

Section 1: Identification

Product Name: QCPUA-100**Product Code:****Material Uses:** Component of a Polyurea System**Supplier:**

Pipe Lining Supply, Inc
4270 S. Hillcrest Ave, Suite 201
Springfield, MO 65810
417-719-7172



Emergency Contact: USA – ChemTel: 800-255-3924
Outside USA – call ChemTel 813-248-0585

Section 2: Hazards Identification

Physical State: Liquid**OSHA/HCS Status:** This material is classified as hazardous under OSHA Hazard Communication Standard 29 CFR 1910.1200.**Precautionary Statements:** Do not breathe dust/fumes/gas/mist/vapors/spray. Wear protective gloves. Wear respiratory protection. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician.**Classification of the Substance or Mixture:** HEALTH, Respiratory or Skin Sensitization, 1 Respiratory
HEALTH, Respiratory or Skin Sensitization, 1 Skin
HEALTH, Skin Corrosion/Irritation, 2
HEALTH, Carcinogenicity, 2
HEALTH, Serious Eye Damage/Eye Irritation, 2 A
HEALTH, Specific Target Organ Toxicity – Single Exposure, 3
HEALTH, Acute Toxicity, 5 Oral**GHS Label Elements:****Hazard Pictograms:****Signal Word:** DANGER**Hazard Statements:** May cause allergy or asthma symptoms or breathing difficulties if inhaled
May cause an allergic skin reaction
Causes skin irritation
Suspected of causing cancer
Causes serious eye irritation
May cause drowsiness or dizziness
May be harmful if swallowed**Hazards Not Otherwise Classified or not Covered by GHS:****Route of Entry:** Eyes, ingestion, inhalation, skin**Target Organs:** Respiratory system, skin, eyes

Inhalation: At room temperature, MDI vapors are minimal due to low vapor pressure. However, heating, spraying, foaming, or otherwise mechanically dispersing (drumming, venting or pumping) operations may generate vapor or aerosol concentrations sufficient to cause irritation or other adverse effects. Excessive exposure may cause irritation of the eyes, upper respiratory tract and lungs. Severe overexposure may lead to pulmonary edema. May cause respiratory sensitization with asthma-like symptoms in susceptible individuals. MDI concentrations below the exposure guidelines may cause allergic respiratory reactions in individuals already sensitized. Symptoms may include coughing, dryness of throat, headache, nausea, difficult breathing and a feeling of tightness in the chest. Effects may be delayed. Impaired lung function (decreased ventilator capacity) has been associated with overexposure to isocyanates. Chronic: As a result of previous repeated overexposures or a single large dose, certain individuals develop isocyanate sensitization (chemical asthma) or tissue injury in the upper respiratory tract. Animal tests indicate skin contact alone may also lead to allergic respiratory reaction. These effects may be permanent. Any person developing asthmatic reaction or sensitization should be removed from further exposure.

Skin Contact: Product is a skin sensitizer. Causes irritation with symptoms of reddening, itching and swelling. Prolonged or repeated exposure can cause skin irritation, reddening, dermatitis, and in some individuals, sensitization. Skin contact may result in allergic skin reactions or respiratory sensitization, but is not expected to result in absorption of amounts sufficient to cause other adverse effects. May stain skin. Cured material is difficult to remove.

Eye Contact: As a liquid, vapor, aerosol or dust, may cause irritation, inflammation, and/or damage to sensitive eye tissue. Symptoms include reddening, tearing, stinging and swelling. May cause corneal injury. Prolonged contact may cause conjunctivitis.

Ingestion: Single dose oral toxicity is considered to be extremely low. Can result in irritation and corrosive action in the mouth, stomach tissue and digestive tract. Symptoms can include nausea, vomiting, sore throat, abdominal pain and diarrhea. Ingestion is not an applicable route of entry for intended use.

HMIS (USA): Health: 2; Flammability: 1; Physical Hazards: 1; Personal Protection: X

Insignificant: 0; Slight: 1; Moderate: 2; High: 3; Extreme: 4

The customer is responsible for determining the PPE code for this material.

See toxicological information (Section 11).

General Information: Read the entire SDS for a more thorough evaluation of the hazards.

Section 3: Composition/Information on Ingredients

Substance/Mixture: Mixture

Ingredient Name	CAS Number	Percentage
4,4'-Methylenediphenyl diisocyanate	101-68-8	50-70
Benzene, 1,1'-methylenebis [isocyanato-	26447-40-5	55-75
Benzene, 1,1'-methylenebis [isocyanato- homopolymer	39310-05-9	20-40

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

Section 4: First Aid Measures

Eye Contact: Flush with large amounts of water for 15 minutes. Materials containing MDI may react with the moisture in the eye, forming a thick material that is difficult to remove. Get immediate medical attention.

Skin Contact: Wash off in flowing warm water or shower with soap. Remove and wash contaminated clothing and discard contaminated shoes. For severe exposure, get under safety shower after removing clothing, then seek medical attention. If redness, itching or a burning sensation develops or persists after the area is wash, consult a physician.

Inhalation: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, oxygen should be administered by qualified personnel. Call a physician or transport to a medical facility immediately.

Ingestion: DO NOT INDUCE VOMITING. Give 1-2 cups of milk or water to drink. Never give anything by mouth to an unconscious person. Seek medical attention.

Section 5: Firefighting Measures

Flash Point and Method Used: 460°F (238°C), PMCC

Flammability: OSHA – none; DOT - none

Suitable Extinguishing Media: Use dry chemical, foam, carbon dioxide, or water spray for large fires. The reaction between water and hot isocyanate may be vigorous. If possible, contain fire run-off water.

Unusual Hazards: At temperatures greater than 400°F (204°C), polymeric MDI can polymerize and decompose which will cause pressure buildup in closed containers. Explosive rupture is possible. Water contamination will produce carbon dioxide. Do not reseal contaminated containers as pressure buildup may rupture the containers. Downwind personnel must be evacuated.

Fire Degradation Products: Isocyanate vapor and mist, carbon dioxide, carbon monoxide, nitrogen oxides and traces of hydrogen cyanide.

NFPA (USA): Health: 2; Fire Hazard: 1; Reactivity: 1; Specific Hazard: None

Minimal: 0; Slight: 1; Moderate: 2; Serious: 3; Severe: 4

Section 6: Accidental Release Measures

Spill: Evacuate and isolate spill area. Remove any ignition sources. With adequate ventilation and appropriate personal protective equipment, cover the area with an inert absorbent material, such as clay or vermiculite, and transfer to metal waste containers. Move container to a well-ventilated area (outside), but do not reseal the container with the isocyanate mixture. Larger quantities of liquid may be transferred directly to drums for disposal. Decontaminate or discard all cleanup equipment.

NOTE: ISOCYANATES WILL REACT WITH WATER AND GENERATE CARBON DIOXIDE. THIS COULD RESULT IN THE RUPTURE OF ANY CLOSED CONTAINERS.

Cleanup: The area should then be flushed with as decontamination solution, as below. Use 10 parts decontamination solution to 1 part spilled material. If the ammonium hydroxide solution is used, ammonia will be evolved as a vapor. Use caution to avoid exposure to high concentrations of ammonia. Allow to stand for 48 hours, letting evolved carbon dioxide escape.

Liquid Decontaminants (Percentages by Weight or Volume):

Decontaminant Solution 1: .50-10% sodium carbonate, 0.2-2% liquid detergent, water to make up to 100%.

Decontaminant Solution 2: 3-8% concentrated ammonia solution, 0.2-2% liquid detergent, water to make up to 100%

Decontaminant Solution 1 reacts slower with diisocyanates, but is more environmentally friendly. Decontaminant Solution 2 contains ammonia, which present health hazards. See the ammonia supplier's safety information.

For major spills in the USA, call ChemTel: 800-255-3924, and in Canada, call ChemTel 813-248-0585.

Section 7: Handling and Storage

Handling Precautions: Use personal protective equipment when transferring material to or from drums, totes or other containers. The reaction of polyols and isocyanates generates heat. Contact of the reacting materials with skin or eyes can cause irritation and may be difficult to remove from the affected areas. Do not smoke or use naked lights, open flames, space heaters, or other ignition sources near pouring, frothing, or spraying operations.

Storage: When stored between 60 and 80°F (15 and 30°C) in dry place in tightly sealed containers, typical shelf life is six months or more from the date of manufacture. Consult technical data sheet for shelf life requirements affecting performance quality. Should freezing occur, the material must be thawed thoroughly and mixed until uniform. Opened containers must be handled properly to prevent moisture pickup. Do not reseal if contamination is suspected.

Section 8: Exposure Controls/Personal Protection

Occupational Exposure Limits

Ingredient	ACGIH TLV	Exposure Limits	
		OSHA Table Z-1	NIOSH REL
4,4'-Methylenediphenyl diisocyanate	TWA: 0.0050 ppm	C: 0.02 ppm 0.2 mg/m ³	TWA: 0.0050 ppm 0.05 mg/m ³ C: 0.2 ppm 0.2 mg/m ³

Consult local authorities for acceptable exposure limits.

Engineering Controls: MDI has a low vapor pressure at room temperature. Monitoring is required to determine engineering controls. Uses requiring heating and/or spraying may require more aggressive engineering controls or PPE. Eyewash and safety showers should be available.

Individual Protection Measures:

Hand Protection: Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Eye Protection: Face shield and safety glasses. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166 (EU).

Skin and Body Protection: Complete suite protecting against chemicals. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Hygiene Measures: Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

Section 9: Physical and Chemical Properties

Physical State: Liquid

Color: Clear

Odor: Musty

Odor Threshold: Not available

pH: Not available

Boiling Point: >354°F (179°C)

Melting/Freezing Point: 60°F (15°C)

Flash Point and Method Used: >460°F (>238°C), PMCC

Evaporation Rate: <1

Flammability: None

Lower and Upper Explosive Limits: Not available

Vapor Pressure: Not available

Vapor Density: >1

Relative Density: Not available

Solubility in Water: Not soluble in water, REACTS

Partition Co-Efficient: n-octanol/water: Not available

Auto-Ignition Temperature: Not available

Decomposition Temperature: Not available

Viscosity: approximately 400 cps

Specific Gravity/Density: 10.01 lb/gal

Molecular Formula: Not available

Percent Volatile: 0

Section 10: Stability and Reactivity

Chemical Stability: Polyisocyanates are highly reactive chemicals that should be handled and stored in a way to avoid many common substances, including water and moisture. Product is stable under normal conditions.

Conditions to Avoid: Moisture and/or water. High temperatures (above 350°F (177°C)), sparks, and flame.

Incompatible Materials: Water, strong bases, alcohols, amines, metal compounds.

Hazardous Decomposition Products: By fire or excessive heat: carbon monoxide, carbon dioxide, oxides of nitrogen, traces of hydrogen cyanide, ammonia and MDA vapors. Excess gas may rupture containers.

Hazardous Polymerization: May occur with incompatible reactants, especially strong bases, water or temperatures over 320°F (160°C).

Section 11: Toxicological Information

4,4'-Methylenediphenyl diisocyanate (101-68-8):

Acute Toxicity: LD50 Oral – rat – 4700 mg/kg; LC50 Inhalation – no data available; LD50 Dermal – no data available.

Skin Corrosion/Irritation: Serious eye damage/eye irritation.

Eyes: Rabbit – moderate eye irritation

Respiratory or Skin Sensitization: May cause allergic respiratory and skin reaction.

Germ Cell Mutagenicity: Laboratory experiments have shown mutagenic effects.

Genotoxicity in vitro: Human – lymphocyte Sister Chromatid exchange

Genotoxicity in vivo: Rat – Inhalation DNA damage

Carcinogenicity: This product is or contains a component that is not classifiable as to its carcinogenicity based on its IARC, ACGIH, NTP, or EPA classification. Limited evidence of carcinogenicity in animal studies. IARC: 3 – Group 3: Not classifiable as to its carcinogenicity to humans. No component of this product present at levels greater than or equal to 0.1% identified, known, anticipated or potential carcinogen by ACGIH, NTP or OSHA.

Reproductive Toxicity: rat- inhalation

Maternal Effects: Other effects. Specific Developmental Abnormalities: Musculoskeletal system.

Teratogenicity: No data available

Specific Target Organ Toxicity: Single Exposure – may cause respiratory irritation; Repeated Exposure – no data available.

Aspiration Hazard: No data available

Potential Health Effects: May be fatal if inhaled. Causes respiratory tract irritation. May be harmful if swallowed. May be harmful if absorbed through skin. Causes skin irritation. Causes eye irritation.

Signs and Symptoms of Exposure: Cough, shortness of breath, headache, nausea, vomiting, pulmonary edema. Effects may be delayed.

Synergistic Effects: No data available

Additional Information: RTECS: NQ9350000

Section 12: Ecological Information

4,4'-Methylenediphenyl diisocyanate:

Toxicity: Toxicity to daphnia and other aquatic invertebrates EC50 – Daphnia magna (water flea) – 0.35 mg/l – 24 h

Persistence and Degradability: No data available

Bioaccumulative Potential: No data available

Mobility in Soil: No data available

PBT and vPvB Assessment: No data available

Other Adverse Effects: Do not empty into drains.

Section 13: Disposal Considerations

Waste Disposal: Any disposal practice must be in compliance with all federal, state/provincial and local laws and regulations. Chemical additions, processing or otherwise altering this material may make the waste management information presented in this SDS incomplete, inaccurate, or otherwise inappropriate. Waste characterization and disposal compliance are the responsibility solely of the party generating the waste or deciding to discard or dispose of the material. Do not allow material to enter sewers, a body of water, or contact the ground. Refer to RCRA 40 CFR 261, and/or any other appropriate federal, state/provincial or local requirements for proper classification information.

Disposal should be in accordance with applicable regional, national, and local laws and regulations

Section 14: Transport Information

Proper Shipping Name:

DOT: Not regulated

IMDG: Not dangerous goods

IATA: Not dangerous goods

ICAO: Not dangerous goods

Section 15: Regulatory Information

4,4'-Methylenediphenyl diisocyanate (101-68-8): Reportable Quantity: 5000 lbs. Superfund Clean Up Substance, Hazardous Air Pollutants, IARC Carcinogen Risks, Massachusetts Hazardous Substances List, New Jersey Right-to-Know Hazardous Substances, OSH Workplace Air Contaminants, Pennsylvania Right-to-Know List of Hazardous Substances, SARA 313 Title III Toxic Chemicals, Toxic Substances Control Act, Texas Air Contaminants with Health Effects Screening Level

Benzene, 1,1'-methylenebis[isocyanato- (26447-40-5): Toxic Substances Control Act

Benzene, 1,1'-methylenebis[isocyanato-, homopolymer (39310-05-9): Toxic Substances Control Act

Section 16: Other Information

Preparation Date: November 1, 2017

Disclaimer: The data set forth in this sheet is based on information provided by the suppliers of the raw materials and chemicals used in the manufacture of the aforementioned product. Pipe Lining Supply, Inc. makes no warranty with respect to the accuracy of the information provided by their suppliers, and disclaims all liability of reliance thereof.

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User's Responsibility: A bulletin as this cannot be expected to cover all possible individual situations. As the user has the responsibility to provide a safe workplace, all aspects of an individual operation should be examined to determine if, or where, precautions, in addition to those described herein, are required. Any health hazard and safety information herein should be passed on to your customers and employees, as the case may be.

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