11. TOXICOLOGICAL INFORMATION

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

### Animal Toxicity:

Oral	Rat, TD <sub>LO</sub>	210 gm/kg	TD <sub>LO</sub> : Lowest toxic dose in a given species by a given route of exposure.
Inhalation	Mouse, LC <sub>50</sub>	140mg/ M <sup>3</sup> /10M	LC <sub>50</sub> : Concentration that is lethal to 50% of a given species by a given route of exposure.

Rodents exposed to PVC by dietary or inhalation routes for 6 to 24 months have shown no significant toxicological effects.

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. However, exposures approaching the nuisance dust limits are not anticipated to pose a significant risk.

## 12. ECOLOGICAL INFORMATION

### Environmental Fate:

Aquatic	No data available.
Biodegradation	Not subject to biodegradation.

### Eco toxicity:

Based on the high molecular weight of the polymeric material, transport of this compound across biological membranes is unlikely. Accordingly, the probability of environmental toxicity or bioaccumulation in the 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.