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SDS No. PRO T.3.2

Section 1 – Product Identification

IDENTITY: *Product Name:* **PRO-TEKT TOPCOAT, Component B**

AQUAFIN, INC.
505 BLUE BALL RD. #160
ELKTON, MD 21921

Emergency Phone No. (800) 394-1410
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Recommended use of the chemical and restriction on use: Refer to the product technical data sheet.
For industrial and professional users.

Section 2 – Hazards Identification

GHS Classification:

This material is hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29CFR 1910.1200.

Acute toxicity - Category 3 - Inhalation

Eye irritation - Category 2A

Skin sensitization - Category 1

Specific target organ toxicity - single exposure - Category 3

GHS Label element:



GHS06



GHS07

Hazard Pictograms

Signal Word: DANGER!

Hazard Statements:

H317 May cause an allergic skin reaction.

H319 Causes serious eye irritation.

H331 Toxic if inhaled.

H335 May cause respiratory irritation.

Precautionary Statements:

Prevention:

P201 Obtain special instructions before use.

P202 Do not handle until all safety precautions have been read and understood.

P261 Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.

P264 Wash skin thoroughly after handling.

P271 Use only outdoors or in a well-ventilated area.

P272 Contaminated work clothing should not be allowed out of the workplace.

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:

P302+352 IF ON SKIN: Wash with plenty of soap and water.

P304+340+311 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor.

P305+351+338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. .
 P333+313 If skin irritation or rash occurs: Get medical advice/ attention.
 P337+313 If eye irritation persists: Get medical advice/ attention.
 P363 Wash contaminated clothing before reuse.

Storage:

P403+404+405 Store in a well-ventilated place. Keep container tightly closed. Store locked up.

Disposal:

P501: Dispose of contents/container to an approved waste disposal site.

Other hazards: Water Reactive

Section 3 – Composition / Information on Ingredients

This product is a mixture.

Hazardous Components	CAS No.	Weight %
1,6-diisocyanatohexane, homopolymer	28182-81-2	>= 40.0 - <= 70.0 %
Aliphatic Polyisocyanate	164250-92-4	>= 15.0 - <= 40.0 %
Propylene carbonate	108-32-7	>= 10.0 - <= 30.0 %

Section 4 – First Aid Measures

General Advice: First Aid responders should pay attention to self-protection and use the recommended protective clothing (chemical resistant gloves, splash protection). If potential for exposure exists refer to Section 8 for specific personal protective equipment.

After Inhalation: Move person to fresh air. If not breathing, give artificial respiration; if by mouth to mouth use rescuer protection (pocket mask, etc.). If breathing is difficult, oxygen should be administered by qualified personnel. Call a physician or transport to a medical facility.

After Skin Contact: Remove material from skin immediately by washing with soap and plenty of water. Remove contaminated clothing and shoes while washing. Seek medical attention if irritation persists. Wash clothing before reuse. An MDI skin decontamination study demonstrated that cleaning very soon after exposure is important, and that a polyglycol-based skin cleanser or corn oil may be more effective than soap and water. This may also apply to other isocyanates. Discard items which cannot be decontaminated, including leather articles such as shoes, belts and watchbands. Safety shower should be located in immediate work area.

After Eye Contact: Flush eyes thoroughly with water for several minutes. Remove contact lenses after the initial 1-2 minutes and continue flushing for several additional minutes. If effects occur, consult a physician, preferably an ophthalmologist. Suitable emergency eye wash facility should be available in work area.

After Ingestion: If swallowed, seek medical attention. Do not induce vomiting unless directed to do so by medical personnel.

Most important symptoms and effects, both acute and delayed: Aside from the information found under Description of first aid measures (above) and Indication of immediate medical attention and special treatment needed (below), any additional important symptoms and effects are described in Section 11: Toxicology Information.

Indication of any immediate medical attention and special treatment needed

Notes to physician: Excessive exposure may aggravate preexisting asthma and other respiratory disorders (e.g. emphysema, bronchitis, reactive airways dysfunction syndrome). Maintain adequate ventilation and oxygenation of the patient. May cause respiratory sensitization or asthma-like symptoms. Bronchodilators, expectorants and antitussives may be of help. Treat bronchospasm with inhaled beta2 agonist and oral or parenteral corticosteroids. Respiratory symptoms, including pulmonary edema, may be delayed. Persons receiving significant exposure should be observed 24-48 hours for signs of respiratory distress. If you are sensitized to diisocyanates, consult your physician regarding working with other respiratory irritants or sensitizers. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

Section 5 – Fire Fighting Measures

Extinguishing Media: Water fog or fine spray. Dry chemical fire extinguishers. Carbon dioxide fire extinguishers. Foam. Alcohol resistant foams (ATC type) are preferred. General purpose synthetic foams (including AFFF) or protein foams may function, but will be less effective.

Unsuitable extinguishing media: Do not use direct water stream. May spread fire.

Special hazards arising from the substance or mixture:

Hazardous combustion products: During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include and are not limited to: Nitrogen oxides. Isocyanates. Hydrogen cyanide. Carbon monoxide. Carbon dioxide.

Unusual Fire and Explosion Hazards: Product reacts with water. Reaction may produce heat and/or gases. This reaction may be violent. Container may rupture from gas generation in a fire situation. Violent steam generation or eruption may occur upon application of direct water stream to hot liquids. Dense smoke is produced when product burns.

Advice for firefighters

Fire Fighting Procedures: Keep people away. Isolate fire and deny unnecessary entry. Stay upwind. Keep out of low areas where gases (fumes) can accumulate. Water is not recommended, but may be applied in large quantities as a fine spray when other extinguishing agents are not available. Do not use direct water stream. May spread fire. Fight fire from protected location or safe distance. Consider the use of unmanned hose holders or monitor nozzles. Immediately withdraw all personnel from the area in case of rising sound from venting safety device or discoloration of the container. Move container from fire area if this is possible without hazard. Use water spray to cool fire-exposed containers and fire-affected zone until fire is out. Contain fire water run-off if possible. Fire water run-off, if not contained, may cause environmental damage. Review the "Accidental Release Measures" and the "Ecological Information" sections of this (M)SDS.

Special protective equipment for firefighters: Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves). Avoid contact with this material during fire fighting operations. If contact is likely, change to full chemical resistant fire fighting clothing with self-contained breathing apparatus. If this is not available, wear full chemical resistant clothing with self-contained breathing apparatus and fight fire from a remote location. For protective equipment in post-fire or non-fire clean-up situations, refer to the relevant sections.

Section 6 – Accidental Release Measures

Personal precautions, protective equipment and emergency procedures: Isolate area. Keep unnecessary and unprotected personnel from entering the area. Refer to section 7, Handling, for additional precautionary measures. Keep personnel out of low areas. Keep upwind of spill. Ventilate area of leak or spill. See Section 10 for more specific information. Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.

Environmental precautions: Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information.

Methods and materials for containment and cleaning up: Contain spilled material if possible. Collect in suitable and properly labeled containers. See Section 13, Disposal Considerations, for additional information.

Section 7 – Handling and Storage

Precautions for safe handling: Avoid contact with eyes, skin and clothing. Avoid prolonged or repeated contact with skin. Avoid breathing vapor. Wash thoroughly after handling. Keep container closed. Use with adequate ventilation. Spills of these organic materials on hot fibrous insulations may lead to lowering of the autoignition temperatures possibly resulting in spontaneous combustion. See Section 8, EXPOSURE CONTROLS AND PERSONAL PROTECTION.

Conditions for safe storage: Protect from atmospheric moisture. Store in a dry place. Do not store product contaminated with water to prevent potential hazardous reaction. Avoid moisture. Store in accordance with good manufacturing practices.

Section 8 – Exposure Controls / Personal Protection

Control Parameters:

Exposure limits are listed on next page, if they exist.

Component	Regulation	Type of listing	Value/Notation
1,6-diisocyanatohexane, homopolymer	DOW IHG	TWA	0.1 mg/m ³
	DOW IHG	TWA	DSEN, RSEN
	DOW IHG	STEL	0.3 mg/m ³
	DOW IHG	STEL	DSEN, RSEN

Exposure controls:

Engineering controls: Use local exhaust ventilation, or other engineering controls to maintain airborne levels below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, general ventilation should be sufficient for most operations. Local exhaust ventilation may be necessary for some operations.

Individual protection measures:

Eye/face protection: Use safety glasses (with side shields).

Skin protection:

Hand protection: Use gloves chemically resistant to this material.

Other protection: Use protective clothing chemically resistant to this material. Selection of specific items such as face shield, boots, apron, or full body suit will depend on the task.

Respiratory protection: Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines,

wear respiratory protection when adverse effects, such as respiratory irritation or discomfort have been experienced, or where indicated by your risk assessment process. For emergency conditions, use an approved positive-pressure self-contained breathing apparatus.

Section 9 – Physical and Chemical Properties

Appearance:

Physical State	Liquid
Color	Clear
Odor	Odorless
Odor Threshold	No test data available.
pH	<i>No data available.</i>
Melting point/range	No data available.
Freezing point	No data available.
Boiling point	No data available.
Flash point	Closed cup $\geq 199.9^{\circ}\text{F}$ <i>Estimated</i> ($\geq 93.3^{\circ}\text{F}$) Open cup $\geq 199.9^{\circ}\text{F}$ <i>Estimated</i> ($\geq 93.3^{\circ}\text{F}$)
Evaporation Rate (Butyl Acetate = 1)	Not available.
Flammability (solid, gas)	Not applicable.
Lower explosion limit	Liquid.
Upper explosion limit	Liquid.
Vapor Pressure	No data available.
Relative Vapor Density	No data available.
Relative Density	No data available.
Water Solubility	No data available.
Partition coefficient: n-octanol/water	This product is a mixture. See Section 12 for individual component data.
Auto-ignition temperature	No data available.
Decomposition temperature	No data available.
Kinematic Viscosity	
Explosive properties	No data available. No data available.
Molecular weight	<i>Not Reported.</i>

NOTE: The physical data presented above are typical values and should not be construed as a specification.

Section 10 – Stability and Reactivity

Reactivity: Diisocyanates react with many materials and the rate of reaction increases with temperature as well as increased contact; these reactions can become violent. Contact is increased by stirring or if the other material mixes with the diisocyanate. Diisocyanates are not soluble in water and sink to the bottom, but react slowly at the interface. The reaction forms carbon dioxide gas and a layer of solid polyurea. Reaction with water will generate carbon dioxide and heat.

Chemical stability: Stable under recommended storage conditions. See Storage, Section 7.

Possibility of hazardous reactions: Can occur. Exposure to elevated temperatures can cause product to decompose and generate gas. This can cause pressure build-up and/or rupturing of closed containers. Polymerization can be catalyzed by: Strong bases. Water.

Conditions to avoid: Exposure to elevated temperatures can cause product to decompose. Generation of gas during decomposition can cause pressure in closed systems. Pressure build-up can be rapid. Avoid moisture.

Material reacts slowly with water, releasing carbon dioxide which can cause pressure buildup and rupture of closed containers. Elevated temperatures accelerate this reaction.

Incompatible materials: Avoid contact with: Acids. Alcohols. Amines. Water. Ammonia. Bases. Metal compounds. Moist air. Strong oxidizers. Diisocyanates react with many materials and the rate of reaction increases with temperature as well as increased contact; these reactions can become violent. Contact is increased by stirring or if the other material mixes with the diisocyanate. Diisocyanates are not soluble in water and sink to the bottom, but react slowly at the interface. The reaction forms carbon dioxide gas and a layer of solid polyurea. Reaction with water will generate carbon dioxide and heat. Avoid contact with metals such as: Aluminum. Zinc. Brass. Tin. Copper. Galvanized metals. Avoid contact with absorbent materials such as: Moist organic absorbents. Avoid unintended contact with polyols. The reaction of polyols and isocyanates generate heat.

Hazardous decomposition products: Decomposition products depend upon temperature, air supply and the presence of other materials. Gases are released during decomposition.

Section 11 – Toxicological Information

Toxicological information appears in this section when such data is available.

Acute toxicity

Acute oral toxicity

Very low toxicity if swallowed. Harmful effects not anticipated from swallowing small amounts.

As product: Single dose oral LD50 has not been determined.

Based on information for component(s):
LD50, Rat, > 5,000 mg/kg Estimated.

Acute dermal toxicity

Prolonged skin contact is unlikely to result in absorption of harmful amounts.

As product: The dermal LD50 has not been determined.

Based on information for component(s):
LD50, Rabbit, > 5,000 mg/kg Estimated.

Acute inhalation toxicity

Excessive exposure may cause severe irritation to upper respiratory tract (nose and throat) and lungs. Asthma-like symptoms may include coughing, difficult breathing and a feeling of tightness in the chest. Occasionally, breathing difficulties may be life threatening. May cause pulmonary edema (fluid in the lungs.) Effects may be delayed. Decreased lung function has been associated with overexposure to isocyanates.

As product: The LC50 has not been determined.

Skin corrosion/irritation

Brief contact may cause slight skin irritation with local redness.
Prolonged contact may cause skin irritation with local redness.

Serious eye damage/eye irritation

May cause moderate eye irritation.

Sensitization

Based on information for component(s):

For skin sensitization:

Skin contact may cause an allergic skin reaction.

Hexamethylene diisocyanate is a potent skin sensitizer. Severe skin rash/allergic skin reactions have been noted in people exposed to aerosols/vapors of heated material.

Has caused allergic skin reactions when tested in guinea pigs.

For respiratory sensitization:

No signs of respiratory sensitization have been reported.

Specific Target Organ Systemic Toxicity (Single Exposure)

The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with respiratory tract irritation.

Specific Target Organ Systemic Toxicity (Repeated Exposure)

Based on information for component(s):

Decreased lung function has been associated with overexposure to isocyanates.

Carcinogenicity

No relevant data found.

Teratogenicity

No relevant data found.

Reproductive toxicity

No relevant data found.

Mutagenicity

In vitro genetic toxicity studies were negative for component(s) tested. Genetic toxicity studies in animals were negative for component(s) tested.

Aspiration Hazard

Based on physical properties, not likely to be an aspiration hazard.

COMPONENTS INFLUENCING TOXICOLOGY:

1,6-diisocyanatohexane, homopolymer

Acute inhalation toxicity

LC50, Rat, male, 4 Hour, dust/mist, 0.543 mg/l

Aliphatic Polyisocyanate

Acute inhalation toxicity

LC50, Rat, female, 4 Hour, dust/mist, 1.5 mg/l Acute toxicity estimate

Propylene carbonate

Acute inhalation toxicity

No adverse effects are anticipated from single exposure to vapor.

The LC50 has not been determined.

Section 12 – Ecological Information

Ecotoxicological information appears in this section when such data is available.

Toxicity:

1,6-diisocyanatohexane, homopolymer**Acute toxicity to fish**

Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).

NOEC mortality, Danio rerio (zebra fish), static test, 96 Hour, > 100 mg/l, OECD Test Guideline 203 or Equivalent

Acute toxicity to aquatic invertebrates

NOEC, Daphnia magna, Static, 48 Hour, > 100 mg/l, OECD Test Guideline 202 or Equivalent

Acute toxicity to algae/aquatic plants

EC50, alga Scenedesmus sp., static test, 72 Hour, Biomass, > 1,000 mg/l

Toxicity to bacteria

EC50, activated sludge, Respiration inhibition, 3 Hour, > 1,000 mg/l, OECD 209 Test

Aliphatic Polyisocyanate**Acute toxicity to fish**

For similar material(s):

Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).

LC50, zebra fish (Brachydanio rerio), Static, 96 Hour, > 100 mg/l, Directive 67/548/EEC, Annex V, C.1.

Propylene carbonate**Acute toxicity to fish**

Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).

LC50, Cyprinus carpio (Carp), semi-static test, 96 Hour, > 1,000 mg/l

Acute toxicity to aquatic invertebrates

EC50, Daphnia magna (Water flea), 48 Hour, > 1,000 mg/l, OECD Test Guideline 202 or Equivalent

Acute toxicity to algae/aquatic plants

EC50, alga Scenedesmus sp., 72 Hour, Biomass, > 900 mg/l, Method Not Specified.

Toxicity to bacteria

EC50, activated sludge, 30 min, > 800 mg/l, OECD 209 Test

Persistence and degradability**1,6-diisocyanatohexane, homopolymer**

Biodegradability: 10-day Window: Fail

Biodegradation: 0 %

Exposure time: 28 d

Aliphatic Polyisocyanate

Biodegradability: For similar material(s): Material is not readily biodegradable according to OECD/EEC guidelines. In the aquatic and terrestrial environment, material reacts with water forming predominantly insoluble polyureas which appear to be stable.

Propylene carbonate

Biodegradability: Material is readily biodegradable. Passes OECD test(s) for ready biodegradability. Material is ultimately biodegradable (reaches > 70% mineralization in OECD test(s) for inherent biodegradability).

10-day Window: Pass

Biodegradation: 94 %

Exposure time: 28 d

Method: OECD Test Guideline 301E or Equivalent

10-day Window: Not applicable

Biodegradation: > 97 %

Exposure time: 28 d

Method: OECD Test Guideline 302B or Equivalent

Theoretical Oxygen Demand: 1.25 mg/mg

Photodegradation

Test Type: Half-life (indirect photolysis)

Sensitizer: OH radicals

Atmospheric half-life: 34 Hour

Method: Estimated.

Bioaccumulative potential

1,6-diisocyanatohexane, homopolymer

Bioaccumulation: No relevant data found.

Aliphatic Polyisocyanate

Bioaccumulation: In the aquatic and terrestrial environment, movement is expected to be limited by its reaction with water forming predominantly insoluble polyureas.

Propylene carbonate

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3). Potential for mobility in soil is very high (Koc between 0 and 50). Given its very low Henry's constant, volatilization from natural bodies of water or moist soil is not expected to be an important fate process. Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

Partition coefficient: n-octanol/water(log Pow): -0.41 Measured

Mobility in soil

1,6-diisocyanatohexane, homopolymer

No relevant data found.

Propylene carbonate

Potential for mobility in soil is very high (Koc between 0 and 50).

Given its very low Henry's constant, volatilization from natural bodies of water or moist soil is not expected to be an important fate process.

Partition coefficient (Koc): 15 Estimated.

Section 13 – Disposal Considerations

Disposal methods: NOTICE: Research sample for use by qualified personnel only. Upon completion of tests, dispose of material and container safely and in accord with federal, state/provincial and local laws and regulations. If further information is needed on disposal or use, consult your supplier.

Section 14 – Transport Information

USDOT (Domestic Surface)	Not regulated for transport
Classification for SEA transport (IMO-IMDG):	Not regulated for transport
Transport in bulk according to Annex I or II of MARPOL 73/78 and the IBC or IGC Code	Consult IMO regulations before transporting ocean bulk
Classification for AIR transport (IATC/ICAO)	Not regulated for transport

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

Section 15 – Regulatory Information

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Sections 311 and 312
Immediate (acute) Health Hazard

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Section 313
This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Pennsylvania Worker and Community Right-To-Know Act:
To the best of our knowledge, this product does not contain chemicals at levels which require reporting under this statute.

California Proposition 65 (Safe Drinking Water and Toxic Enforcement Act of 1986)
WARNING: This product contains a chemical(s) known to the State of California to cause cancer.

Components	CASRN
Propylene oxide	75-56-9

United States TSCA Inventory (TSCA)
All components of this product are in compliance with the inventory listing requirements of the U.S. Toxic Substances Control Act (TSCA) Chemical Substance Inventory.

Section 16 – Other Information

Other information
For research use only.

Revision
Identification Number: 102998247 / A001 / Issue Date: 03/16/2017 / Version: 0.0

Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.

Abbreviations and acronyms:

Dow IHG	Dow Industrial Hygiene Guideline
DSEN, RSEN	Skin and respiratory sensitizer
STEL	Short-term exposure limit
TWA	Time weighted average

SDS prepared by: Aquafin product safety department.

DISCLAIMER:

We believe the statements, technical information and recommendations contained herein are reliable, but they are given without warranty or guarantee of any kind, expressed or implied, and we assume no responsibility for any loss, damage, or expense, direct or consequential, arising out of their use. Aquafin shall not be responsible for the use of this product in a manner to infringe on any patent or any other intellectual property rights held by others.

User is responsible for determining appropriate safety measures and for applying the legislation covering his own activities.

We recommend that user makes tests to determine the suitability of a product for its particular purpose prior to use.

END OF SDS

(February 27, 2019)