

# MATERIAL SAFETY DATA SHEET

## SECTION 1 – PRODUCT AND COMPANY IDENTIFICATION

Manufacturer

U.S. PLY, INC.  
P.O. Box 11740  
Fort Worth, TX 76104

Non-Emergency Information

Telephone: U.S. PLY, INC. (866) 787-4759 or (817) 413-0103

Emergency Information

Transportation Emergency Telephone: 1-800-424-9300

Product Name: LIQUA-PLY FLASHING (GREY), LIQUA-PLY FINISH (WHITE), LIQUA-PLY KIT (Flashing & Finish)

Product Use: Urethane Roof Coating

## SECTION 2 – COMPOSITION (INFORMATION OF INGREDIENTS)

Reportable Components	CAS Number	Weight Percent
NJTSRN 04499600-6829	Proprietary	20-30
Barium Sulfate	7727-43-7	20-30
Methoxy Propyl Acetate	108-65-6	5-10
Phenol, Isopropylated, Phosphate	68937-41-7	5-10
Xylene <sup>1</sup>	1330-20-7	5-10
Titanium Dioxide	13463-67-7	3-7
Urethane Bis(oxazolidine)	59719-67-4	3-7
NJTSRN 04499600-6835	Proprietary	3-7
Poly(Isophorone Diisocyanate)	53880-05-0	3-7
Triphenyl Phosphate <sup>1</sup>	115-86-6	2-6
NJTSRN 04499600-6834	Proprietary	1-3
Ethylbenzene	100-41-4	1-3
NJTSRN 04499600-6836 <sup>2</sup>	Proprietary	< 1
Oil <sup>1</sup>	64742-46-7	< 0.5
Tosyl Isocyanate	4083-64-1	< 0.4
Isophorone Diisocyanate	4098-71-9	< 0.2
Dibutyltin Dilaurate	77-58-7	< 0.2

<sup>1</sup> WEIGHT PERCENT OF LIQUA-PLY FLASHING (GREY) is 2 – 6; LIQUA-PLY FINISH (WHITE) is 2 – 5.

<sup>2</sup> WEIGHT PERCENT OF LIQUA-PLY FLASHING (GREY) is < 0.5; LIQUA-PLY FINISH (WHITE) is < 1.

## SECTION 3 – HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

**Specific Physical Form:** Viscous

**Odor, Color, Grade:** Flashing (Grey); Finish (White); viscous liquid with aromatic odor.

**General Physical Form:** Liquid

**Immediate health, physical, and environmental hazards:** Combustible liquid and vapor. Closed containers exposed to heat from fire may build pressure and explode. Vapors may travel long distances along the ground or floor to an ignition source and flash back. Reacts violently with water. May cause allergic skin reaction. May cause allergic respiratory reaction. Contains a chemical or chemicals which can cause cancer. May cause target organ effects. Contains a chemical or chemicals which can cause birth defects or other reproductive harm.

**Eye Contact:** Moderate Eye Irritation: Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

**Skin Contact:** Moderate Skin Irritation: Signs/symptoms may include localized redness, swelling, itching, and dryness.

Allergic Skin Reaction (non-photo induced): Signs/symptoms may include redness, swelling, blistering, and itching.

**Inhalation:** Respiratory Tract Irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain. Allergic Respiratory Reaction: Signs/symptoms may include difficulty breathing, wheezing, cough, and tightness of chest. Prolonged or repeated exposure may cause: Respiratory Effects: Signs/symptoms may include cough, shortness of breath, chest tightness, wheezing, increased heart rate, bluish colored skin (cyanosis), sputum production, changes in lung function tests, and/or respiratory failure. May be absorbed following inhalation and cause target organ effects.

**Ingestion:** Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea. May be absorbed following ingestion and cause target organ effects.

**Target Organ Effects:** Persons previously sensitized to isocyanates may develop a cross-sensitization reaction to other isocyanates. Central Nervous System (CNS) Depression: Signs/symptoms may include headache, dizziness, drowsiness, incoordination, nausea, slowed reaction time, slurred speech, giddiness, and unconsciousness. Neurological Effects: Signs/symptoms may include personality changes, lack of coordination, sensory loss, tingling or numbness of the extremities, weakness, tremors, and/or changes in blood pressure and heart rate. Auditory Effects: Signs/symptoms may include hearing impairment, balance dysfunction and ringing in the ears. Prolonged or repeated exposure may cause: Liver Effects: Signs/symptoms may include loss of appetite, weight loss, fatigue, weakness, abdominal tenderness and jaundice. Kidney/Bladder Effects: Signs/symptoms may include changes in urine production, abdominal or lower back pain, increased protein in urine, increased blood urea nitrogen (BUN), blood in urine, and painful urination. Contains a chemical or chemicals which can cause birth defects or other reproductive harm.

Read the entire MSDS for a more thorough assessment to the hazard information on this product.

**Carcinogenicity:**

Contains a chemical or chemicals which can cause cancer.

Ingredient	C.A.S. No.	Class Description	Regulation
Ethylbenzene	100-41-4	Grp. 2B: Possible human carc.	International Agency for Research on Cancer
Mineral oils (untreated and mildly treated)	SEQ105339	Grp. 1: Carcinogenic to humans	International Agency for Research on Cancer
Mineral oils (untreated and mildly treated)	SEQ105339	Known human carcinogen	National Toxicology Program Carcinogens
Titanium Dioxide	13463-67-7	Grp. 2B: Possible human carc.	International Agency for Research on Cancer

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**SECTION 4 – FIRST AID MEASURES**

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The following first aid recommendations are based on an assumption that appropriate personal and industrial hygiene practices are followed.

**Eye Contact:** Flush eyes with large amounts of water. If signs/symptoms persist, get medical attention.

**Skin Contact:** Remove contaminated clothing and shoes. Immediately flush skin with large amounts of water. Get medical attention. Wash contaminated clothing and clean shoes before reuse.

**Inhalation:** Remove person to fresh air. If signs/symptoms develop, get medical attention.

**If Swallowed:** Do not induce vomiting unless instructed to do so by medical personnel. Give victim two glasses of water. Never give anything by mouth to an unconscious person. Get medical attention.

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**SECTION 5 – FIRE-FIGHTING MEASURES**

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**Autoignition temperature:** 599 °F

**Flash Point:** 111.5 °F [*Test Method:* Closed Cup]

**Flammable Limits(LEL)** 1 % volume

**Flammable Limits(UEL)** 7 % volume

**Extinguishing Media:** Use fire extinguishers with class B extinguishing agents (e.g., dry chemical, carbon dioxide). DO NOT USE WATER

**Special Fire Fighting Procedures:** Water may not effectively extinguish fire; however, it should be used to keep fire-exposed containers and surfaces cool and prevent explosive rupture. Water may be used to blanket the fire. Wear full protective equipment (Bunker Gear) and a self-contained breathing apparatus (SCBA).

**Unusual Fire and Explosion Hazards:** Combustible liquid and vapor. Closed containers exposed to heat from fire may build pressure and explode. Vapors may travel long distances along the ground or floor to an ignition source and flash back.

**Note:** See STABILITY AND REACTIVITY (SECTION 10) for hazardous combustion and thermal decomposition information.

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**SECTION 6 – ACCIDENTAL RELEASE MEASURES**

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For major spills call CHEMTREC (800-424-9300).

**Personal precautions, protective equipment and emergency procedures:** Evacuate unprotected and untrained personnel from hazard area. The spill should be cleaned up by qualified personnel. Remove all ignition sources such as flames, smoking materials, and electrical spark sources. Use only non-sparking tools. Ventilate the area with fresh air. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapors, in accordance with good industrial hygiene practice. Warning! A motor could be an ignition source and could cause flammable gases or vapors in the spill area to burn or explode. Remember, adding an absorbent material does not remove a toxic, corrosivity or flammability hazard.

**Environmental precautions:** Place in a container approved for transportation by appropriate authorities, but do not seal the container for 48 hours to avoid pressure build-up. For larger spills, cover drains and build dikes to prevent entry into sewer systems or bodies of water. Dispose of collected material as soon as possible.

**Clean-up methods:** Refer to other sections of this MSDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment. Contain spill. Cover spill area with a fire-extinguishing foam. An aqueous film forming foam (AFFF) is recommended. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Collect as much of the spilled material as possible using non-sparking tools. Clean up residue with an appropriate solvent selected by a qualified and authorized person. Ventilate the area with fresh air. Read and follow safety precautions on the solvent label and MSDS.

**In the event of a release of this material, the user should determine if the release qualifies as reportable according to local, state, and federal regulations.**

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## SECTION 7 – HANDLING AND STORAGE

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**Handling:** Avoid contact with water to prevent potentially violent reaction or fire. Do not eat, drink or smoke when using this product. Wash exposed areas thoroughly with soap and water. Keep away from heat, sparks, open flame, pilot lights and other sources of ignition. Ground containers securely when transferring contents. Wear low static or properly grounded shoes. Avoid breathing of vapors, mists or spray. Avoid contact with oxidizing agents. Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below Occupational Exposure Limits. If ventilation is not adequate, use respiratory protection equipment. Avoid eye contact. Avoid skin contact. Decontaminate work surfaces frequently to avoid exposure by contact.

**Storage:** Store away from acids. Store away from heat. Store out of direct sunlight. Store away from areas where product may come into contact with food or pharmaceuticals. Store away from oxidizing agents.

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## SECTION 8 – EXPOSURE CONTROLS/PERSONAL PROTECTION

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**Engineering Controls:** Use with appropriate local exhaust ventilation. Provide appropriate local exhaust ventilation on open containers. Do not use in a confined area or areas with little or no air movement. Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below Occupational Exposure Limits and/or control mist, vapor, or spray. If ventilation is not adequate, use respiratory protection equipment.

**Personal Protective Equipment (PPE): Eye/Face Protection:** Avoid eye contact. The following eye protection(s) are recommended: Indirect Vented Goggles

**Skin Protection:** Avoid skin contact. Select and use gloves and/or protective clothing to prevent skin contact based on the results of an exposure assessment. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible materials. Gloves made from the following material(s) are recommended: Fluoroelastomer (Viton), Polyethylene/Ethylene Vinyl Alcohol. The following protective clothing material(s) are recommended: Apron - Polyethylene ethylene vinyl alcohol.

**Respiratory Protection:** Avoid breathing of vapors, mists or spray. Select one of the following NIOSH approved respirators based on airborne concentration of contaminants and in accordance with OSHA regulations: Half face piece or full face air-purifying respirator with organic vapor cartridges and P95 particulate pre-filters, Half face piece or full face supplied-air respirator. Consult the U.S. Ply Technical Services Department for additional information 1-866-PUSH-PLY (787-4759).

**Prevention of Swallowing:** Do not eat, drink or smoke when using this product. Wash exposed areas thoroughly with soap and water.

Read all product instructions before using. Personal protective equipment should include safety eye wear, fire resistant gloves, and long sleeve work clothes to prevent excessive skin contact. No special ventilation systems are required under normal conditions of use in well ventilated areas.

EXPOSURE GUIDELINES					
Ingredient	ACGIH	AIHA	CMRG	OSHA	Additional Information
Barium Sulfate	10 mg/m <sup>3</sup> TWA			Total Dust 15 mg/m <sup>3</sup> TWA Respirable Dust: 5 mg/m <sup>3</sup>	
Methoxy Propyl Acetate		50 ppm TWA	10 mg/m <sup>3</sup> TWA 90 ppm STEL		
Benzene, dimethyl-	100 ppm TWA 150 ppm STEL			435 mg/m <sup>3</sup> TWA	
Ethylbenzene	100 ppm TWA 125 ppm STEL		25 ppm TWA 75 ppm STEL	435 mg/m <sup>3</sup> TWA	
Isophorone Diisocyanurate	0.005 ppm TWA				
Parafin Oil				5 mg/m <sup>3</sup> TWA	
Oil			300 ppm TWA		
Sulfuric Acid, barium salt (1:1)	10 mg/m <sup>3</sup> TWA			Respirable Dust: 5 mg/m <sup>3</sup> TWA Total Dust: 15 mg/m <sup>3</sup> TWA	
TIN, Organic Compounds	0.1 mg/m <sup>3</sup> TWA 0.2 mg/m <sup>3</sup> STEL			0.1 mg/m <sup>3</sup> TWA	Skin Notation*
Titanium Dioxide	10 mg/m <sup>3</sup> TWA		Respirable Dust: 5 mg/m <sup>3</sup> TWA	Total Dust: 15 mg/m <sup>3</sup> TWA	
Triphenyl Phosphate	3 mg/m <sup>3</sup> TWA			3 mg/m <sup>3</sup> TWA	
Xylene	100 ppm TWA 150 ppm STEL		50 ppm TWA 75 ppm STEL	435 mg/m <sup>3</sup> TWA	
ACGIH: American Conference of Governmental Industrial Hygienists AIHA: American Industrial Hygiene Association Workplace Environmental Exposure Level (WEEL) CMRG: Chemical Manufacturer Recommendation Guideline OSHA: Occupational Safety and Health Administration					

**SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES**

<b>Specific Physical Form:</b>	Viscous
<b>Odor, Color, Grade:</b>	Flashing (Grey); Finish (White); viscous liquid with aromatic odor.
<b>General Physical Form:</b>	Liquid
<b>Autoignition temperature:</b>	599 °F
<b>Flash Point:</b>	111.5 °F [ <i>Test Method: Closed Cup</i> ]
<b>Flammable Limits(LEL):</b>	1 % volume
<b>Flammable Limits(UEL):</b>	7 % volume
<b>Boiling Point:</b>	282 °F
<b>Density:</b>	1.37 g/ml [ <i>@ 77 °F</i> ]
<b>Vapor Density:</b>	<i>No Data Available</i>
<b>Vapor Pressure:</b>	0.12 mmHg [ <i>@ 68 °F</i> ]
<b>Specific Gravity:</b>	1.37 [ <i>@ 77 °F</i> ] [ <i>Ref Std: WATER=1</i> ]
<b>pH:</b>	3.9 - 4.5
<b>Melting point:</b>	<i>Not Applicable</i>
<b>Solubility in Water:</b>	Negligible
<b>Evaporation rate:</b>	<i>No Data Available</i>
<b>Kow - Oct/Water partition coef:</b>	<i>No Data Available</i>
<b>Percent volatile:</b>	9 - 14 %
<b>Viscosity:</b>	<=5,000 centipoise [ <i>@ 25 °C</i> ]

**SECTION 10 – STABILITY AND REACTIVITY**

**Stability:** Stable.  
**Conditions to avoid:** Heat, sparks and/or flames

**Materials to avoid:** Amines, reaction with water, alcohols, and amines is not hazardous if container can vent to the atmosphere to prevent pressure buildup. Strong oxidizing agents

**Hazardous Polymerization:** Hazardous polymerization will not occur.

**Hazardous Decomposition or By-Products**

<b>Substance</b>	<b>Condition</b>
Carbon monoxide	During Combustion
Carbon dioxide	During Combustion
Hydrogen Cyanide	During Combustion
Oxides of Nitrogen	During Combustion
Toxic Vapor, Gas, Particulate	During Combustion

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**SECTION 11 – TOXICOLOGICAL INFORMATION**

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Not determined.

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**SECTION 12 – ECOLOGICAL INFORMATION**

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Not determined.

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**SECTION 13 – DISPOSAL CONSIDERATIONS**

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Waste Disposal Method: Dispose of completely cured (or polymerized) wastes in a sanitary landfill. As a disposal alternative, dispose of waste product in a facility permitted to accept chemical waste.

For further information contact your state or local solid waste agency or the United States Environmental Protection Agency's RCRA Hotline (1-800-434-9300). Chemical waste, even small quantities should never be poured down drains, sewers or waterways. Empty containers should be decontaminated and either passed to an approved drum recycler or destroyed.

EPA Hazardous Waste Number (RCRA): D001 (Ignitable)

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**SECTION 14 – TRANSPORT INFORMATION**

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**ID Number(s):**

**Liqua-Ply Flashing (Grey) 98-0213-4599-0**

**Liqua-Ply Finish (White) 98-0213-5600-5**

**Transportation Emergency Telephone Number:** 1-800-424-9300 (CHEMTREC)

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**SECTION 15 – REGULATORY INFORMATION**

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**US Federal Regulations: Contact U.S. Ply for more information.**

**311/312 Hazard Categories:**

Fire Hazard - Yes Pressure Hazard - No Reactivity Hazard - No Immediate Hazard - Yes Delayed Hazard - Yes

**Section 313 Toxic Chemicals subject to the reporting requirements of that section and 40 CFR Part 372 (EPCRA):**

<b>Ingredient</b>	<b>C.A.S. No</b>	<b>% by Wt</b>
Xylene	1330-20-7	5 - 10
Ethylbenzene	100-41-4	1 - 3

**This material contains a chemical which requires export notification under TSCA Section 12[b]:**

<b>Ingredient (Category if applicable)</b>	<b>C.A.S. No</b>	<b>Regulation</b>	<b>Status</b>
Xylene (Benzene, 1,4-dimethyl-)	1330-20-7	Toxic Substances Control Act (TSCA) 4 Test Rule Chemicals	Applicable

**State Regulations:** Since state regulations vary, consult applicable regulations or authorities for more information.

**California Prop 65:**

<b>Ingredient</b>	<b>C.A.S. No.</b>	<b>Classification</b>
Ethylbenzene	100-41-4	**Carcinogen

\*\* WARNING: contains a chemical which can cause cancer.

**Chemical Inventories:** The components of this product are in compliance with the chemical notification requirements of TSCA.

**International Regulations:** No data available

**This MSDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.**

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**SECTION 16 – OTHER INFORMATION**

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**NFPA Hazard Classification:****Liqua-Ply Flashing (Grey)****Health: 2      Flammability: 3      Reactivity: 1      Special Hazards: Reacts with Water****Liqua-Ply Finish (White)****Health: 2      Flammability: 2      Reactivity: 1      Special Hazards: Reacts with Water**

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

**HMIS Hazard Classification:****Liqua-Ply Flashing (Grey)****Health: 2      Flammability: 3      Reactivity: 1      Protection: X -See PPE Section****Liqua-Ply Finish (White)****Health: 2      Flammability: 2      Reactivity: 1      Protection: X -See PPE Section**

Hazardous Material Identification System (HMIS®) hazard ratings are designed to inform employees of chemical hazards in the workplace. These ratings are based on the inherent properties of the material under expected conditions of normal use and are not intended for use in emergency situations. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint and Coatings Association (NPCA).

## Prepared by:

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U.S. Ply MSDSs are available at [www.usply.com](http://www.usply.com)

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No revision information is available