SAFETY DATA SHEET
DUOTACK 365 PART A

SECTION 1 IDENTIFICATION

Product Name	DUOTACK 365 PART A
Recommended Use	Bi-component adhesive for insulation material
Restrictions	Contact Manufacturer
Manufacturer	Performance Roof Systems
Address	4821 Chelsea Avenue Kansas City, MO 64130
Phone Number	(800) 727-9872
Emergency Number	(800) 424-9300 (CHEMTREC)

SECTION 2 HAZARDS

GHS Classification

Acute Toxicity, Inhalation: Hazard Category 4
Skin Irritation: Hazard Category 2
Eye Irritation: Hazard Category 2A
Skin Sensitization: Hazard Category 1
Respiratory Sensitization: Hazard Category 1
Carcinogenicity: Hazard Category 2
STOT, Single Exposure: Hazard Category 3
STOT, Repeated Exposure, respiratory system: Hazard Category 2

Hazard Pictographs

Signal Word

DANGER

Hazard Statements

H315 - Causes skin irritation
H317 - May cause an allergic skin reaction
H319 - Causes serious eye irritation
H322 - Harmful if inhaled
H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled
H372 - May cause damage to organs (respiratory system) through prolonged or repeated exposure

Precautionary Statements

P201 - Obtain special instructions before use
P202 - Do not handle until all safety precautions have been read and understood
P260 - Do not breathe fume, gas, vapors
P264 - Wash hands, forearms and face thoroughly after handling
P271 - Use only outdoors or in a well-ventilated area
P273 - Avoid release into the environment
P280 - Wear protective gloves and clothing
P284 - Wear respiratory protection

Response

P301+P310 - If swallowed: Immediately call a Poison Center or doctor/physician. Do not induce vomiting. Collect Spillage.
P302+P352+P363 - If on skin (or hair), Wash with plenty of soap and water. Wash contaminated clothing before reuse.
P304+P341+P312 - If inhaled, If breathing is difficult, remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician if you feel unwell.

ABBREVIATION KEY

GHS = Global Harmonized System
STOT = Specific Target Organ Toxicity

SECTION 2 HAZARDS

Response
P305+P351+P338 - If in eyes: rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P308+P313 - If exposed or concerned, get medical advice/attention
P314 - Get medical advice/attention if you feel unwell
P333 + P313 - If skin irritation or rash occurs: Get medical attention.
P337 + P313 - If eye irritation persists: Get medical attention.

Storage
P405 - Store locked up

Disposal
P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

OTHER HAZARDS
None known

SECTION 3 COMPOSITION

Chemical Composition: Mixture

COMPONENT	CAS NUMBER	PERCENT BY WEIGHT
Polymeric Isocyanates	9016-87-9	50 - 72
4,4'-Methylene Bisphenyl Isocyanate	101-68-8	25 - 50
Propane-1,2-diol, propoxylated	25322-69-4	10 - 25
Diphenylmethane diisocyanate homopolymer	39310-05-9	3 - 5
Diphenylmethane-2,4'-diisocyanate	5873-54-1	1 - 3

Note: *The above components and their percentages are provided for health and safety purposes, ONLY. This document should not be construed as a guaranteed analysis of any specific lot or as specifications for the product.*

SECTION 4 FIRST AID MEASURES

Eyes
If foreign matter enters eyes, immediately flush with large amounts of potable water for at least 20 minutes or until irritation subsides. Get medical attention if irritation persists.

Skin
Remove contaminated clothing and wash with soap and water. Wash affected areas with soap and water for at least five minutes. If irritation persists or a rash occurs, seek medical attention. Launder or dry-clean clothing before reuse.

Inhalation
If signs and symptoms of respiratory toxicity are observed, remove subject from area and seek immediate medical attention. Keep the subject warm and at rest. If necessary, administer oxygen or perform artificial respiration if necessary and qualified personnel are available to do so.

Ingestion
Do not induce vomiting – aspiration hazard. If the subject is conscious, wash mouth and give 2 or more cups of milk or water. Seek immediate medical assistance. Do not attempt to give anything by mouth to an unconscious or convulsive person.

Symptoms, Acute & Delayed
Refer to Section 11 - Toxicological Information

Immediate Medical Attention
All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials

ABBREVIATION KEY

SECTION 5 FIRE FIGHTING MEASURES

Hazardous Products of Combustions	Carbon dioxide, carbon monoxide and nitrogen oxides
Extinguishing Media	Dry chemical, CO2, water spray (fog) or foam
Firefighting instruction	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
Explosion Hazard	In a fire or if heated, a pressure increase will occur and the container may burst.
Protection Gear	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Personal Precautions	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
Emergency Procedures	No emergency procedures should be necessary if material is used under ordinary conditions as recommended.
Environmental Precautions	Prevent spills from entering sewers or contaminating soil. Report releases as required by local, state and federal authorities.
Method and Materials for Containment & Clean Up	Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. ***Refer to Section 13 - for waste disposal.***

SECTION 7 HANDLING AND STORAGE

Handling	Use this product with adequate ventilation. Avoid breathing dusts or fumes generated from cutting or heating this material. Always wash work clothes separately from other clothing. Wash thoroughly after handling. ***Use personal protective equipment as described in Section 8.***
Storage	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials ***See Section 10 for incompatible materials*** and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Use appropriate containment to avoid environmental contamination.

ABBREVIATION KEY

SCBA = Self-contained breathing apparatus

SECTION 8 EXPOSURE CONTROLS AND PERSONAL PROTECTION

Occupational Exposure Limits

COMPONENT	CAS NUMBER	OSHA PEL	ACGIH TLV	NIOSH REL
4,4'-Methylene Bisphenyl Isocyanate	101-68-8	0.2 mg/m^3 TWA	0.05 mg/m^3	0.05 mg/m^3 TWA 0.2 mg/m^3 Ceiling (10 min)

Engineering Measures/ Controls
Adequate ventilation systems as needed to control concentrations of airborne contaminants below applicable threshold limit values.

General Industrial Hygiene
Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Environmental Exposure Controls
Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

PERSONAL PROTECTIVE EQUIPMENT

Pictographs

Eyes/Face
Safety glasses with side shields
Follow the national guidelines concerning the use of protective eye wear.

Hand
Protective Gloves
Wear protective gloves and clothing to prevent skin irritation or injury from contact with the product. Glove materials known to be effective against permeation by isocyanates include butyl rubber, nitrile rubber, and polychloroprene.

Skin/Body
Normal work clothing (long sleeved shirts, long pants and smooth bottom work shoes) is recommended.

Inhalation
Use NIOSH or MSHA approved respiratory protective equipment when airborne exposure limits are exceeded.

ABBREVIATION KEY

NIOSH = National Institute for Occupational Safety
OSHA = Occupational Safety & Health Administration
ACGIH = American Conference of Governmental Industrial Hygiene
MSHA = Mine Safety and Health Administration
PEL = Permissible Exposure Level
TLV = Threshold Limit Value
TWA = Time-Weighted Averages are based on 8h/day, 40h/week exposures

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Liquid
Appearance	Amber
Odor	Weak
Odor Threshold	No data available
pH	No data available
Relative Evaporation Rate	No data available
Boiling Point	No data available
Freezing Point	No data available
Flash Point	No data available
Auto-ignition Temperature	No data available
Decomposition Temperature	No data available
Specific Gravity (H_20 =1)	No data available
Vapor pressure	No data available
Vapor Density (AIR=1)	>1
Relative density	1.19
Solubility	No data available
Viscosity	No data available
Flow time (ISO 2431)	No data available
VOC	0 g/L

SECTION 10 STABILITY AND REACTIVITY

Reactivity	No specific test data related to reactivity available for this product or its ingredients
Chemical Stability	Stable at room temperature in closed containers under advised storage and handling conditions.
Conditions to Avoid	Humidity and direct sunlight
Incompatible materials	Water, amines, alcohol, strong acids, strong bases, strong oxidizing agents, amides, phenols, mercaptans, urethanes, ureas and surfactants.
Hazardous Polymerization	4,4'-Methylene dianiline (formed by the reaction of MDI with water).

SECTION 11 TOXICOLOGICAL INFORMATION

Component Analysis

COMPONENT	CAS NUMBER	ORAL LD50 (mg/kg)	DERMAL LD50 (mg/kg)	INHALATION LC50 (mg/L)
Polymeric Isocyanates	9016-87-9	>31,600 (rat)	>5,000 (rabbit)	>0.368 (rat) 4 hour
4,4'-Methylene Bisphenyl Isocyanate	101-68-8	>10,000 (rat)	>9,400 (rabbit)	>0.49 (rat) 4 hour
Propane-1,2-diol, propoxylated	25322-69-4	>3,750 (rat)	N/A	N/A
Diphenylmethane diisocyanate homopolymer	39310-05-9	>5,000 (rat)	>5,000 (rabbit)	>0.49 (rat) 4 hour
Diphenylmethane-2,4'-diisocyanate	5873-54-1	>31,600 (rat)	>5,000 d (rabbit)	>0.368 (rat) 4 hour

ABBREVIATION KEY

LD_{50} = Lethal dose, 50 percent
LC_{50} = Lethal concentration, 50 Percent
VOC = Volatile organic compounds

SECTION 11 TOXICOLOGICAL INFORMATION

POTENTIAL HEALTH EFFECTS

Eyes

Acute *(Immediate)* Causes serious eye irritation.
Chronic (Delayed) No data available

Skin

Acute *(Immediate)* Causes skin irritation. May cause an allergic skin reaction.
Chronic (Delayed) No data available

Inhalation

Acute *(Immediate)* Harmful if inhaled. May cause respiratory irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Chronic (Delayed) May cause damage to organs through prolonged or repeated exposure. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Ingestion

Acute *(Immediate)* Product is not intended nor is it likely to be ingested or eaten.
Chronic (Delayed) No data available

Component Carcinogenicity Polymeric Isocyanates (9016-87-9)
IARC: Group 3

4,4'-Methylenediphenyl Diisocyanate (101-68-8)
IARC: Group 3

Carcinogenicity Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.

Mutagenicity No known significant effects or critical hazards.

Reproductive toxicity No known significant effects or critical hazards.

STOT Single Exposure STOT SE Hazard Category 3

STOT Repeated Exposure STOT RE Hazard Category 2

Acute Toxicity estimates 24.07 mg/L Inhalation (dusts and mists)
4.248 mg/L Inhalation (dusts and mists)

SECTION 12 ECOLOGICAL INFORMATION

Eco toxicity

COMPONENT	CAS NUMBER	FISH LC50 (mg/L)	DAPHNA EC50 (mg/L)	ALGAE EC50 (mg/L)
Polymeric Isocyanates	9016-87-9	>1000 (Zebra fish) 96 Hours	>1000 (Water flea) 48 Hours	N/A
4,4'-Methylene Bisphenyl Isocyanate	101-68-8	>1000 (Zebra fish) 96 Hours	>1000 (Water flea) 48 Hours	N/A
Propane-1,2-diol, propoxylated	25322-69-4	>100 (rainbow trout) 96 Hours	N/A	N/A
Diphenylmethane diisocyanate homopolymer	39310-05-9	>1000 (Zebra fish) 96 Hours	>1000 (Water flea) 48 Hours	>1640 (algae) 72 Hours
Diphenylmethane-2,4'-diisocyanate	5873-54-1	>1000 (Zebra fish) 96 Hours	>1000 (Water flea) 48 Hours	N/A

ABBREVIATION KEY

IARC = International Agency for Research on Cancer
LC_{50} = Lethal concentration, 50 Percent
STOT = Specific Target Organ Toxicity
EC_{50} = Effective concentration, 50 Percent

SECTION 12 ECOLOGICAL INFORMATION

Persistence & Degradability No data available

Bioaccumulation Potential

COMPONENT	CAS NUMBER	LOG P_{OW}	BFC	POTENTIAL
4,4'-Methylene Bisphenyl Isocyanate	101-68-8	4.51	200	low
Propane-1,2-diol, propoxylated	25322-69-4	-0.68 to 0.01	N/A	low
Diphenylmethane diisocyanate homopolymer	39310-05-9	8.56	200	low
Diphenylmethane-2,4'-diisocyanate	5873-54-1	4.51	200	low

Soil Absorption/Mobility No data available

Ozone-Depletion Potential No known significant effects or critical hazards

SECTION 13 DISPOSAL CONSIDERATIONS

Disposal Methods

The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling empty containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14 TRANSPORT INFORMATION

Classification (DOT) 9

Identification Number UN3082

Shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.

Packaging group III

Environmental Hazards Yes

DOT-RQ Details 4,4'-Methylenediphenyl Diisocyanate; 5000 lbs / 2270 kg

DOT Classification Non-bulk packages of this product are not regulated as hazardous materials in package sizes less than the product reportable quantity, unless transported by inland waterway. The marine pollutant mark is not required when transported on inland waterways in sizes of ≤5 L or ≤5 kg.

Reportable quantity 11473.7 lbs / 5209.1 kg [1156.4 gal / 4377.4 L]. Package sizes shipped in quantities less than the product reportable quantity are not subject to the RQ (reportable quantity) transportation requirements.

ABBREVIATION KEY

lofP$_{ow}$ = octanol–water partition coefficient

DOT = Department of Transportation

SECTION 15 REGULATORY INFORMATION

TSCA Inventory Components are listed

DSL Inventory Components are listed

Sara 313 Section 313 Toxic Chemicals subject to the reporting requirements of that section and 40 CFR part 372 (EPCRA):
Polymeric Isocyanates (9016-87-9);
4,4'-Methylene Bisphenyl Isocyanate (101-68-8)

Sara 311/312 Categories Acute Health Hazard, Chronic Health Hazard

CERCLA Under requirements of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), **4,4'-Methylene Bisphenyl Isocyanate (101-68-8)** and **Polymeric Isocyanaates (9016-87-9)** have a Reportable Quantity of 5,000 lbs. Any spill or release above this RQ must be reported to the National Response Center (800-424-8802).

CA Proposition 65 This product does not contain chemicals known to the state of California to cause cancer, birth defects, and/or other reproductive harm.

Right to Know States

COMPONENT	CAS NUMBER	CA	MA	MN	NJ	PA	RI
Polymeric Isocyanates	9016-87-9	Yes	Yes	No	Yes	Yes	No
4,4'-Methylene Bisphenyl Isocyanate	101-68-8	Yes	Yes	Yes	Yes	Yes	Yes
Propane-1,2-diol, propoxylated	25322-69-4	No	No	Yes	No	No	No
Diphenylmethane-2,4'-diisocyanate	5873-54-1	No	Yes	No	Yes	Yes	No

SECTION 16 OTHER INFORMATION

Preparation Date May 2019

Revision Date March 2022

Summary of Changes Branding update

Disclaimer The information and recommendations contained herein are to the best of Performance Roof Systems' knowledge and belief, accurate and reliable as of the date issued. Performance Roof Systems does not warrant or guarantee their accuracy or reliability, and Performance Roof Systems shall not be liable for any loss or damage arising out of the use thereof.

The information and recommendations are offered for the users consideration and examination, and it is the user's responsibility to satisfy itself that they are suitable and complete for its particular use. It is also the users responsibility to make certain that it is relying upon the most recent, updated, information and recommendations available from Performance Roof Systems.

ABBREVIATION KEY

TSCA = Toxic Substances Control Act
SARA = Superfund Amendments and Reauthorization Act
GHS = Global Harmonized System
NFPA = National Fire Protection Agency
DSL = Domestic Substances List (Canada)
CERCLA = Comprehensive Environmental Response, Compensation, &Liability Act
HMIS = Hazardous Material Identification System

SECTION 1 IDENTIFICATION

Product Name	DUOTACK 365 PART B
Recommended Use	Bi-component adhesive for insulation material
Restrictions	Contact Manufacturer
Manufacturer	Performance Roof Systems
Address	4821 Chelsea Avenue Kansas City, MO 64130
Phone Number	(800) 727-9872
Emergency Number	(800) 424-9300 (CHEMTREC)

SECTION 2 HAZARDS

GHS Classification

Skin Irritation; Hazard Category 1
Eye Irritation; Hazard Category 2B
Skin Sensitization;Hazard Category 1
Toxic to Reproduction; Fertility; Hazard Category 1
Toxic to Reproduction; Unborn child: Hazard Category 1
Aquatic Hazard; Acute; Hazard Category 3
Aquatic Hazard; Long term; Hazard Category 3

Hazard Pictographs

Signal Word

DANGER

Hazard Statements

H317 - May cause an allergic skin reaction
H320 - Causes eye irritation
H360 - May damage fertility or the unborn child
H412 - Harmful to aquatic life with long lasting effects

Precautionary Statements

P201 - Obtain special instructions before use
P202 - Do not handle until all safety precautions have been read and understood
P261 - Avoid breathing vapor.
P264 - Wash hands, forearms and face thoroughly after handling
P271 - Use only outdoors or in a well-ventilated area
P272 - Contaminated work clothing must not be allowed out of the workplace.
P273 - Avoid release into the environment
P280 - Wear protective gloves and clothing

Response

P302+P352+P363 - If on skin (or hair), Wash with plenty of soap and water. Wash contaminated clothing before reuse.
P305+P351+P338 - If in eyes: rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P308+P313 - If exposed or concerned, get medical advice/attention
P333+P313 - If skin irritation or rash occurs: Get medical attention.
P337+P313 - If eye irritation persists: Get medical attention.

Storage

P405 - Store locked up

ABBREVIATION KEY

GHS = Global Harmonized System
STOT = Specific Target Organ Toxicity

SECTION 2 HAZARDS

Disposal P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

OTHER HAZARDS This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

SECTION 3 COMPOSITION

Chemical Composition: Mixture

COMPONENT	CAS NUMBER	PERCENT BY WEIGHT
Propane-1,2-diol, propoxylated	25322-69-4	75 - 90
Dibutyltin dilaurate	77-58-7	<1
Bis(tributyltin) oxide	56-35-9	<1

Note: *The above components and their percentages are provided for health and safety purposes, ONLY. This document should not be construed as a guaranteed analysis of any specific lot or as specifications for the product.*

SECTION 4 FIRST AID MEASURES

Eyes If foreign matter enters eyes, immediately flush with large amounts of potable water for at least 20 minutes or until irritation subsides. Get medical attention if irritation persists.

Skin Remove contaminated clothing and wash with soap and water. Wash affected areas with soap and water for at least five minutes. If irritation persists or a rash occurs, seek medical attention. Launder or dry-clean clothing before reuse.

Inhalation If signs and symptoms of respiratory toxicity are observed, remove subject from area and seek immediate medical attention. Keep the subject warm and at rest. If necessary, administer oxygen or perform artificial respiration if necessary and qualified personnel are available to do so.

Ingestion Do not induce vomiting – aspiration hazard. If the subject is conscious, wash mouth and give 2 or more cups of milk or water. Seek immediate medical assistance. Do not attempt to give anything by mouth to an unconscious or convulsive person.

Symptoms, Acute & Delayed ***Refer to Section 11 - Toxicological Information***

Immediate Medical Attention All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials

SECTION 5 FIRE FIGHTING MEASURES

Hazardous Products of Combustions Carbon dioxide, carbon monoxide and nitrogen oxides

Extinguishing Media Dry chemical, CO2, water spray (fog) or foam

Firefighting instruction This material is harmful to aquatic life with long lasting effects. Water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Explosion Hazard In a fire or if heated, a pressure increase will occur and the container may burst.

Protection Gear Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus with a full face-piece operated in positive pressure mode.

ABBREVIATION KEY

OSHA = Occupational Safety & Health Administration

SECTION 6 ACCIDENTAL RELEASE MEASURES

Personal Precautions

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

Emergency Procedures

No emergency procedures should be necessary if material is used under ordinary conditions as recommended.

Environmental Precautions

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities..

Method and Materials for Containment & Clean Up

Prevent entry into sewers, water courses, basements or confined areas. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. ***Refer to Section 13 - for waste disposal.***

SECTION 7 HANDLING AND STORAGE

Handling

Do not handle until all safety precautions have been read and understood. ***Use personal protective equipment as described in Section 8.*** Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Avoid exposure during pregnancy. Do not get in eyes, on skin or clothing. Do not ingest. Avoid breathing vapor or mist. Avoid release to the environment. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator.

Storage

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials ***See Section 10 for incompatible mterials*** and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Use appropriate containment to avoid environmental contamination.

SECTION 8 EXPOSURE CONTROLS AND PERSONAL PROTECTION

Occupational Exposure Limits

COMPONENT	CAS NUMBER	OSHA PEL (mg/m^3)	ACGIH TLV (mg/m^3)	NIOSH REL (mg/m^3)
Dibutyltin dilaurate	77-58-7	TWA: 0.1 (8 hrs)	TWA: 0.1 (8 hrs) STEL: 0.2 (15 min)	TWA: 0.1 (10 hrs)
Bis(tributyltin) oxide	56-35-9	TWA: 0.1 (8 hrs)	TWA: 0.1 (8 hrs) STEL: 0.2 (15 min)	TWA: 0.1 (10 hrs)

ABBREVIATION KEY

NIOSH = National Institute for Occupational Safety
OSHA = Occupational Safety & Health Administration
ACGIH = American Conference of Governmental Industrial Hygiene
PEL = Permissible Exposure Level
TLV = Threshold Limit Value
TWA = Time-Weighted Averages are based on 8h/day, 40h/week exposures

SECTION 8 EXPOSURE CONTROLS AND PERSONAL PROTECTION

Engineering Measures/ Controls	Adequate ventilation systems as needed to control concentrations of airborne contaminants below applicable threshold limit values.
General Industrial Hygiene	Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
Environmental Exposure Controls	Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

PERSONAL PROTECTIVE EQUIPMENT

Pictographs	
Eyes/Face	**Safety glasses with side shields** Follow the national guidelines concerning the use of protective eye wear.
Hand	**Protective Gloves** Wear protective gloves and clothing to prevent skin irritation or injury from contact with the product. Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.
Skin/Body	Normal work clothing (long sleeved shirts, long pants and smooth bottom work shoes) is recommended.
Inhalation	Use NIOSH or MSHA approved respiratory protective equipment when airborne exposure limits are exceeded.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Liquid (Creamy)
Appearance	White
Odor	No data available
Odor Threshold	No data available
pH	No data available
Relative Evaporation Rate	No data available
Boiling Point	No data available
Freezing Point	No data available
Flash Point	No data available
Auto-ignition Temperature	No data available
Decomposition Temperature	No data available
Specific Gravity (H_20 =1)	No data available
Vapor pressure	No data available
Vapor Density (AIR=1)	No data available
Relative density	1.01
Solubility	No data available
Viscosity	No data available
Flow time (ISO 2431)	No data available
VOC	0 g/L

ABBREVIATION KEY

NIOSH = National Institute for Occupational Safety
VOC = Volatile organic compounds
MSHA = Mine Safety and Health Administration

SECTION 10 STABILITY AND REACTIVITY

Reactivity	No specific test data related to reactivity available for this product or its ingredients
Chemical Stability	Stable at room temperature in closed containers under advised storage and handling conditions.
Conditions to Avoid	Avoid excessive heat and freezing
Incompatible materials	Oxidizing materials, alkalis and acids
Hazardous Polymerization	Carbon monoxide, carbon dioxide, nitrogen and sulfur oxides.

SECTION 11 TOXICOLOGICAL INFORMATION

Component Analysis

COMPONENT	CAS NUMBER	ORAL LD50 (mg/kg)	DERMAL LD50 (mg/kg)	INHALATION LC50 (mg/L)
Propane-1,2-diol, propoxylated	25322-69-4	>3,750 (rat)	N/A	N/A
Dibutyltin dilaurate	77-58-7	>2,071 (rat)	>2,000 (rabbit)	N/A
Bis(tributyltin) oxide	56-35-9	>87 (rat)	>900 (rabbit)	N/A

POTENTIAL HEALTH EFFECTS

Eyes

Acute *(Immediate)*	Conjunctivitis, irritation, tearing and burning
Chronic (Delayed)	Causes eye irritation

Skin

Acute *(Immediate)*	Irritation and inflammation. Allergic skin reaction may occur. Dermatitis
Chronic (Delayed)	Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Inhalation

Acute *(Immediate)*	No known significant effects or critical hazards
Chronic (Delayed)	May cause damage to organs through prolonged or repeated exposure

Ingestion

Acute *(Immediate)*	No known significant effects or critical hazards
Chronic (Delayed)	No known significant effects or critical hazards

Component Carcinogenicity	No known significant effects or critical hazards
Carcinogenicity	Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.
Mutagenicity	No known significant effects or critical hazards
Reproductive toxicity	Adverse symptoms may include the following: reduced fetal weight, increase in fetal deaths and skeletal malformations
STOT Single Exposure	STOT SE Hazard Category 1
STOT Repeated Exposure	STOT RE Hazard Category 2
Acute Toxicity estimates	No data available

ABBREVIATION KEY

LD_{50} = Lethal dose, 50 percent

LC_{50} = Lethal concentration, 50 Percent

SECTION 12 ECOLOGICAL INFORMATION

Eco toxicity

COMPONENT	CAS NUMBER	FISH LC50 (mg/L)	DAPHNA EC50 (mg/L)	ALGAE EC50 (mg/L)
Propane-1,2-diol, propoxylated	25322-69-4	>100 (rainbow trout) 96 Hours	N/A	N/A
Dibutyltin dilaurate	77-58-7	>1 (Oryzias latipes) 48 Hours	>1.7-3.4 (Water flea) 48 Hours	>1(algae) 72 Hours
Bis(tributyltin) oxide	56-35-9	>0.007 (rainbow trout) 96 Hours	>0.002 (Water flea) 48 Hours	>0.001 (Skeletoma) 72 Hours

Persistence & Degradability No data available

Bioaccumulation Potential

COMPONENT	CAS NUMBER	LOG P_{OW}	BFC	POTENTIAL
Propane-1,2-diol, propoxylated	25322-69-4	-0.68 to 0.01	N/A	low
Dibutyltin dilaurate	77-58-7	4.44	2.91	low
Bis(tributyltin) oxide	56-35-9	3.19	1,310	high

Soil Absorption/Mobility No data available

Ozone-Depletion Potential No known significant effects or critical hazards

SECTION 13 DISPOSAL CONSIDERATIONS

Disposal Methods

The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling empty containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14 TRANSPORT INFORMATION

Transportation Regulations This product is not regulated as a hazardous material in transportation.

ABBREVIATION KEY

IARC = International Agency for Research on Cancer
LC50 = Lethal concentration, 50 Percent
STOT = Specific Target Organ Toxicity
EC50 = Effective concentration, 50 Percent

SECTION 15 REGULATORY INFORMATION

TSCA Inventory Components are listed

DSL Inventory Components are listed

Sara 313 Section 313 Toxic Chemicals subject to the reporting requirements of that section and 40 CFR part 372 (EPCRA):
Bis(tributyltin) oxide (56-35-9)

Sara 311/312 Categories Acute Health Hazard, Chronic Health Hazard

CERCLA This material does not contain any components with a CERCLA RQ

CA Proposition 65 This product does not contain chemicals known to the state of California to cause cancer, birth defects, and/or other reproductive harm.

Right to Know States

COMPONENT	CAS NUMBER	CA	MA	MN	NJ	PA	RI
Propane-1,2-diol, propoxylated	25322-69-4	No	No	Yes	No	No	No
Dibutyltin dilaurate	77-58-7	Yes	No	No	No	Yes	No
Bis(tributyltin) oxide	56-35-9	Yes	Yes	No	Yes	Yes	No

SECTION 16 OTHER INFORMATION

Preparation Date May 2019

Revision Date March 2022

Summary of Changes Branding update

Disclaimer The information and recommendations contained herein are to the best of Performance Roof Systems' knowledge and belief, accurate and reliable as of the date issued. Performance Roof Systems does not warrant or guarantee their accuracy or reliability, and Performance Roof Systems shall not be liable for any loss or damage arising out of the use thereof.

The information and recommendations are offered for the users consideration and examination, and it is the user's responsibility to satisfy itself that they are suitable and complete for its particular use. It is also the users responsibility to make certain that it is relying upon the most recent, updated, information and recommendations available from Performance Roof Systems.

ABBREVIATION KEY

TSCA = Toxic Substances Control Act
SARA = Superfund Amendments and Reauthorization Act
GHS = Global Harmonized System
DSL = Domestic Substances List (Canada)
CERCLA = Comprehensive Environmental Response, Compensation, &Liability Act