

SAFETY DATA SHEET  
AYP NANO SOLUTIONS INC.

# PATC Superior Polyaspartic Top Coat

## Part 1: Product and Company Identification

Date Prepared: November 4, 2021  
Product Name: PATC Superior Polyaspartic Top Coat  
Description/Use: Two component high performance topcoat  
Chemical Classification: Aliphatic polyisocyanate  
Manufacturer: AYP Nano Solutions Inc.  
505 S. Villareal Drive Suite 206  
Anaheim, CA 92807 USA  
Emergency Contact: Chemtrec 1-800-424-9300

## Part 2: Hazards



Flammable liquid	Category 2
Skin irritation	Category 2
Eye irritation	Category 2A
Acute toxicity	Category 4
Respiratory sensitizer	Category 1
Skin sensitizer	Category 1

## Part 3: Composition on Ingredients

<u>Ingredient</u>	<u>CAS</u>	<u>Per Cent</u>
Aspartic ester	136210-30-5	25 - 35%
Methyl ethyl ketone	78-93-3	15 - 20%
Isophoronediamine-di-amine	54914-37-3	3 - 10%
Propylene carbonate	108-32-7	3 - 8%
Hexamethylene-1.6 diisocyanate	822-06-0	0.1 - 2%

## Part 4: First Aid

Eye Contact: Flush eyes with plenty of water. Remove contact lenses. Continue to rinse. If eye irritation persists, get medical attention.

Skin Contact: Wash with plenty of soap and water. Continue to wash. If skin irritation persists, get medical attention. Wash contaminated clothing before reuse.

Inhalation: Remove victim to fresh air and keep at rest in a comfortable position. Call a POISON CENTER or physician if you feel unwell.

Ingestion: Immediately call a POISON CENTER or physician. Do not induce vomiting.

## Part 5: Fire Fighting Measures

Suitable Extinguishing Media: Dry powder, dry chemical, carbon dioxide, alcohol resistant foam, dry sand.

Unsuitable Extinguishing Media: Water may be ineffective. Water can be used for large fires and cooling down structures.

Hazards:	Risk of ignition. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Containers may explode when heated. Under fire conditions, corrosive fumes are emitted. It reacts with water to release large amounts of carbon dioxide.
Decomposition/Combustion:	Carbon dioxide, carbon monoxide, oxides of nitrogen, dense black smoke, hydrogen cyanide, isocyanate, isocyanic acid.

#### Part 6: Accidental Release Measures

Personal Precautions:	Avoid breathing vapors. Remove all sources of ignition. Use personal protective equipment as required. Avoid contact with skin, eyes or clothing.
Spill & Leak Measures:	Stop leak if without risk. Move containers from spill area. Contain and collect spillage with non-combustible absorbent material (sand, earth, vermiculite, diatomaceous earth) and place in container for disposal in accordance with regulations, both Federal and local.
Specific Hazards:	Spill must be contained and prevented from discharge into waterways, sewers or drains.

#### Part 7: Handling and Storage

Safe Handling:	Avoid contact with eyes, skin or clothing.
Storage:	Store in accordance with local regulations. Store in original containers protected from direct sunlight in a dry, cool and well-ventilated area. Keep away from heat and sources of ignition. Keep container tightly closed. Store at 5°C to 30°C.
Incompatible Materials:	Water, amines, strong bases, alcohols, copper alloys.

#### Part 8: Personal Protection

Exposure Limits:	Aspartic ester	Not available
	Methyl ethyl ketone	Long-term 500 ppm
	Isophoronediamine-di-amine	Not available
	Propylene carbonate	No exposure limits
	Hexamethylene-1.6 diisocyanate	TWA 0.5 mg/m3
Appropriate Engineering Controls:	Ensure adequate ventilation. If necessary, provide local exhaust ventilation. In case of insufficient ventilation, wear suitable respiratory equipment.	

#### Part 9: Physical and Chemical Properties

• Physical State:	Liquid
• Color:	Clear light yellow
• Odor:	Resin, solvent
• VOC	1.8 lb/gal
• Flash Point	-7°C (closed cup)
• Auto Ignition Temperature	404°C
• Density:	1.1
• Solubility in Water:	Negligible

#### Part 10: Stability and Reactivity

Reactivity and Chemical Stability:	Stable under normal conditions
Conditions to Avoid:	Moisture, high temperatures, heat, flames, sparks.
Hazardous Polymerization:	None under normal storage and use.
Hazardous Decomposition:	Carbon dioxide, carbon monoxide, nitrogen oxides, amines, ammonia gas (at high temperatures).
Incompatible Materials:	Oxidizing agents, acids, isocyanates.

**Part 11: Toxicological Information**

Toxicity:

INGREDIENT	ORAL LD50	DERMAL LD50	INHALATION LC50
Aspartic Ester	Acute toxicity >5000 mg/kg (rat)	>2000 mg/kg (rat)	>4224 mg/l (rat), 4 hours
Methyl Ethyl Ketone	2483 mg/kg (rat)	>5000 mg/kg (rat)	11700 ppm (rat) 4 hours
Isophoronediamine - di-amine	4150 mg/kg (rat)	>5000 mg/kg (rat)	Not available
Propylene Carbonate	2200 mg/kg (rat)	>2000 mg/kg (rabbit)	Not available
Hexamethylene-1.6 Diisocyanate	746 mg/kg (rat)	>7000 mg/kg (rat)	0.124 mg/L (rat), 4 hours

Skin Corrosion: Rabbit, OECD Test Guideline 404, 4 hours, slight irritant.  
 Eye Damage: Rabbit, OECD Test Guideline 405, serious eye damage/irritant.  
 Respiratory & Skin Sensitization: Rat, effect on respiratory tract, irritant.  
 Repeated Dose Toxicity: Subacute oral toxicity: NOAEL>1000 mg/kg (rat).  
 Mutagenicity: Aspartic ester: Salmonella/microsome Test (Ames Test). Negative.  
 Methyl ethyl ketone: Negative.  
 Isophoronediamine-di-amine: Negative.  
 Propylene carbonate: Negative.  
 Hexamethylene-1.6 diisocyanate: Not available.  
 Carcinogenicity: Aspartic ester: Negative per IARC and OSHA.  
 Methyl ethyl ketone: Negative.  
 Isophoronediamine-di-amine: Negative per IARC and OSHA.  
 Propylene carbonate: Negative.  
 Hexamethylene-1.6 diisocyanate: Not listed on IARC or ACGIH.  
 Reproductive Toxicity: Aspartic ester: No information available.  
 Methyl ethyl ketone. Negative.  
 Isophoronediamine-di-amine: No information available.  
 Propylene carbonate: No teratogenic effects.  
 Hexamethylene-1.6 diisocyanate: Negative.  
 Specific Target Organs: No information available.

**Part 12: Ecological Information**

Ecotoxicity:

INGREDIENT	TOXICITY FISH	TOXICITY AQUATIC INVERTEBRATES	TOXICITY PLANTS	TOXICITY MICROORGANIS M
Aspartic Ester	LC50: 66 mg/L (zebra fish), 96 hrs	EC50: 88.6 mg/L (water flea), 48 hrs	IC50: 113 mg/L (scenedesmus subspicatus), 72 hrs	EC50: 3110 mg/L (activated sludge), 3 hrs
Methyl Ethyl Ketone	LC50 3220 mg/L (freshwater fish) 96 hrs	EC 50: 5091 mg/L (water flea) 48 hrs	Not available	EC 50: 25619 mg/L (microtox), 30 min
Isophoronediamine - di-amine	LC50>100 mg/L (zebra fish), 96 hrs	EC50: 14.7 mg/L (water flea), 48 hrs	ErC50>100 mg/L (desmodesmus subspicatus), 72 hrs	EC50: 302.4 mg/L (activated sludge), 3 hrs
Propylene Carbonate	LC50> 1000 mg/L (carp), 96 hrs	EC50> 1000 mg/L (water flea), 48 hrs	ErC50>100 mg/L (desmodesmus subspicatus), 72 hrs	EC50: 25619 mg/L (pseudomonas putida), 16 hrs
Hexamethylene-1.6 Diisocyanate	LC50> 82.8 mg/L (zebra fish), 96 hrs	Not available	Not available	Not available

Persistence, Degradability and Bioaccumulation:

INGREDIENT	BIODEGRADABILITY	BIOACCUMULATION	MOBILITY IN SOIL
Aspartic Ester	13%, exposure time 28 days. Not readily biodegradable	BCF: 1872. Substance hydrolyzes in water. Accumulation in aquatic organisms is not expected	Not available
Methyl Ethyl Ketone	76-84%, exposure time 28 days	Does not bioaccumulate	Poorly absorbed
Isophoronediamine-di-amine	34%, exposure time 28 days. Not readily biodegradable	Not available	Not available
Propylene Carbonate	83.5%, exposure time 28 days. Concentration 20 mg/L	Does not bioaccumulate	Not available
Hexamethylene-1.6 Diisocyanate	42%, exposure time 28 days. Not readily biodegradable	BCF: 57.6. Accumulation in aquatic organisms is not expected	Not available

Other Adverse Effects: No information available.

**Part 13: Disposal Considerations**

Disposal Method: Dispose in accordance with Federal, State and Local regulations.

**Part 14: Transportation Information**

Shipping Name: Solvent, amines.  
 DOT: UN1090, Hazard Class 3, Packing Group II.  
 IMDG: UN1090, Hazard Class 3, Packing Group II.  
 IATA: UN1090, Hazard Class 3, Packing Group II.

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