BLACKHAWK™
PURE FLEXIBLE CONTAINMENT

PHOENIX®
PROTECTIVE COATINGS

SAFETY DATA SHEET

Section 1: Identifcation

Product Name: BLACKHAWK™ (A-Side)
PHOENIX MCBS, LLC
804 Summer Park, Suite 450
Stafford, TX 77477
281-627-0661

Spill, leak, fire, exposure, or accident, call CHEMTREC day or night
Domestic North America: **800-424-9300**
email: info@phoenixliners.com

Section 2: Hazards Identifcation

GHS Ratings:

Inhalation Toxicity	Acute toxicity 4	Gases >2500+<=5000ppm, Vapors >10+<=20mg/l, Dusts & mists >1+<=5mg/l
Skin Corrosive	Category 2	Reversible adverse effects in dermal tissue, Draize score: >= 2.3 < 4.0 or persistent inflammation
Eye Corrosive	Category 2B	Mild eye irritant: Subcategory 2b: Reversible in 7 days.
Respiratory Sensitization	Category 1	
Skin Sensitization	Category 1	
Reproductive Toxin	Category 2	Human or animal evidence possibly with other information
Specific Target Organ Toxicity *Single Exposure*	Category 3	Transient target organ effects: Narcotic effects - Respiratory tract irritation
Specific Target Organ Toxicity *Repeated Exposure*	Category 1	*Significant toxicity in humans* - Reliable, good quality human case studies or epidemiological studies. *Presumed significant toxicity in humans* - Animal studies with significant and/or severe toxic effects relevant to humans at generally low exposure.

Danger

GHS Hazards:

May cause respiratory irritation	Causes skin irritation
Harmful if inhaled	May cause an allergic skin reaction
Causes eye irritation	May cause allergy or asthma symptoms or breathing difficulties if inhaled
Causes damage to organs through prolonged or repeated exposure	May cause drowsiness or dizziness
Suspected of damaging fertility or the unborn child	

GHS Precautions:

Obtain special instructions before use	Do not handle until all safety precautions have been read and understood
Wash skin / hands thoroughly after handling	
Use respiratory protection	Contaminated work clothing should not be allowed out of the workplace
Do not breathe dust/fume/gas/mist/vapors/spray	

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GHS Precautions (cont.):

Do not eat, drink or smoke when using this product	Use personal protective equipment as required
Use only outdoors or in a well-ventilated area	Wear protective gloves / protective clothing / eye protection / face protection
Take off contaminated clothing & wash before reuse	
Get Medical advice/attention if you feel unwell	In case of inadequate ventilation wear respiratory protection
Call a POISON CENTER or doctor if you feel unwell	
Specific treatment is urgent (see Section 4 First Aid measures)	Take off contaminated clothing and wash before reuse
IF ON SKIN: Wash with plenty of soap & water.	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.	If skin irritation or a rash occurs: Get medical advice/ attention
Dispose of contents/container in accordance with existing federal, state, and local environmental control laws.	Store in a well-ventilated place. Keep container tightly closed. Store locked up.

Acute Health Effects:

Eyes: Severe irritation, tearing, swelling, and possible damage to cornea.
Skin: Irritation, redness, swelling, skin sensitization, rash, scaling, and blistering.
Inhalation: Mucous membrane and respiratory tract irritation, tightness of chest, isocyanate sensitization.
Ingestion: Irritating and corrosive to mouth, stomach, and digestive tract.

Conditions Aggravated by Exposure: Asthma, respiratory disorders, skin disorders, and eye disorders.

Chronic Health Effects: Isocyanates may cause skin and respiratory sensitivity in some individuals. Sensitized individuals may react to very low levels diisocyanates below the PEL. Sensitized people who continue to work with diisocyanates may develop symptoms sooner after each exposure. Limited evidence of possible carcinogenic effects. Possible other harmful target organ effects.

Section 3: Component / Hazards Identification

Chemical Name	CAS number	Weight Concentration %
4,4' -Methylenediphenyl diisocyanate	101-68-8	30.0 - 40.0 %
2,2,4-Trimethyl-1,3-pentanediol diisobutyrate	6846-50-0	10 - 20 %

Section 4: First-aid Measures

Inhalation: May cause severe irritation to upper respiratory tract and lungs, respiratory sensitization, decreased lung capacity. Remove from exposure area to fresh air. Administer oxygen or artificial respiration as needed. Obtain medical attention.

Eye Contact: Rinse opened eye for at least 15 minutes under running water. Remove contact lenses if present and easy to do so, and continue rinsing. If irritation persists contact physician.

Skin Contact: Remove contaminated clothing. Clean affected area with soap and plenty of water. Call a physician if irritation or rash develops.

Ingestion: Do not induce vomiting. If conscious, give 1 to 2 cups of milk or water to drink. Consult a physician at once.

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.

Notes to Physician: Treat symptomatically. Following severe exposure the patient should be kept under medical observation for a least 48 hours.

Section 5: Fire-fighting Measures

Flash Point: 121 ˚C (250 ˚F)

Suitable Extinguishing Media: Water spray, CO2, Foam, Dry chemical.

Information about Protection against Explosions and Fires: During the incipient stage of a fire, containers should be kept cool by spraying with water (i.e., water suppression system) on the outside of container. Water spray will help prevent containers from overheating. Use cold-water spray to cool fire-exposed containers to minimize risk of rupture. Large fires can be extinguished with high volumes of water, such as from a fire hose applied from a safe distance. Closed containers may rupture when exposed to extreme heat due to build-up of pressure from thermal degradation and/or carbon dioxide generation.

Dangerous Products of Decomposition: Oxides of carbon, oxides of nitrogen, isocyanates, and traces of HCN.

Protective Equipment: Full emergency equipment with self-contained breathing apparatus and full protective clothing should be worn by firefighters.

Section 6: Accidental Release Measures

Person-Related Safety Precautions: Evacuate all non-essential personnel. Avoid contact with skin. Do not breathe aerosols or vapors.

Environmental Precautions: Cover and contain spill with absorbent material. Place waste in open container. Remove to well ventilated area and dilute with ammonia solution (water 90%, concentrated ammonia 8%, detergent 2%). Collect for proper disposal according to local, state, and federal regulations.

Small Spills: Absorb with earth, sand or other absorbent material and transfer to containers for later disposal. Wipe up with absorbent material (e g. cloth, fleece) clean surface thoroughly to remove residual contamination.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Use an absorbent material like vermiculite, sand or earth to soak up the product and place Into a container for later disposal. Following product recovery, flush area with water.

Section 7: Handling and Storage

Safe Handling Requirements: Do not breathe fumes, vapors or mists. Use only with adequate ventilation. Avoid contact with skin or eyes. Immediately report spills or leaks.

Storage Requirements: Store containers in a dry, well ventilated area. Keep containers tightly closed and prevent moisture contamination. Do not re-seal the container if contamination is suspected. Store between 60°F and 100°F. Store according to all local, state, and federal regulations.

Storage Stability:
Storage Temperature Range: 60 - 100 °F (15 - 37 °C)
Storage Length/Period: 6 months

Section 8: Exposure Controls / Personal Protection

Control Parameters

Exposure limits are listed below, if they exist:

Chemical Name	Regulation	Type of listing	Value / Notation
4,4' -Methylenediphenyl Diisocyanate 101-68-8	Dow IHG Dow IHG ACGIH OSHA Z-1	TWA STEL TWA C	0.005 ppm 0.02 ppm 0.005 ppm 0.2 mg/m^3 0.02 ppm
2,2,4-Trimethyl-1,3-pentanediol diisobutyrate 6846-50-0	None established		

Engineering Controls: Use local exhaust ventilation to maintain airborne concentrations below the TLV, especially if heating or spraying. Use only in a well-ventilated area to keep vapors below exposure limits. Use local exhaust ventilation if necessary.

General Protective and Hygienic Measures: Use all typical precautionary measures when handling chemicals.

Personal Protective Equipment:

Respiratory Protection: Do not inhale vapors. Use NIOSH approved respiratory protection if TLV/PEL is exceeded. Do not enter storage area unless adequately ventilated.

Hand Protection: Protective butyl rubber or nitrile rubber gloves.

Eye Protection: Chemical safety goggles.

Body Protection: Impervious protective work clothing. Launder separately.

Contaminated Gear: Observe local requirements. Dispose of in accordance with local/state/federal regulations.

Section 9: Physical and Chemical Properties

Appearance:	Amber liquid	**Oxidizing Properties:**	No
Relative Density (water = 1):	No Data	**Odor:**	Musty
pH:	No Data	**Odor threshold:**	No Data
Freezing point:	No Data	**Melting point:**	No Data
Evaporation rate:	No Data	**Flash point:**	250 ˚F / 121 ˚C
Explosive Limits:	No Data	**Flammability:**	Not Applicable
Vapor Density:	No Data	**Specific Gravity:**	1.09
Water Solubility:	N/A	**Kinematic Viscosity:**	No Data
Boiling Point:	280 ˚C	**Dynamic Viscosity:**	No Data
Decomposition Temperature:	No Data	**Vapor Pressure:**	No Data

Section 10: Stability and Reactivity

Chemical Incompatible Materials: MDI will react with a wide range of common chemicals. During use of this product in the work environment, protect the product from contamination such as inadvertent contact with water, amines, strong bases and alcohols. For example, allowing water inside an MDI container will lead to the generation of carbon dioxide gas and result in the development of excess pressure if the container is tightly re-sealed.

Hazardous Reactions: Not expected to occur under normal conditions.

Dangerous decomposition products: Oxides of carbon, oxides of nitrogen, hydrocarbons, isocyanates, and traces of HCN.

Section 11: Toxicological Information

Mixture Toxicity

Inhalation Toxicity LC50: 3mg/L

Component Toxicity

101-68-8 4,4'-Methylenediphenyl diisocyanate

Dermal LD50: 1 mg/l (Rat) ***Inhalation LC50:*** 369 mg/m^3 (Rat)

Acute Toxicity:

Eyes: Severe irritation, tearing, swelling, and possible damage to cornea.

Skin: Irritation, redness, swelling, skin sensitization, rash, scaling, and blistering.

Inhalation: Mucous membrane and respiratory tract irritation, tightness of chest, isocyanate sensitization.

Ingestion: Irritating and corrosive to mouth, stomach, and digestive tract.

Chronic Effects: Isocyanates may cause skin and respiratory sensitivity in some individuals. Sensitized individuals may react to very low levels diisocyanates below the PEL. Sensitized people who continue to work with diisocyanates may develop symptoms sooner after each exposure. Limited evidence of possible carcinogenic effects.

Routes of Entry: Inhalation, Ingestion, skin contact, eye contact.

Target Organs: Respiratory tract, eyes, skin.

Chemicals with Known or Possible Carcinogenic Effects: None.

Section 12: Ecological Information

General Information: Based on experience, no adverse effects are to be expected if correct disposal procedures have been followed as indicated in section 13.

Component Ecotoxicity

4,4' -Methylenediphenyl diisocyanate

Acute Toxicity to Fish:
LC50, Brachydanio rerio, 24 Hour, > 500 mg/l

Acute Toxicity to Aquatic Invertibrates:
EC50, Daphnia magna, 24 Hour, > 500 mg/l,

2,2,4-Trimethyl-1,3-pentanediol diisobutyrate

Acute Toxicity to Fish:
LC50, Pimephales promelas, 96 hour: > 1.55 mg/L [static]

Acute Toxicity to Aquatic Invertibrates:
EC50, Daphnia magna 48 hour: > 1.46 mg/L

Section 13: Disposal Considerations

Recommendations: Observe local requirements. Dispose of in accordance with local/state/federal environmental control laws.

Empty Container Precautions: Empty containers retain product residue; observe all precautions for product. Do not heat or cut empty container with electric or gas torch because highly toxic vapors and gases are formed. Do not reuse without thorough commercial cleaning and reconditioning. If container is to be disposed, ensure all product residues are removed and container is empty prior to disposal. Contact the Reusable Industrial Packaging Association (RIPA) at 301-577-3786 to find a drum re-conditioner in North America (www.reusablepackaging.org).

Section 14: Transport Information

DOT Regulated Components: This product is not regarded as dangerous goods according to the national and international regulations on the transport of dangerous goods unless specifically cited below:

4,4' Methylene Diphenyl Diisocyanate
Reportable Quantity: 5000 lbs

When in individual containers of less than the substance RQ, this material ships as non-regulated. Containers above RQ ship as:

Agency	Proper Shipping Name	UN Number	Packing Group	Hazard Class
DOT	Other Regulated Substance, N.O.S. (Contains Diphenylmethane Diisocyanate)	3082	III	9

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

OSHA Hazard Communication Standard:
This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SARA 311/312 Hazard Categories:
Acute Health Hazard
Chronic Health Hazard
Reactivity Hazard

Chemicals subject to SARA 313 Reporting:

Components	CASRN		
4,4' -Methylenediphenyl diisocyanate	101-68-8	30 to 40 %	Emissions

Massachusetts Right To Know List:

Components	CASRN	
4,4' -Methylenediphenyl diisocyanate	101-68-8	30 to 40 %

Pennsylvania Worker and Community Right-To-Know Act:

Components	CASRN	
4,4' -Methylenediphenyl diisocyanate	101-68-8	30 to 40 %

California Proposition 65 (Safe Drinking Water and Toxic Enforcement Act of 1986):
This product contains no listed substances known to the State of California to cause cancer, birth defects or other reproductive harm, at levels which would require a warning under the statute.

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.

Canada Domestic Substances List:
All components of this product are in compliance with the inventory listing requirements of the Canada Domestic Substances List (DSL).

Section 16: Other Information

The customer is responsible for determining the proper PPE code for this material within their respective business / application process.

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Reviewer Revision 0

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