

Material Safety Data Sheet: PVC COMPOUNDS (RIGID) PELLET AND POWDER

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product name	PVC Compounds 2000 thru 3999 & 5000 thru 9999 Pellet and Powder: All Colors
Effective Date	January 28, 2013
Synonyms	Polyvinyl Chloride compound, chloroethylene homopolymer compound
Chemical Formula	$(C_2H_3Cl)_n$ plus functional additives
CAS Name & No.	Not applicable (mixture)
Name and address	Axial, LLC PVC Compound Division 210 Industrial Dr. North Madison, MS, USA 39110
Emergency telephone number	For transportation emergencies: CHEMTREC (800) 424-9300 For all other emergencies: (225) 685-2500
MSDS Contact	Corporate Health & Safety Department P.O. Box 629 Plaquemine, LA 70765-0629 Phone Number (225) 685-2500



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2. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS No.	WT%
Polyvinyl Chloride Resin	9002-86-2	>30%
Organotin or Calcium-zinc	Mixture	<5%
Proprietary Additives	Mixture	<70%

3. HAZARDS 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.

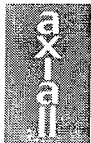
Eye: Vapors or fumes emitted, due to other than normal processing conditions, may cause eye irritation. Dust resulting from the handling of powder may be irritating to the eyes.

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.



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3. HAZARDS IDENTIFICATION (continued)

HAZARD CLASSIFICATION

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 may be 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.



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5. FIRE FIGHTING MEASURES

Flash Ignition Temperature

>600°F

Flammable Limits (% By Vol.)

Lower Explosive Limit (LEL)

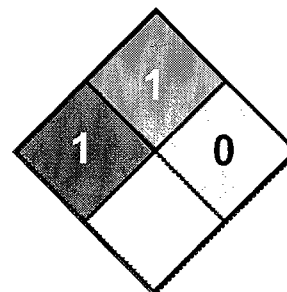
Not Applicable

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 fire fighting 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

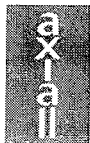
Remove unnecessary personnel from the release area. Wear appropriate personal protection equipment during clean-up.

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.



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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 over head 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

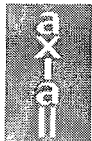
Provide general and/or local exhaust ventilation to control airborne levels below the exposure guidelines. Adequate ventilation should be provided as conditions warrant. Local exhaust ventilation should comply with OSHA regulations and the American Conference of Governmental Industrial Hygienists, Industrial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



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8. EXPOSURE CONTROLS/PERSONAL PROTECTION (Continued)

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.

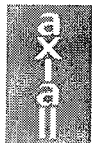
The following materials may be present in this product, but are not anticipated to exceed exposure limits under normal conditions:

Chemical	OSHA-PEL	ACGIH-TLV
Calcium Carbonate	15 mg/M ³ 8 hr-TWA (total dust) 5mg/M ³ 8 hr-TWA (respirable)	10 mg/M ³ 8 hr-TWA
Carbon Black	3.5 mg/M ³ 8 hr-TWA	3.5 mg/M ³ 8 hr-TWA
Titanium Dioxide	15 mg/M ³ 8 hr-TWA	10 mg/M ³ 8 hr-TWA (total dust)
Antimony Trioxide	N/A	0.5 mg/M ³ 8 hr-TWA
Barium Compounds (soluble)	0.5 mg/M ³ 8 hr-TWA	0.5 mg/M ³ 8 hr-TWA
Arsenic Compounds	0.5 mg/M ³ 8 hr-TWA (organic) 0.01 mg/M ³ 8 hr-TWA (inorganic)	0.01 mg/M ³ 8 hr-TWA (elemental/inorganic)
Chromium Compounds	0.5 mg/M ³ 8 hr-TWA (Cr II and Cr III)	0.5 mg/M ³ 8 hr-TWA (Metals and Cr III)
Tin, organic compounds	0.1 mg/M ³ 8 hr-TWA	0.1 mg/M ³ 8 hr-TWA 0.2 mg/M ³ STEL
Hydrogen chloride	5 ppm Ceiling	2 ppm Ceiling
Vinyl Chloride Monomer	1.0 ppm, 8-hour TWA 5.0 ppm, peak exposure for 15-min. STEL	1 ppm 8hr-TWA

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 OSHA-STEL for vinyl chloride is 5 ppm for any 15minute 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.



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9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Pellets or Powder
Odor	Odorless to Mild
Boiling Point, Melting Point, Freezing Point	Not Applicable
Specific Gravity (Water = 1.0)	1.25 - 1.55
Vapor Pressure (mm of Mercury)	< 0.1
pH	Not Applicable – Solid

10. STABILITY AND REACTIVITY

Stability

Stable

Polymerization

Hazardous polymerization dose not occur.

Conditions To Avoid

Instantaneous temperatures above 420°F/215°C, prolonged heating at processing temperatures, or excessive shear/heat combinations during processing can generate hazardous decomposition products.

Hazardous Decomposition Products

Overheating may cause thermal degradation of PVC compound. Fumes and vapors (including CO, CO₂, 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

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.



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11. TOXICOLOGICAL INFORMATION

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

Animal Toxicity

Oral:	Rat, TD _{LO}	210 gm/kg
Inhalation:	Mouse, LC ₅₀	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.



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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</u>	<u>PRESSURE</u>	<u>REACTIVE</u>
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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%



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15. REGULATORY INFORMATION CONTINUED

CERCLA

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

<u>COMPONENT</u>	<u>CAS No.</u>	<u>WT. %</u>	<u>RO (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. OTHER INFORMATION

IMPORTANT: The information and data herein are believed to be accurate and have been compiled from sources believed to be reliable. It is offered for your consideration, investigation and verification. Buyer assumes all risk of use, storage, handling and disposal of the product in compliance with applicable federal, state, and local laws and regulations. **AXIALL, LLC MAKES NO WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, CONCERNING THE ACCURACY OR COMPLETENESS OF THE INFORMATION AND DATA HEREIN.** Axiall, LLC will not be liable for claims relating to any party's use of or reliance on information and data contained herein regardless of whether it is claimed that the information and data are inaccurate, incomplete or otherwise misleading. This information relates to the material designated and may not be valid for such material used in combination with any other materials nor in any process.

MSDS Revision: 1/28/2013, Company name change

Supersedes 06/09/2011