MATERIAL SAFETY DATA SHEET

Vinyl/Wood Pellet -

Formula D

I - GENERAL INFORMATION

Manufacturer:	Andersen Corporation	**Date Prepared:**	12/15/92
		Revision Date:	11/17/95
Address:	100 North Fourth Avenue Bayport, MN 55003-1096	**Prepared by:**	Timothy M. Johnson, CIH Bay West, Inc.
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Product Name:	Vinyl/Wood Pellet	**Hazard class:**	Nonhazardous

II - PRODUCT INGREDIENTS/IDENTITY INFORMATION

The vinyl/wood pellets are produced from polyvinyl chloride resin and wood dust. The polyvinyl chloride resin contains several hazardous materials listed below. The PELs and TLVs listed below pertain to the ingredients when employees are exposed by inhalation of airborne dusts (particulate) or vapors. In the form of a pellet, under normal handling it is unlikely that any of the components will be released as a particulate or vapor. Some release of components may occur during high temperature processing or mechanical activities that cause the formation of dust.

Component (CAS #)	Percent Composition	OSHA PEL (TWA)	ACGIH TLV (TWA)
Andersen Vinyl Blend	~60-62%	5 mg/m³† 15 mg/m³‡	10 mg/m³
Polyvinyl chloride resin	(>50%)	5 mg/m³† 15 mg/m³‡	10 mg/m³
Titanium dioxide (13463-67-7)	(<2%)	5 mg/m³† 15 mg/m³‡	10 mg/m³
Acrylic polymer blend (25852-37-3/9010-88-2)	(<1%)	5 mg/m³† 15 mg/m³‡	10 mg/m³
N,N'-ethylene bis(stearamide) (110-30-5)	(<3%)	5 mg/m³† 15 mg/m³‡	10 mg/m³
Organotin compounds (57583-35-4/57583-34-3)	(<1%)	0.1 mg/m³ (skin)	0.1 mg/m³ (skin)
Calcium stearate (1592-23-0)	(<2%)	none exists	10 mg/m³
Wood (as dust)	~40%	5 mg/m³ 10 mg/m³ (STEL)	5 mg/m³ 10 mg/m³ (STEL)
ponderosa pine	(95%)		
laminated veneer lumber	(4%)		
douglas fir	(<1%)		
hemlock	(<1%)		

† applies to respirable dust
‡ applies to total dust

PEL is the Occupational Safety and Health Administration (OSHA) Permissible Exposure Limit and represents exposure concentrations that should not be exceeded.

TLV is the American Conference of Industrial Hygienists (ACGIH) Threshold Limit Value and refers to airborne concentrations of substances and represents conditions under which it is believed that nearly all workers may be repeatedly exposed day after day without adverse health effects.

III - CHEMICAL/PHYSICAL PROPERTIES

Melting point: NA **Boiling point:** NA **Vapor pressure:** nil

Evaporation rate: nil **Vapor density:** NA **Density (bulk):** 0.7 g/cm^3

Water solubility: nil **Appearance and odor:** off white, cylindrical, solid, pellets averaging 0.25 inches in length and 0.2 inches in diameter; slight plastic odor

IV - FIRE AND EXPLOSION HAZARD DATA

Flashpoint: Not established for the product, but expected to be greater than 400°F based on product component information.

Flammable limits: LEL = NA UEL = NA

Extinguishing media: Water (most effective), ABC dry chemical, and AFFF and protein type air foams.

Special fire-fighting procedures and precautions: Use pressure-demand Self-Contained Breathing Apparatus (SCBA).

Unusual fire and explosion hazards: The pellets may burn like any normal combustible material, but are difficult to ignite. Combustion of the pellets will yield carbon monoxide and hydrogen chloride as the primary toxic products. Carbon monoxide (PEL-TWA = 35 ppm, PEL-C = 200 ppm) interferes with transport of oxygen from the lungs causing oxygen deficiency in the body with symptoms of central nervous system impairment. Hydrogen chloride (PEL-C = 5 ppm) is an eye and upper respiratory irritant. Combustion of this vinyl-containing product does not yield phosgene, acrolein, or vinyl chloride.

NFPA hazard rating: *Health = 2 Flammability = 1 Reactivity = 0*
((0 = insignificant hazard, 1 = slight, 2 = moderate, 3 = high, 4 = extreme)

V - REACTIVITY DATA

Stability: Stable

Conditions to avoid: Contact with incompatible substances; prolonged heating above 200°C (392°F) or short term heating at 250°C (482°F) which may result in thermal decomposition of the polymer with rapid evolution of hydrogen chloride.

Hazardous decomposition products: Carbon monoxide, carbon dioxide, hydrogen chloride, and small amounts of benzene, aromatic and aliphatic hydrocarbons.

Incompatibility (materials to avoid): Avoid contact with strong oxidizers. Avoid any contact with acetal or acetal copolymers and with amine-containing materials during processing, which may accelerate decomposition.

Hazardous polymerization: will not occur

VI - HEALTH HAZARD DATA

Route(s) of entry:	Inhalation	Skin	Ingestion
	yes	no	no

Acute health effects: Exposure to the product at ambient conditions is not expected to cause any adverse health effects. At high temperatures of processing, fumes, gases, and vapors (thermal decomposition products) may be evolved which can cause eye and upper respiratory irritation.

Chronic health effects: Effects of chronic exposure to fumes, gases, and vapors have not been determined.

Carcinogenicity: *OSHA - no* *IARC- no* *NTP - no*

Emergency and first aid procedures:

Inhalation: Remove victim to a clean air area. Monitor breathing. Provide breathing assistance as necessary. Contact emergency medical services if breathing is difficult.

Skin: Practice good personal hygiene. If skin is contacted by hot material, treat as a burn.

Ingestion: Not an anticipated hazard.

VII - PRECAUTIONS FOR SAFE HANDLING AND USE

Avoid breathing thermal decomposition products generated during processing. Practice good personal hygiene when working with the product. Wash thoroughly before eating, smoking, or using toilet facilities. Do not store, consume, or prepare food in the processing areas.

Cleanup following normal melt processing should be performed under well-ventilated conditions. Avoid conditions that may lead to decomposition, such as holding the product in heated process equipment. Degradation begins to occur after one hour at 177°C (350°F), about ten minutes at 204°C (400°F) and within five minutes at 232°C (450°F). Unprotected metal processing equipment may be damaged by corrosion if product is left in contact for extended periods of time.

Product on the floor may present a slipping hazard. Keep work areas and walkways clean by sweeping up spilled product. Store away from fire, hot surfaces, and sources of ignition.

VIII - SPILL AND LEAK PROCEDURES

Recover spilled material by vacuuming or sweeping. Containerize for reuse or disposal.

Dispose of solid waste in accordance with local, state, and federal regulations.

Numerous similar polyvinyl chloride resin-containing products have been tested and found to be not hazardous in accordance with the Toxicity Characteristic Leaching Procedure (TCLP, USEPA). Note that any chemical modification of this product may change the TCLP test results.

IX - CONTROL MEASURES

Respiratory protection: NIOSH/MSHA-approved respirators may be worn in accordance with a written respiratory protection program (per 29 CFR 1910.134 *Respiratory Protection*) to prevent exposure to thermal decomposition products or dusts at concentrations above the OSHA PEL.

Ventilation: Provide local exhaust ventilation and general room ventilation to maintain exposure concentrations of thermal decomposition products below the respective OSHA PELs. Ventilation may be required for the following processes: hot melt processing (molding or extruding), cutting or sawing, machining, regrinding, thermoforming, heat welding, and other post-processing operations involving heat sufficient to cause thermal degradation.

Protective gloves: Wear gloves that protect against heat when handling hot material during processing.

Eye protection: Wear safety glasses or chemical splash goggles.

Other protective clothing or equipment: A work coverall can be worn to protect the skin during the workshift. If exposure is substantial, the coverall should be changed at the end of the workshift.

Work/Hygienic practices: Avoid overheating the pellets to minimize generation of thermal decomposition products. Maintain a clean work floor to minimize slipping hazards presented by the pellets.

Information used in this material safety data sheet for the polyvinyl chloride portion of the vinyl/wood pellets was taken, in part, from the BF**Goodrich** Geon Vinyl Division Material Safety Data Sheet for **Geon® Resin 110X427**, issued May 1992.