

**Material Safety Data Sheet: PVC Compound Color Concentrate  
(Heavy Metals)**

**1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION**

**Product name** PVC Compound Color Concentrate (Heavy Metals)

**Effective date** May 16, 2008

**Synonyms** chloroethylene homopolymer compound

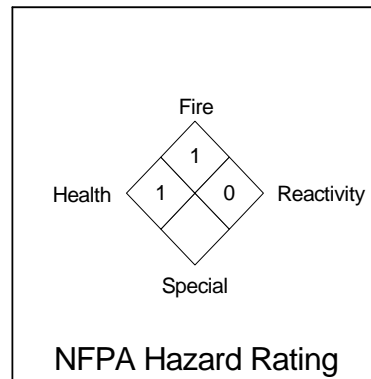
**Chemical formula**  $(C_2H_3Cl)_n$

**CAS name & no.** Not applicable (mixture)

**Manufacturer's name and address** Georgia Gulf Chemicals & Vinyls, LLC  
PVC Compound Division  
10068 Summit Dr.  
Prairie, MS, USA 39756

**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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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:

<b>Component</b>	<b>Wt. %</b>	
Polyvinyl Chloride Polymer	30 – 80%	
Inert Fillers	0 – 40 %	CACO <sub>3</sub> , talc, carbon black, TiO <sub>2</sub> , clay
Heat Stabilizer	1 – 3%	Organometallic compounds
Plasticizer	0 – 60 %	High molecular weight esters
Colorant	0 – 40%	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.

**Skin Absorption:** This material is initially a dry solid; 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 temperature 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.

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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 from 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 suspected 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.

The Report on Carcinogens, 11<sup>th</sup> Edition reported lead and lead compounds as reasonably anticipated to be human carcinogens based on limited evidence from studies in humans and sufficient evidence from studies with experimental animals.

**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.

**Ingestion**

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

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**5. FIRE FIGHTING MEASURES**

<b>Flash Ignition Temperature</b>	>600°F
<b>Flammable Limits (% By Vol.)</b>	
Lower Explosive Limit (LEL)	Not Applicable
Upper Explosive Limit (UEL)	Not Applicable
<b>Autoignition Temperature</b>	Not Applicable

**Fire Fighting Procedures/Fire Extinguishing Media**

Carbon dioxide or water.

**Unusual Fire and Explosion Hazards**

PVC evolves hydrogen chloride, carbon monoxide, and other gases when burned. Exposure to combustion products may be fatal and should be avoided. PVC Compounds will not normally continue to burn after ignition without an external fire source. Do not allow fire fighting runoff water to enter streams, rivers or lakes. The water may collect HCl and other combustion products.

**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.

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

\*The ACGIH has withdrawn the TLV for Particulates not otherwise classified. 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	15 mg/M <sup>3</sup> 8 hr-TWA (total dust) 5mg/M <sup>3</sup> 8 hr-TWA (respirable)	10 mg/M <sup>3</sup> 8 hr-TWA
Carbon Black	3.5 mg/M <sup>3</sup> 8 hr-TWA	3.5 mg/M <sup>3</sup> 8 hr-TWA
Lead Compounds	0.05 mg/M <sup>3</sup> 8 hr-TWA	0.05 mg/M <sup>3</sup> 8 hr-TWA
Barium Compounds (soluble)	0.5 mg/M <sup>3</sup> 8 hr-TWA	0.5 mg/M <sup>3</sup> 8 hr-TWA
Lead Chromate	N/A	0.05 mg/M <sup>3</sup> 8 hr-TWA (as Pb) 0.012 mg/M <sup>3</sup> 8 hr-TWA (as Cr II and Cr III)
Titanium Dioxide	15 mg/M <sup>3</sup> 8 hr-TWA	10 mg/M <sup>3</sup> 8 hr-TWA (total dust)
Hydrogen chloride	5 ppm Ceiling	2 ppm Ceiling

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(continued)**

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**

<b>Appearance</b>	Pellets
<b>Odor</b>	No distinct odor
<b>Boiling Point</b>	Solid
<b>Melting Point</b>	Varies
<b>Solubility</b>	None
<b>Specific Gravity (Water = 1.0)</b>	1.15 – 1.7
<b>Vapor Density (Air = 1.0)</b>	Not Applicable
<b>Vapor Pressure</b>	Not Applicable
<b>pH</b>	Not Applicable

**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 from coming in contact with each other.

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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
Inhalation:	Mouse, LC <sub>50</sub>	140 mg/M <sup>3</sup> /10M

TD<sub>LO</sub> = Lowest toxic dose in a given species by a given route of exposure.

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 exposure limits are not anticipated to pose a significant health risk.

**12. ECOLOGICAL INFORMATION****Environmental Fate:**

<b>Aquatic:</b>	No data available
<b>Biodegradation:</b>	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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<b>Proper Shipping Name</b>	Polyvinyl Chloride
<b>DOT Hazard Class</b>	Non-hazardous
<b>DOT Shipping I.D. No.</b>	None
<b>PG</b>	None
<b>Labeling</b>	None
<b>RQ</b>	N/A

**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)**

ACUTE                      CHRONIC                      FIRE                      PRESSURE                      REACTIVE

Not Listed

**Section 313 Toxic Chemicals (40 CFR 372.65)**

<u>COMPONENT</u>	<u>CAS No.</u>	<u>WT. %</u>
Barium Compounds	N040	0-5%
Chromium Compounds	N090	0-5%
Lead Compounds	N420	0-5%
Zinc Compounds	N982	0-5%

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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

**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 and handling of the product in compliance with applicable federal, state, and local laws and regulations.

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MSDS Status:      Origination Date: 05/16/08

Supercedes: 03/09/05