PLY GEM INDUSTRIES, INC.	**MATERIAL SAFETY DATA SHEET**	**RIGID SIDING AND ACCESSORIES &** **PLY GEM TRIM AND MOULDINGS** PLY GEM TRIM | MOULDINGS

SECTION 1: Chemical Product and Company Information

COMMON NAME: Vinyl Siding and Other Accessories
PRODUCT USE: Home and Building Construction Component
SYNONYM: Siding, Vinyl Trim, Poly Vinyl Chloride, PVC, Chloroethylene Polymer
BRANDS Ply Gem, Mastic, Variform, NAPCO, Georgia Pacific, Durabuilt

MANUFACTURER SUPPLIER:/ Ply Gem Industries 1-800-788-1964
2600 Grand Blvd., Suite 900
Kansas City, MO 64108

EMERGENCY INFORMATION:: USA: Chemtrec
1-800-424-9300 or 1-703-527-3887

SECTION 2: Chemical Composition

Vinyl Siding is manufactured from PVC polymer 9002-86-2, inert fillers, process aids, waxes, colorants, and heat stabilizers. Shipping containers may contain traces of inert dust

CAS #	Component	Percent
9002-86-2	Polyvinyl chloride	60-80
9003-07-0	Polypropylene: Insulated (Foam Back) Products	0-20
13463-67-7	Titanium dioxide	8-10
Proprietary	Proprietary ingredients	5-10

SECTION 3: Hazards Identification

PHYSCAL STATE AND APPERANCE:

- Solid, Various Colors, Plastic, Plastic Odor

EMERGENCY OVERVIEW:

- Not hazardous under recommended conditions of use. If heated to decomposition, toxic fumes may be released. Contact with molten material can cause thermal burns. Combustible at high temperatures. Self extinguishes if flame or heat source is removed.

- This product is considered an article and does not pose any health hazard under normal conditions of use. The health effects listed below are not likely to occur unless processing or combustion of this product generates dust or fumes

IF DUSTS OR FUMES ARE GENERATED BY PROCESSING:

- **Inhalation**: Can cause irritation of upper respiratory tract
- **Eyes**: Can cause irritation.
- **Skin**: Can cause irritation. Contact with molten material can cause thermal burns.

ROUTES OF ENTRY:

- Inhalation or eye contact.

POTENTIAL ACUTE HEALTH EFFECTS:

- None expected with normal use.

CHRONIC HEALTH EFFECTS:

- None expected with normal use. Not classified as a carciogen by IARC, NTP, OSHA, EU, or ACGIH. No Mutagenic or Teratogenic effects. Fibrotic lung changes and altered pulmonary function may occur with heavy long term PVC dust exposure.

HEALTH EFFECTS OF INGREDIENTS:

- Titanium dioxide can cause irritation of eyes and respiratory tract. Chronic overexposures: Can cause chronic bronchitis.

HEALTH EFFECTS OF ADDITIONAL COMPOUNDS THAT MAY BE FORMED DURING PROCESSING:

- Combustion can generate hydrogen chloride gas. **Hydrogen chloride gas** can cause severe irritation and corrosive burns of eyes, skin and upper respiratory tract. Acute overexposures: Can cause fluid in the lungs (pulmonary edema).

AGGREVATED MEDICAL CONDITIONS:

- Repeat or prolonged exposure is not known to aggravate medical conditions with normal usage.

SECTION 4: First Aid Measures

FIRST AID: EYES

- Dust exposures: Flush eyes with plenty of water or saline for at least 15 minutes. Consult a physician

FIRST AID: SKIN

- Dust exposures: Wash skin with soap and water for at least 15 minutes. Consult a physician if irritation persists.

FIRST AID: INHALATION:

- Dust exposures: Remove to fresh air. If unconscious or severely injured, check for clear airway, breathing and presence of pulse. Perform CPR if there is no pulse or respiration. Consult a physician

SECTION 5: Fire Fighting Measures

FLASH POINT

- 850ºF (454ºC)

FLAMMABLE/COMBUSTIBLE PROPERTIES

- While not considered "flammable" or "combustible" as defined by OSHA or DOT, the material will burn if exposed to a strong ignition source.

FIRE/EXPLOSION

- Dust or fines dispersed in the air can be explosive if subjected to a strong ignition source.

EXTINGUISHING MEDIA

- Use dry chemical, water spray (fog) or foam

FIRE FIGHTING EQUIPMENT/INSTRUCTIONS

- Fire fighters should wear NIOSH approved, positive pressure, self-contained breathing apparatus and full protective clothing when appropriate.

PRODUCTS OF COMBUSTION

- Carbon Monoxide, hydrochloric acid, and phosgene are the major pyrolysis products of concern. Other combustion products from incomplete combustion of organic compounds should be anticipated

OTHER EXPLOSION HAZARDS

- May generate static discharge spark when handled. Not sensitive to impact or spark

SECTION 6: Accidental Release Measures

SMALL OR LARGE SPILL

- Remove all open flames and sources of ignition. Product is stable solid. Spilled materials may be picked up and discarded. Vacuuming or wet methods preferred if dusts are present.

SECTION 7l Handling and Storage

HANDLING STORAGE

- Product is stable at ambient temperatures. Keep away from heat, flame chemicals. Avoid generating dust.

SECTION 8: Exposure Controls / Personal Protection

EXPOSURE LIMITS: OSHA PEL – NUISANCE DUST

OSHA PEL	• 5 mg/m3 respirable • 15 mg/m3total dust
ACGIH	• 3 mg/m3 respirable • 10 mg/m3 inhalable
DFG MAK	• 1.5 mg/m3

ENGINEERING CONTROLS

- Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, use ventilation to keep exposure to airborne contaminants below the exposure limit.

PERSONAL PROTECTIVE EQUIPMENT

- RESPIRATORY PROTECTION
  - Exposures that cannot be controlled with engineering or work practices may be controlled with respiratory protection. Depending on the severity of the exposure, respirator protection is recommended as in the table below.

U to 1.5 mg/m3	• 5 mg/m3 respirable • 15 mg/m3 total dust
1.5 mg/m3	• N-95 Dust Mask
Greater than 15 mg/m3	• Supplied Air
If hydrogen chloride is generated	• N-95 Acid Gas Cartridge

- EYE PROTECTION
  - When cutting, wear safety glasses and/or goggles to prevent foreign particles from being projected in the eyes.
- SKIN PROTECTION
  - Wear appropriate gloves to avoid any skin injury.
- GENERAL
  - During the melting of polyvinyl chloride plastics, monitoring for employee exposures to formaldehyde and residual vinyl chloride monomer is recommended.
- COMPONENT EXPOSURE LIMITS
  - TITANIUM DIOXIDE (13463-67-7)
    - ACGIH 10 mg/m3 TWA
    - OSHA 15 mg/m3 TWA (total dust)
    - Proprietary ingredients (Proprietary)
    - ACGIH 10 mg/m3 TWA (particulate matter containing no asbestos and < 1% crystalline silica)
    - OSHA 15 mg/m3 TWA (total dust); 5 mg/m3 TWA (respirable fraction)
- ADDITIONAL COMPOUNDS WHICH MAY BE FROMED DURING PROCESSING
  - HYDROGEN CHLORIDE (7647-01-0)
    - ACGIH 2 ppm Ceiling
    - OSHA 5 ppm Ceiling; 7 mg/m3 Ceiling

SECTION 9: Physical & Chemical Properties

PHYSICAL STATE:	Solid Plastic	**APPEARANCE:**	Various colors
BOILING POINT:	Not applicable	**MELTING POINT:**	Not determined
VAPOR PRESSURE:	Not applicable	**VAPOR DENSITY:**	Not Applicable
SOLUBILITY IN WATER:	None	**SPECIFIC GRAVITY:**	Approximately 1.5
DENSITY:	See Specific Gravity	**pH LEVEL:**	Not Applicable
ODOR:	Plastic, resin odor	**ODOR THRESHOLD:**	Not determined
OCTANOL-WATER COEFFICIENT		Not applicable	
PHYSICIAL PROPERTIES		Heat deflection temp: 160°F (71°C	

SECTION 10: Chemical Stability and Reactivity Information

STABILITY AND REACTIVITY

- Stable and inert

CONDITIONS OF INSTABILITY

- Not known

INCOMPABILITY WITH OTHER SUBSTANCES

- The product can dissolve in hydrocarbon solvents; especially ketones, esters, aromatic hydrocarbons and halogenated organic solvents.

HAZARDOUS DECOMPOSITION PRODUCTS

- Carbon Monoxide, Carbon dioxide, hydrochloric acid, and phosgene are the major pyrolysis products of concern. Other combustion products from incomplete combustion of organic compounds and smoke particulate should be anticipated

HAZARDOUS POLYMERIZATION

- Will not occur.

SECTION 11: Toxicological Information

HEALTH EFFECTS OF INGREDIENTS

- **General Product Information**
  - No information available for product
- **Component Analysis - LD50/LC50**
  - **Proprietary ingredients (Proprietary)**
    - Oral LD50 Rat: 6450 mg/kg

CARCINOGENICITY

- **General Product Information**
  - No information available
- **Component Carcinogenicity**
  - **Polyvinyl chloride (9002-86-2)**
    - IARC Supplement 7, 1987; Monograph 19, 1979
  - **Polypropylene (9003-07-0)**
    - ARC Supplement 7, 1987; Monograph 19, 1979
  - **Titanium dioxide (13463-67-7)**
    - ACGIH A4 - Not Classifiable as a Human Carcinogen
    - IARC Monograph 47, 1989

SECTION 12: Ecological Information

ECOTOXITY

- No data indicating toxicity to aquatic or terrestrial life.

FATE AND TRANSPORT

- Polyvinyl chloride discharged into the environment may occur as particulate in air emissions and suspended solids in water and as components of solid wastes.

PERSISTENCE

- Product persists in the environment indefinitely. Product disintegrates slowly with exposure to heat and light. Product may degrade in anaerobic conditions.

BIOACCUMULATION

- Product does not bioaccumulate

SECTION 13: Disposal Considerations

US EPA WASTE NUMBER AND DESCRIPTIONS

- **General Product Information**
  - RCRA Status: Not federally regulated in the U.S. if disposed of "as is". Otherwise, characterize in accordance with applicable regulations (40 CFR 261 or state equivalent in the U.S.)
- **Component Waste Numbers**
  - RCRA waste codes other than described under Section A may apply depending on use of product. Refer to 40 CFR 261 or state equivalent in the U.S.

SECTION 14: Transformation Information

SPECIAL TRANSPORTATION

	PSN #1	PSN #2	PSN #3	PSN #4
Notes:	(1)			
Proper Shipping Name	Not regulated			
Hazard Class				
UN NA Number				
Packing Group				
RQ				
Other - Tech Name				
Other - Marine Pollutant				

Notes:
(1) When "Not regulated," enter the proper freight classification, "MSDS Number," and "Product Name" on the shipping paperwork.

Canadian TDG Hazard Class & PIN	Not regulated

SECTION 15: Regulatory Information

US FEDERAL REGULATIONS

- **General Product Information**
  - No information available
- **Component Analysis**
  - None of the components are listed under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65), or CERCLA (40 CFR 302.4).
- **SARA 311/312 PHYSICAL AND HEALTH HAZARD CATEGORIES**
  - **Immediate (acute) Health Hazard:** No
  - **Delayed (chronic) Health Hazard:** No
  - **Fire Hazard:** No
  - **Sudden Release of Pressure:** No
  - **Reactive:** No
- **STATE REGULATIONS**
  - **General Product Information**
    - No information available
  - **Component Analysis – State**
    - The following components appear on one or more of the following state hazardous substances lists:

Component	CAS #	CA	FL	MA	MN	NJ	PA
Titanium dioxide	13463-67-7	No	No	Yes	Yes	Yes	No
Proprietary ingredients	Proprietary	No	No	Yes	Yes	No	Yes

OTHER REGULATIONS

- **General Product Information**
  - No information available for product.

- **Component Analysis - WHMIS IDL**
  - No components are listed in the WHMIS IDL or are listed but are proprietary

- **Component Analysis – Inventory**

Component	CAS #	TSCA	DSL	EINECS	AUST	MITI
Polyvinyl chloride	9002-86-2	Yes	Yes	No	Yes	Yes
Polypropylene	9003-07-0	Yes	Yes	No	Yes	Yes
Titanium dioxide	13463-67-7	Yes	Yes	Yes	Yes	Yes
Proprietary ingredients	Proprietary	Yes	Yes	Yes	Yes	Yes

SECTION 17: Other Information

MSDS History

- Original:
- Supersedes: 08/12/2007
- Revised Date: 11/05/2009
- Revised date 1/24/2013

MSDS Status

- 11/05/09: Changes to section 1, manufacturer name, address and phone
- Addition of Ply Gem Trim & Molding to Brands

Prepared By

- Ply Gem Siding Group, Corporate Environmental, Health & Safety Dept

Other Information

- Guide to Occupational Exposure Values-2003, Compiled by the American Conference of Governmental Industrial Hygienists (ACGIH).
- Documentation of the Threshold Limit Values and Biological Exposure Indices, Sixth Edition, 1991, Compiled by the American Conference of Governmental Industrial Hygienists, Inc. (ACGIH).
- NIOSH Pocket Guide to Chemical Hazards, U.S. Department of Health and Human Services, June 1994.
- Dangerous Properties of Industrial Materials, Sax, N. Irving, Van Nostrand Reinhold Co., Inc., 1984
- Patty's Industrial Hygiene and Toxicology: Volume II: Toxicology, 4th ed., 1994, Patty, F. A.; edited by Clayton, G. D. and Clayton, F. E.: New York: John Wiley & Sons, Inc.
- Integrated Index(R), MICROMEDEX, Inc., 2003

ACGIH American Conference of Governmental Industrial Hygienists
AICS Australian Inventory of Chemical Substances
CAS Chemical Abstract Service
CERCLA Comprehensive Environmental Response, Compensation, and Liability Act
CFR Code of Federal Regulations
CPR Cardio-pulmonary Resuscitation
DOT Department of Transportation
DSL Domestic Substances List (Canada)
EINECS European Inventory of Existing Commercial Chemical Substances
EPA Environmental Protection Act
IARC International Agency for Research on Cancer
LC_{50} Lethal concentration (50 percent kill)
LC_{Lo} Lowest published lethal concentration
LD_{50} Lethal dose (50 percent kill)
LD_{Lo} Lowest published lethal dose
LFL Lower Flammable Limit
MITI Ministry of International Trade & Industry
NFPA National Fire Protection Association
NIOSH National Institute for Occupational Safety and Health
NTP National Toxicology Program
OEL Occupational Exposure Limit
OSHA Occupational Safety and Health Administration
PEL Permissible Exposure Limit
PIN Product Identification Number
PSN Proper Shipping Name
RCRA Resource Conservation and Recovery Act
SARA Superfund Amendments and Reauthorization Act
STEL Short Term Exposure Limit
TCLP Toxic Chemicals Leachate Program
TDG Transportation of Dangerous Goods
TLV Threshold Limit Value
TSCA Toxic Substance Control Act
TWA Time Weighted Average
UFL Upper Flammable Limit
WHMIS Workplace Hazardous Materials Information System
atm atmosphere
cm centimeter
g, gm gram
in inch
kg kilogram
lb pound
m meter
mg milligram
ml, ML milliliter
mm millimeter
mppcf million particles per cubic foot
n.o.s. not otherwise specified
ppb parts per billion
ppm parts per million
psia pounds per square inch absolute
u micron
ug microgram

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