

Safety Data Sheet



Petra Rapid Patch – PART A

1. IDENTIFICATION

24 HOUR EMERGENCY ASSISTANCE	MANUFACTURER/GENERAL MSDS ASSISTANCE
CHEM-TEL 1-800-255-3924	Petra Polymers Tel.: (888)-497-3872 1610 E. Miraloma Ave. Placentia, CA 92870

PRODUCT IDENTIFIER/NAME: Petra Rapid Patch – PART A

RECOMMENDED USE: Chemical intermediate for urethane

2. HAZARD(S) IDENTIFICATION

HAZARD CLASSIFICATION:

Acute Oral Toxicity Category 4
Acute Dermal Toxicity Category 4
Acute Vapors Toxicity Category 5
Skin Irritation Category 2
Serious Eye Damage Category 1
Skin Sensitizer Category 1
Respiratory Sensitizer Category 1
Carcinogenicity Category 2
Reproductive Toxicity Category 1
TOST: Single Exposure Category 2
TOST: Repeated Exposure Category 2
Aspiration Toxicity Category 2

NFPA ratings (scale 0 – 4):

HEALTH	2
FIRE	2
REACTIVITY	1
SPECIAL	-

NFPA HAZARD RATING:

4= EXTREME 2= MODERATE 0= INSIGNIFICANT
3= HIGH 1= SLIGHT



HAZARD PICTOGRAMS:

SIGNAL WORD: Warning

Emergency Overview: This material is HAZARDOUS by OSHA Hazard Communication definition

HAZARD STATEMENTS:

WARNING!

COMBUSTIBLE LIQUID AND VAPOR. MAY AFFECT THE CENTRAL NERVOUS SYSTEM CAUSING DIZZINESS, HEADACHE OR NAUSEA. MAY CAUSE EYE, SKIN AND RESPIRATORY TRACT IRRITATION. PROLONGED OR REPEATED CONTACT MAY DRY SKIN, CAUSE IRRITATION AND BURNS. MAY BE HARMFUL IF INHALED

Physical State: Liquid, Black, Aromatic.

POTENTIAL HEALTH EFFECTS:

ROUTES OF EXPOSURE: Inhalation, Skin absorption, Skin contact, Eye Contact, Ingestion

EYES: Can cause eye irritation. Symptoms include stinging, tearing, redness, and swelling of eyes.

SKIN: Can cause skin irritation. Prolonged or repeated contact may dry the skin.

Symptoms may include redness, burning, and drying and cracking of skin, burns and other skin damage. Passage of this material into the body through the skin is possible, but it is unlikely that this would result in harmful effects during safe handling and use.

INGESTION: Swallowing small amounts of this material during normal handling is not likely to cause harmful effects. Swallowing large amounts may be harmful. This material can get into the lungs during swallowing or vomiting. This results in lung inflammation and other lung injury.

INHALATION: Breathing of vapor or mist is possible. Breathing small amounts of this material during normal handling is not likely to cause harmful effects. Breathing large amounts may be harmful.

Symptoms are not expected at air concentrations below the recommended exposure limits, if applicable (see Section 8.).

AGGREGATED MEDICAL CONDITION: Preexisting disorders of the following organs (or organ systems) may be aggravated by exposure to this material: Skin, lung (for example, asthma-like conditions), immune system, eye, Exposure to this material may aggravate any preexisting condition sensitive to a decrease in available oxygen, such as chronic lung disease, coronary artery disease or anemias. Individuals with erythrocyte glucose-6-phosphate dehydrogenase deficiency are particularly susceptible to hemolytic agents and rapidly develop hemolytic anemia from ingestion or inhalation of this material (or a component). Preexisting disorders of the following organs (or organ systems) may be aggravated by exposure to this material: Upper respiratory tract, Skin, lung (for example, asthma-like conditions), kidney, immune system, eye, Exposure to this material may aggravate any preexisting condition sensitive to a decrease in available oxygen, such as chronic lung disease, coronary artery disease or anemias. Individuals with erythrocyte glucose-6-phosphate dehydrogenase deficiency are particularly susceptible to hemolytic agents and rapidly develop hemolytic anemia from ingestion or inhalation of this material (or a component)., urinary system.

SYMPTOMS: Signs and symptoms of exposure to this material through breathing, swallowing, and/or passage of the material through the skin may include: sweating, Fever, stomach or intestinal upset (nausea, vomiting, diarrhea), irritation (nose, throat, airways), Lung irritation, central nervous system depression (dizziness, drowsiness, weakness, fatigue, nausea, headache, unconsciousness), Abdominal pain, frequent or painful urination, confusion, blood abnormalities (breakage of red blood cells), kidney damage, lung damage, respiratory failure signs and symptoms of exposure to this material through breathing, swallowing, and/or passage of the material through the skin may include: sweating, Fever, stomach or intestinal upset (nausea, vomiting, diarrhea), irritation (nose, throat, airways), Lung irritation, central nervous system depression (dizziness, drowsiness, weakness, fatigue, nausea, headache, unconsciousness), Abdominal pain, frequent or painful urination, confusion, blood abnormalities (breakage of red blood cells), kidney damage, lung damage, respiratory failure.

TARGET ORGAN: This material (or a component) has been shown to lower activity of certain immune system cells in experimental animals. The significance of this effect with respect to human health is uncertain. Overexposure to this material (or its components) has been suggested as a cause of the following effects in laboratory animals: mild, reversible liver effects, cataracts, anemia, nasal damage, eye damage, Overexposure to this material (or its components) has been suggested as a cause of the following effects in humans: cataracts, eye damage. This material (or a component) has been shown to lower activity of certain immune system cells in experimental animals. The significance of this effect with respect to human health is uncertain. Overexposure to this material (or its components) has been suggested as a cause of the following effects in laboratory animals: mild, reversible liver effects, cataracts, anemia, nasal damage, eye damage, central nervous system damage, Overexposure to this

material (or its components) has been suggested as a cause of the following effects in humans:,
cataracts, eye damage

CARCINOGENICITY: In a National Toxicology Program (NTP) study, lifetime inhalation exposure to naphthalene resulted in increases in tumors of the nose in rats. In a previous NTP study, lifetime exposure to naphthalene caused lung tumors in female mice. Male mice with the same exposure did not develop tumors. The relevance of this finding to humans is uncertain. Naphthalene is listed as carcinogenic by IARC (International Agency for Research on Cancer) and the National Toxicology Program (NTP). There is no information available. The chance of this material causing cancer is unknown. This material is not listed as a carcinogen by the International Agency for Research on Cancer (IARC), the National Toxicology Program (NTP), or the Occupational Safety and Health Administration (OSHA).

REPRODUCTIVE HAZARD: This material (or a component) causes harm to the fetus; there are no data available for assessing risk to the fetus from maternal exposure to this material.

OTHER INFORMATION: Infants are more sensitive than adults to the toxic effects of naphthalene. Diapers or cloths stored with mothballs and used directly on infants have caused skin rashes and illness. Naphthalene vapors from clothing or blankets that had been stored in or near the infant's room have caused illness and death.

PRECAUTIONARY STATEMENTS: Do not breathe dust/fume/gas/mist/vapors/spray. Use personal protective equipment as required. Do not handle until all safety precautions have been read and understood. Keep away from open flames and hot surfaces. **IF ON SKIN (or hair):** Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. **IF IN EYES:** Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical advice/attention. **IF SWALLOWED:** Get immediate medical advice/attention. **IF exposed or concerned:** Get medical advice/attention. If skin irritation or rash occurs: Get medical advice/attention.

3. COMPOSITION/INFORMATION ON INGREDIENTS

<i>Hydroxyl terminated polyol blend</i>	N.A.	25--50%
<i>Aromatic Hydrocarbons</i>	(CAS 64742-94-5)	20-60%
<i>Naphthalene</i>	(CAS 91-20-3)	>2.5-<5%
<i>Trimethylbenzene 1,2,4-</i>	(CAS 95-63-60)	>.75-<2.5%

This document is prepared pursuant to the OSHA Hazard Communication Standard (29 CFR 1910.1200) in addition, other substances not Hazardous per this OSHA Standard may be listed. Where proprietary ingredient shows, the identity may be made available as provided in this standard.

4. FIRST AID MEASURES

INHALATION: If overcome by exposure, remove victim to fresh air immediately. Call a physician. Give oxygen or artificial respiration as needed.

EYE: Immediately flush eyes thoroughly with plenty of water and continue flushing for at least 15 minutes. Seek medical attention if discomfort persists.

SKIN: Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse. Flush with lukewarm water for 15 minutes. Seek medical attention if ill effect or irritation develops. Wash clothing before wearing again.

INGESTION: Seek medical attention. If individual is drowsy or unconscious, do not give anything by mouth; place individual on the left side with the head down. Contact a physician, medical facility, or poison control center for advice about whether to induce vomiting. If possible, do not leave individual unattended.

NOTES TO PHYSICIAN: This material is an aspiration hazard. Potential danger from aspiration must be weighed against possible oral toxicity (See Section 2 - Swallowing) when deciding whether to induce vomiting. Inhalation or ingestion of high levels of this material (or a component) may cause a hemolytic reaction. Complications of acute intravascular hemolysis include anemia, leukocytosis, fever, emoglobinuria, jaundice, renal insufficiency, and sometimes disturbances in liver function. Fats, for example, baby oil on the skin or ingested oil, facilitate absorption of naphthalene. This material is an aspiration hazard. Potential danger from aspiration must be weighed against possible oral toxicity (See Section 2 - Swallowing) when deciding whether to induce vomiting. Inhalation or ingestion of high levels of this material (or a component) may cause a hemolytic reaction. Complications of acute intravascular hemolysis include anemia, leukocytosis, fever, hemoglobinuria, jaundice, renal insufficiency, and

sometimes disturbances in liver function. Fats, for example, baby oil on the skin or ingested oil, facilitate absorption of naphthalene.

5. FIRE-FIGHTING MEASURES

SUITABLE EXTINGUISHING MEDIA: Foam, Water spray, Carbon dioxide (CO₂), Dry chemical

HAZARDOUS COMBUSTION MEDIA: Carbon dioxide and carbon monoxide, Hydrocarbons, nitrogen oxides (NO_x), Sulfur oxides

PRECAUTIONS FOR FIRE FIGHTING: If product is heated above its flash point it will produce vapors sufficient to support combustion. Vapors are heavier than air and may travel along the ground and are ignited by heat, pilot lights, other flames and ignition sources at locations near the point of release. Never use welding or cutting torch on or near drum (even empty) because product (even just residue) can ignite explosively. Wear full firefighting turn-out gear (full Bunker gear), and respiratory protection (SCBA).

FLAMMABLE CLASSIFICATION OF LIQUIDS: Combustible Liquid Class IIIA.

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS; For personal protection see section 8. Eliminate all ignition sources (flares, flames including pilot lights, electrical sparks). Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed. Stop spill at source. Prevent from entering drains, sewers, streams or other bodies of water. Prevent from spreading. If runoff occurs, notify authorities as required. Pump or vacuum transfer spilled product to clean containers for recovery. Absorb unrecoverable product. Transfer contaminated absorbent, soil and other materials to containers for disposal.

ENVIRONMENTAL PRECAUTIONS: Prevent run-off to sewers, streams or other bodies of water. If run-off occurs, notify proper authorities as required, that a spill has occurred.

METHODS FOR CLEANING UP: Absorb liquid on vermiculite, floor absorbent or other absorbent material.

7. HANDLING AND STORAGE

HANDLING: Containers of this material may be hazardous when emptied. Since emptied containers retain product residues (vapor, liquid, and/or solid), all hazard precautions given in the data sheet must be observed. Static ignition hazard can result from handling and use. Electrically bond and ground all containers, personnel and equipment before transfer or use of material. Special precautions may be necessary to dissipate static electricity for non-conductive containers. Use proper bonding and grounding during product transfer as described in National Fire Protection Association document NFPA 77. Hydrocarbon solvents are basically non-conductors of electricity and can become electrostatically charged during mixing, filtering or pumping at high flow rates. If this charge reaches a sufficiently high level, sparks can form that may ignite the vapors of flammable liquids. Warning. Sudden release of hot organic chemical vapors or mists from process equipment operating at elevated temperature and pressure, or sudden ingress of air into vacuum equipment, may result in ignitions without the presence of obvious ignition sources. Published "autoignition" or "ignition" temperature values cannot be treated as safe operating temperatures in chemical processes without analysis of the actual process conditions. Any use of this product in elevated temperature processes should be thoroughly evaluated to establish and maintain safe operating conditions.

STORAGE: Store in a cool, dry, ventilated area, away from incompatible substances.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines		
91-20-3		
NAPHTHALENE		
ACGIH	time weighted average	10 ppm
ACGIH	Short term exposure limit	15 ppm
NIOSH	Recommended exposure limit	10 ppm
	(REL):	
NIOSH	Recommended exposure limit	50 mg/m ³
	(REL):	
NIOSH	Short term exposure limit	15 ppm
NIOSH	Short term exposure limit	75 mg/m ³
OSHA Z1	Permissible exposure limit	10 ppm

OSHA Z1 TRIMETHYLBENZENE 1,2,4-	Permissible exposure limit 95-63-6	50 mg/m3
NIOSH	Recommended exposure limit (REL):	25 ppm
NIOSH	Recommended exposure limit (REL):	125 mg/m3
ACGIH	time weighted average	25 ppm
OSHA Z1A	time weighted average	25 ppm
OSHA Z1A	time weighted average	125 mg/m3
US CA OEL	Time Weighted Average (TWA)	25 ppm
US CA OEL	Permissible Exposure Limit (PEL):	
	Time Weighted Average (TWA)	125 mg/m3
	Permissible Exposure Limit (PEL):	

ENGINEERING CONTROLS: Local exhaust in addition to general room ventilation may be required to meet exposure limit(s).

PERSONAL PROTECTION:

INHALATION: If exposure can exceed the exposure limit(s), use only supplied air respirator, recommended or approved by appropriate local, state or international agency, operated in a positive pressure mode.

SKIN: Wear chemical resistant gloves such as: Nitrile-knit™. Nitrile Butyl rubber. 4H™(PE/EVAL). Or Neoprene. Impervious protective suit with integral or tight-fitting gloves, boots, and full head and face protection must be worn. The equipment must be cleaned thoroughly after each use.

EYES: Eye protection, including both chemical splash goggles and face shield, must be worn when possibility exists for eye contact due to splashing/spraying liquid, airborne particles, or vapor.

OTHER HYGIENE PRACTICES: Selection of appropriate personal protective equipment should be based on an evaluation of the performance characteristics of the protective equipment relative to the task(s) to be performed, conditions present, duration of use, and the hazards and/or potential hazards that may be encountered during use. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.

RECOMMENDED WORK PRACTICES: Use good personal hygiene practices. Wash hands before eating, drinking, smoking, or using toilet facilities. Promptly remove soiled clothing/wash thoroughly before reuse.

9. PHYSICAL AND CHEMICAL PROPERTIES

SPECIFIC GRAVITY :1.0 @ 25°C/74°F

VAPOR DENSITY: >4

pH: Note applicable

APPEARANCE: Black liquid

STATE: Liquid

ODOR CHARACTERISTIC: Hydrocarbon

VAPOR PRESSURE: <0.50mm Hg @ 20°C/68°F

VISCOSITY: < 50cps

SOLUBILITY IN WATER: Slight

FLASH POINT: 142°F TCC

10. STABILITY AND REACTIVITY

STABILITY: Stable.

CONDITIONS TO AVOID: Heat, flames and sparks.

INCOMPATIBLE PRODUCTS: Strong oxidizing agents, Chromic acid, Nitric acid, Oxidizing agents

HARZARDOUS DECOMPOSIITON PRODUCTS: Carbon dioxide and carbon monoxide, Hydrocarbons

HAZARDOUS REACTION: Product will not undergo hazardous polymerization.

THERMAL DECOMPOSITION: No data

11. TOXICOLOGICAL INFORMATION

Component Summary

Acute oral toxicity	Aromatic Hydrocarbons	LD 50 Rat: 3,000mg/kg
	Naphthalene	LD 50 Rat: 490 mg/kg
	Trimethylbenzene 1,2,4-	LD 50 Rat: 6 g/kg
	Hydroxy terminated poly polyol	LD 50 Rat: 3,280mg/kg

Acute inhalation toxicity	Aromatic Hydrocarbons	LD 50 Rat: 3,800mg/m ³ ,4h
	Naphthalene	No data
	Trimethylbenzene 1,2,4-	LD 50 Rat: 18g/m ³ ,4h
	Hydroxy terminated poly polyol	N.A.

Acute dermal toxicity	Aromatic Hydrocarbons	LD 50 Rabbit: >3,000mg/kg
	Naphthalene	LD 50 Rat: >20,000mg/kg
	Trimethylbenzene 1,2,4-	No data
	Hydroxy terminated poly polyol	LD 50 Rabbit: > 2,000mg/kg

12. ECOLOGICAL INFORMATION

Ecotoxicity: Hydroxy terminated poly polyol 96 Hr. LC50(Fish) >100mg/l. EC50

Environmental Fate: No Data Available

Bioaccumulation: No Data Available

Biodegradation: No Date Available

13. DISPOSAL CONSIDERATIONS

DISPOSAL METHOD: Contaminated product, soil, water, container residues and spill cleanup materials may be hazardous wastes. Avoid contact with water. Aqueous wastes may not biograde. Do not treat biologically; may poison/upset plant biomass. Comply with applicable local, state or international regulations concerning solid or hazardous waste disposal and/or container disposal.

14. TRANSPORT INFORMATION

Transportation Emergency Number CHEMTEL 1-800-255-3924.

15. REGULATORY INFORMATION

CALIFORNIA PROP 65

WARNING! This product contains a chemical known in the State of California to cause cancer.

BENZENE

NAPHTHALENE

WARNING! This product contains a chemical known in the State of California to cause birth defects or other reproductive harm.

BENZENE

TOLUENE

SARA HAZARD CLASSIFICATION

Fire Hazard

Acute Health Hazard

SARA 313:

NAPHTHALENE

91-20-3

2.9%

TRIMETHYLBENZENE 1,2,4-

95-63-6

.55%

REPORTABLE QUANTITY:

US. EPA CERCLA Hazardous Substances (40 CFR 302) 1250 lbs

REPORTABLE QUANTITY:

AROMATIC HYDROCARBONS	64742-94-5	none
NAPHTHALENE	91-20-3	100 lbs
TRIMETHYLBENZENE 1,2,4-	95-63-6	none

16. OTHER INFORMATION

Date Revised: 05/06/2015

MANUFACTURER'S NAME AND ADDRESS:

Petra Polymers
1610 E. Miraloma Ave.
Placentia, CA 92870
Telephone: 714-572-6723

The information herein is given in good faith, but no warranty expressed or implied is made. Petra Polymers urges users of this product to evaluate its suitability and compliance with local regulations as Petra Polymers cannot foresee the nature of the final application or final location of usage.

Safety Data Sheet



Petra Rapid Patch – PART B

Petra Rapid Patch – PART B

1. IDENTIFICATION

24 HOUR EMERGENCY ASSISTANCE	MANUFACTURER/GENERAL MSDS ASSISTANCE
CHEM-TEL 1-800-255-3924	Petra Polymers Tel.: (888)-497-3872 1610 E. Miraloma Ave. Placentia, CA 92870

PRODUCT IDENTIFIER/NAME: Petra Rapid Patch – PART B

RECOMMENDED USE: Used for coatings.

2. HAZARD(S) IDENTIFICATION

HAZARD CLASSIFICATION:

Acute Oral Toxicity Category 4
Acute Dermal Toxicity Category 4
Acute Vapors Toxicity Category 5
Skin Irritation Category 2
Serious Eye Damage Category 1
Skin Sensitizer Category 1
Respiratory Sensitizer Category 1
TOST: Single Exposure Category 2
TOST: Repeated Exposure Category 2

NFPA ratings (scale 0 – 4):

HEALTH	2
FIRE	2
REACTIVITY	1
SPECIAL	-

NFPA HAZARD RATING:

4= EXTREME 2= MODERATE 0= INSIGNIFICANT
3= HIGH 1= SLIGHT

HAZARD PICTOGRAMS:



SIGNAL WORD: Warning

Emergency Overview: This material is HAZARDOUS by OSHA Hazard Communication definition

HAZARD STATEMENTS:

WARNING!

COMBUSTIBLE LIQUID AND VAPOR. MAY AFFECT THE CENTRAL NERVOUS SYSTEM CAUSING DIZZINESS, HEADACHE OR NAUSEA. MAY CAUSE EYE, SKIN AND RESPIRATORY TRACT IRRITATION. PROLONGED OR REPEATED CONTACT MAY DRY SKIN, CAUSE IRRITATION AND BURNS. MAY BE HARMFUL IF INHALED.

HAZARD: High inhalation hazard – allergic sensitizer. Severe skin irritant; allergic sensitizer. Severe Eye irritant. Moderate ingestion hazard. Irritating to gastrointestinal tract. Mucous membrane irritant. Prolonged exposure may cause allergic sensitization. Prolonged or repeated exposure to vapors may cause lung damage.

PHYSICAL STATE: Liquid, Clear, amber.

ODOR: Aromatic

POTENTIAL HEALTH EFFECTS:

ROUTES OF EXPOSURE: Inhalation, Skin, Eye contact, Ingestion

SKIN: This material is a severe skin irritant. Causes irritation seen as local redness and possible swelling. Repeated or prolonged skin contact may cause sensitization and an allergic skin reaction.

INHALATION: Inhalation would be expected to cause irritation of the nose, mouth, throat and lungs. Inhalation may cause asthma-like symptoms, including coughing, wheezing, tightness of chest, shortness of breath, and headache.

EYE: May result in severe irritation and possible damage to the cornea and impairment of vision. The effects of high vapor concentration may vary from slight irritation (with tearing and a burning sensation) to keratitis (Inflammation of the cornea) and impairment of vision.

INGESTION: Ingestion not a likely route of exposure. Ingestion may result in irritation of the mouth and digestive tract. Gastroenteritis may result with any or all of the following symptoms: nausea, vomiting, diarrhea, headache.

CHRONIC HEALTH EFFECTS: Prolonged or repeated exposure to vapors may cause lung damage. Repeated over exposure to isocyanates and high one time accidental exposures have been associated with gradual decrease in lung function. Repeated inhalation also may cause allergic sensitization of the respiratory tract, resulting in coughing, wheezing, shortness of breath, chest tightness, and other asthma-like symptoms that may be life-threatening. Repeated skin contact may cause irritation and allergic dermatitis.

CONDITIONS AGGRAVATED BY EXPOSURE: History or presence of allergic disease. Exposure may aggravate one or more of the following medical conditions: Asthma or asthmatic bronchitic medical history.

PRECAUTIONARY STATEMENTS: Do not breathe dust/fume/gas/mist/vapors/spray. Use personal protective equipment as required. Do not handle until all safety precautions have been read and understood. Keep away from open flames and hot surfaces. IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical advice/attention. IF SWALLOWED: Get immediate medical advice/attention. IF exposed or concerned: Get medical advice/attention. If skin irritation or rash occurs: Get medical advice/attention.

3. COMPOSITION/INFORMATION ON INGREDIENTS

<i>Polymeric Diphenylmethane Diisocyanate</i>	(CAS 9016-87-9)	25-65%
<i>Aromatic Hydrocarbons</i>	(CAS 64742-94-5)	10-55%
<i>Naphthalene</i>	(CAS 91-20-3)	>2.5-<5%
<i>Trimethylbenzene 1,2,4-</i>	(CAS 95-63-6)	>.75-<2.5%

This document is prepared pursuant to the OSHA Hazard Communication Standard (29 CFR 1910.1200) in addition, other substances not Hazardous per this OSHA Standard may be listed.

Where proprietary Ingredient shows, the identity may be made available as provided in this standard.

4. FIRST AID MEASURES

GENERAL: Prolonged observation may be indicated.

INHALATION: If overcome by exposure, remove victim to fresh air immediately. Call a physician. Give oxygen or artificial respiration as needed.

EYES: Immediately flush eyes thoroughly with plenty of water and continue flushing for at least 15 minutes. Seek medical attention if discomfort persists.

SKIN: Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse. Flush with lukewarm water for 15 minutes. Seek medical attention if ill effect or irritation develops. Wash clothing before wearing again.

INGESTION: Ingestion unlikely. However, if ingested, give lukewarm water (pint or ½ litre) if victim is fully conscious and alert. Do not induce vomiting. Obtain emergency medical attention.

NOTES TO THE PHYSICIAN: Assess extent and severity of tissue injury by appropriate diagnostic studies and procedures. Bronchodilators may be indicated.

5. FIRE-FIGHTING MEASURES

SUITABLE EXTINGUISHING MEDIA: Foam, Water spray, Carbon dioxide (CO₂), Dry chemical

HAZARDOUS COMBUSTIBLE PRODUCTS: Carbon dioxide and carbon monoxide, Hydrocarbons, nitrogen oxides (NO_x), Sulphur oxides.

PRECAUTIONS FOR FIRE FIGHTING: If product is heated above its flash point it will produce vapors sufficient to support combustion. Vapors are heavier than air and may travel along the ground and are ignited by heat, pilot lights, other flames and ignition sources at locations near the point of release. Never use welding or cutting torch on or near drum (even empty) because product (even just residue) can ignite explosively. Wear full firefighting turn-out gear (full Bunker gear), and respiratory protection (SCBA).

FLAMMABLE CLASS FOR FLAMMABLE LIQUIDS: Combustible Liquid Class IIIA

6. ACCIDENTAL RELEASE MEASURES

RELEASE RESPONSE: Reactive. May release toxic materials/contaminate water supplies/create human health hazard. Equip responders with proper protection. Use self-contained breathing apparatus and body-covering protective clothing. Evacuate/limit access. Extinguish ignition sources; stop release; prevent flow to sewers or public waters. Notify fire and environmental authorities. Blanket with fire fighting foam. Avoid water for clean-up or use in large quantities due to reactivity. Impound/recover large land spill; soak a small spill with inert solids. Use suitable disposal containers. Reacts with water. Contain/collect rapidly to minimize dispersion. Disperse residue to reduce aquatic harm.

7. HANDLING AND STORAGE

STORAGE CONDITIONS: All containers should be labeled to warn against exposure. Store in tightly closed/properly vented containers with vents directed to locations removed from potential personnel exposure. Store below 113°F (45°C).

HANDLING PROCEDURES: Handle with care. Use special care when handling/transporting samples. Handle empty containers with care – residue may be combustible. For industrial use only. Keep container tightly closed when not in use. When cleaning or repairing equipment contaminated with this material, total encapsulating impervious protective suits, gloves, and boots should be worn to prevent any contact. Material sampling procedures should avoid vapor inhalation and skin/eye contact and only be conducted with proper protective equipment. A positive pressure self-contained breathing apparatus and/or a supplied air respirator should be used.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines		
NAPHTHALENE		
91-20-3		
ACGIH	time weighted average	10 ppm
ACGIH	Short term exposure limit	15 ppm
NIOSH	Recommended exposure limit	10 ppm
	(REL):	
NIOSH	Recommended exposure limit	50 mg/m ³
	(REL):	
NIOSH	Short term exposure limit	15 ppm
NIOSH	Short term exposure limit	75 mg/m ³
OSHA Z1	Permissible exposure limit	10 ppm

OSHA Z1 TRIMETHYLBENZENE 1,2,4-	Permissible exposure limit 95-63-6	50 mg/m3
NIOSH	Recommended exposure limit (REL):	25 ppm
NIOSH	Recommended exposure limit (REL):	125 mg/m3
ACGIH	time weighted average	25 ppm
OSHA Z1A	time weighted average	25 ppm
OSHA Z1A	time weighted average	125 mg/m3
US CA OEL	Time Weighted Average (TWA)	25 ppm
US CA OEL	Permissible Exposure Limit (PEL):	
US CA OEL	Time Weighted Average (TWA)	125 mg/m3
US CA OEL	Permissible Exposure Limit (PEL):	

ENGINEERING CONTROLS: Local exhaust in addition to general room ventilation may be required to meet exposure limit(s).

PERSONAL PROTECTION:

INHALATION: If exposure can exceed the exposure limit(s), use only supplied air respirator, recommended or approved by appropriate local, state or international agency, operated in a positive pressure mode.

SKIN: Wear chemical resistant gloves such as: Nitri-knit™. Nitrile Butyl rubber. 4H™(PE/EVAL). Or Neoprene. Impervious protective suit with integral or tight-fitting gloves, boots, and full head and face protection must be worn. The equipment must be cleaned thoroughly after each use.

EYE: Eye protection, including both chemical splash goggles and face shield, must be worn when possibility exists for eye contact due to splashing/spraying liquid, airborne particles, or vapor.

OTHER HYGIENIC PRACTICES: Selection of appropriate personal protective equipment should be based on an evaluation of the performance characteristics of the protective equipment relative to the task(s) to be performed, conditions present, duration of use, and the hazards and/or potential hazards that may be encountered during use. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.

RECOMMENDED WORK PRACTICES: Use good personal hygiene practices. Wash hands before eating, drinking, smoking, or using toilet facilities. Promptly remove soiled clothing/wash thoroughly before reuse.

9. PHYSICAL AND CHEMICAL PROPERTIES

SPECIFIC GRAVITY: 1.1 @ 25°C/74°F

VAPOR DENSITY: >4

pH: Not applicable

APPEARANCE: Clear brownish liquid

STATE: Liquid

ODOR CHARACTERISTIC: Hydrocarbon-like

VAPOR PRESSURE: <0.50mm Hg @ 20°C/68°F

VISCOSITY: < 50cps

SOLUBILITY IN WATER: Reacts

FLASH POINT: 142°F TCC

10. STABILITY AND REACTIVITY

CHEMICAL STABILITY: This material is stable when properly handled and stored.

CONDITIONS TO AVOID: Heat, sparks, open flame, other ignition sources, and poor ventilation. Contact with incompatible materials in a closed system – may lead to pressure build-up and possible rupture of container or system.

INCOMPATIBILITY: Water, Amines, alcohols. Strong oxidizing agents, Nitric acid, Chromic acid

Decomposition Products: carbon dioxide, carbon monoxide, hydrocarbons, nitrous oxide and HCN

HAZARDOUS POLYMERIZATION: Self-polymerization will occur when exposed to temperatures above 240°C/464°F.

REACTIONS: Reacts with water, releasing CO2.

11. TOXICOLOGICAL INFORMATION

PRODUCT SUMMARY: Repeated skin contact may cause irritation and allergic dermatitis. Repeated inhalation also may cause allergic sensitization or the respiratory tract, resulting in coughing, wheezing, shortness of breath, chest tightness, and other asthma-like symptoms that may be life-threatening. Interaction with other isocyanates may cross react and cause similar sensitization responses.

Component Summary

Acute oral toxicity	Aromatic Hydrocarbons	LD 50 Rat: 3,000mg/kg
	Naphthalene	LD 50 Rat: 490 mg/kg
	Trimethylbenzene 1,2,4-	LD 50 Rat: 6 g/kg
	Polymeric Diphenylmethane Diisocyanate	LD 50 Rat: > 5,000mg/kg

Acute inhalation toxicity	Aromatic Hydrocarbons	LD 50 Rat: 3,800mg/m ³ ,4h
	Naphthalene	No data
	Trimethylbenzene 1,2,4-	LD 50 Rat: 18g/m ³ ,4h
	Polymeric Diphenylmethane Diisocyanate	LD 50 Rat: 0.49mg/m ³ ,4h

Acute dermal toxicity	Aromatic Hydrocarbons	LD 50 Rabbit: >3,000mg/kg
	Naphthalene	LD 50 Rat: >20,000mg/kg
	Trimethylbenzene 1,2,4-	No data
	Polymeric Diphenylmethane Diisocyanate	LD 50 Rat: > 5,000mg/kg

REPEATED DOSE TOXICITY: Polymeric Diphenylmethane Diisocyanate is a skin and respiratory allergic sensitizer. Sensitive individuals may exhibit skin rash, wheezing, tightness of the chest, and difficulty breathing that may progress to a life-threatening inability to breathe. Chronic inhalation may cause lung damage.

12. ECOLOGICAL INFORMATION

Ecotoxicity: Polymeric MDI LC50(Zebra Fish) >1000mg/l. EC50 (Daphnia Magna 24 hr.) > 1000 mg/l EC50 (E.Coli) >100mg/l

Environmental Fate: No Data Available

Bioaccumulation: No Data Available

Biodegradation: No Date Available

13. DISPOSAL CONSIDERATIONS

DISPOSAL METHOD: Contaminated product, soil, water, container residues and spill cleanup materials may be hazardous wastes. Avoid contact with water. Aqueous wastes may not biograde. Do not treat biologically; may poison/upset plant biomass. Comply with applicable local, state or international regulations concerning solid or hazardous waste disposal and/or container disposal.

14. TRANSPORT INFORMATION

Transportation Emergency Number CHEMTEL 1-800-255-3924.

ODT Classification: Single containers less than 5,000 lbs. are not regulated. Single containers with 5,000 lbs. or more of 4-4'-Methylene Diphenyl Diisocyanate are regulated as: Other Regulated Substances, Liquid, N.O.S. (Methylene Diphenyl Diisocyanate), 9, NA3082, PGIII, RQ.

TDG Classification Not Regulated

IMO/Imdg

Classification **Not Regulated**

**ICAO/IATA
Classification** **Not Regulated**

15. REGULATORY INFORMATION

U.S FEDERAL REGULATIONS:

This material is classified as hazardous under OSHA Hazard Communication Standard (29CFR 1910.1200).

HCS CLASSIFICATION: Toxic material
 Irritating material
 Sensitizing material
 TSCA 8(b) inventory: All Ingredients Listed.

SARA Title III SECTION: 313(40 EPCRA SECTION 313 (40 CFR 372) CFR Part 372:
Diisocyanate Compounds (Category Code N120) 60%

EPCRA SECTION 313 (40 CFR 372) CERCLA (Comprehensive Environmental Response, Compensation and Liability Act): 4-4-Methylene diphenyl diisocyanate (CAS 101-68-8) has a 5,000 lb. RQ (reportable quantity). Any spill or release above the RQ must be reported to the National Response Center (800-424-8802).

CALIFORNIA PROP 65

WARNING! This product contains a chemical known in the State of California to cause cancer.
BENZENE
NAPHTHALENE

WARNING! This product contains a chemical known in the State of California to cause birth defects or other reproductive harm.
BENZENE
TOLUENE

SARA HAZARD CLASSIFICATION Fire Hazard
 Acute Health Hazard

SARA 313 COMPONENTS:
NAPHTHALENE 91-20-3 2.9%
TRIMETHYLBENZENE 1,2,4- 95-63-6 .55%

REPORTABLE QUANTITY:
US. EPA CERCLA HAZAROU D SUBSTANCES (40 CFR 302) 1250 lbs

REPORTABLE QUANTITY:
AROMATIC HYDROCARBONS 64742-94-5 none
NAPHTHALENE 91-20-3 100 lbs
TRIMETHYLBENZENE 1,2,4- 95-63-6 none

16. OTHER INFORMATION

Date Revised: 05/06/2015

MANUFACTURER'S NAME AND ADDRESS:
Petra Polymers
1610 E. Miraloma Ave.
Placentia, CA 92870
Telephone: 888-497-3872

The information herein is given in good faith, but no warranty expressed or implied is made. Petra

Polymers urges users of this product to evaluate its suitability and compliance with local regulations as Petra Polymers cannot foresee the nature of the final application or final location of usage.