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## 1 Identification of the substance/mixture and of the company/undertaking

- . 1.1 Product identifier
- . Trade name: Eco-Patch Part B
- 1.2 Relevant identified uses of the substance or mixture and uses advised against No further relevant information available.
- . Application of the substance / the preparation: Isocyanate resin
- . 1.3 Details of the supplier of the Safety Data Sheet
- · Manufacturer/Supplier:

InterAmerican Resins Corp.

PO Box 4156.

Vega Baja, PR 00693

Tel (706) 279-4114

- . Further information obtainable from: Product Safety Department
- . 1.4 Emergency telephone number:

ChemTel Inc.

(800)255-3924, +1 (813)248-0585

### 2 Hazards identification

- · 2.1 Classification of the substance or mixture
- · Classification according to Regulation (EC) No 1272/2008



GHS08 health hazard

Resp. Sens. 1; H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled.

STOT RE 2; H373; May cause damage to organs through prolonged or repeated exposure.



Acute Tox. 4; H332: Harmful if inhaled.

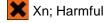
Skin Irrit. 2; H315: Causes skin irritation.

Eye Irrit. 2; H319: Causes serious eye irritation.

Skin Sens. 1; H317: May cause an allergic skin reaction.

STOT SE 3; H335: May cause respiratory irritation.

Classification according to Directive 67/548/EEC or Directive 1999/45/EC



R20: Harmful by inhalation.

Xn; Sensitising

R42/43: May cause sensitisation by inhalation and skin contact.

Xi; Irritant

R36/37/38: Irritating to eyes, respiratory system and skin.

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## . Information concerning particular hazards for human and environment:

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

### · Classification system:

The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

The classification is in accordance with the latest editions of international substances lists, and is supplemented by information from technical literature and by information provided by the company.

### . 2.2 Label elements

### · Labelling according to Regulation (EC) No 1272/2008

The product is classified and labelled according to the CLP regulation.

· Hazard pictograms





GHS07 GHS08

### . Signal word Danger

### . Hazard-determining components of labelling:

diphenylmethanediisocyanate,isomeres and homologues

4,4'-methylenediphenyl diisocyanate

methylenediphenyl diisocyanate

#### Hazard statements

H332: Harmful if inhaled.

H315: Causes skin irritation.

H319: Causes serious eye irritation.

H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H317: May cause an allergic skin reaction.

H335: May cause respiratory irritation.

H373: May cause damage to organs through prolonged or repeated exposure.

Contains isocyanates. May produce an allergic reaction.

## Precautionary statements

P260: Do not breathe dust/fume/gas/mist/vapours/spray.

P285: In case of inadequate ventilation wear respiratory protection.

P261: Avoid breathing dust/fume/gas/mist/vapours/spray.

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

P264: Wash thoroughly after handling.

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

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

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P321: Specific treatment (see on this label).

P342+P311: If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.

P362: Take off contaminated clothing and wash before reuse.

P304+P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P312: Call a POISON CENTER or doctor/physician if you feel unwell.

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P363: Wash contaminated clothing before reuse.

P304+P341: IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.

P332+P313: If skin irritation occurs: Get medical advice/attention.

P333+P313: If skin irritation or rash occurs: Get medical advice/attention.

P337+P313: If eye irritation persists: Get medical advice/attention.

P314: Get medical advice/attention if you feel unwell.

P302+P352: IF ON SKIN: Wash with plenty of soap and water.

P405: Store locked up.

P403+P23: Store in a well-ventilated place. Keep container tightly closed.

P501: Dispose of contents/container in accordance with local/regional/national/international regulations.

- · Hazard description:
- · WHMIS-symbols:

D1B - Toxic material causing immediate and serious toxic effects

D2A - Very toxic material causing other toxic effects





· NFPA ratings (scale 0 - 4)



Health = 3Fire = 1

· HMIS-ratings (scale 0 - 4)



Health = \*3Fire = 1REACTIVITY Reactivity = 0

\* - Indicates a long term health hazard from repeated or prolonged exposures.

. HMIS Long Term Health Hazard Substances

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

26447-40-5 methylenediphenyl diisocyanate

- · 2.3 Other hazards
- · Results of PBT and vPvB assessment
- . **PBT**: Not applicable.
- · vPvB: Not applicable.

## 3 Composition/information on ingredients

- . 3.2 Mixtures
- . **Description:** Mixture of substances listed below with nonhazardous additions.

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	(Control	d. of page
Dangerous components:		
CAS: 9016-87-9	diphenylmethanediisocyanate,isomeres and homologues  Xn R20;  Xn R42/43;  Xi R36/37/38  Carc. Cat. 3	> 50%
	Resp. Sens. 1, H334; STOT RE 2, H373 Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317; STOT SE 3, H335	
CAS: 101-68-8 EINECS: 202-966-0 Index number: 615-005-00-9	4,4'-methylenediphenyl diisocyanate  Xn R20; Xn R42/43; Xi R36/37/38  Carc. Cat. 3	10-25%
	Resp. Sens. 1, H334; STOT RE 2, H373 Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317; STOT SE 3, H335	
CAS: 26447-40-5 EINECS: 247-714-0 Index number: 615-005-00-9	methylenediphenyl diisocyanate  Xn R20; Xn R42/43; Xi R36/37/38  Carc. Cat. 3	< 10%
	Resp. Sens. 1, H334; STOT RE 2, H373 Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317; STOT SE 3, H335	

• Additional information: For the wording of the listed risk phrases refer to section 16.

### 4 First aid measures

## . 4.1 Description of first aid measures

### · General information:

Immediately remove any clothing soiled by the product.

Provide oxygen treatment if affected person has difficulty breathing.

Seek immediate medical advice.

Take affected persons out into the fresh air.

Do not leave affected persons unattended.

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

#### · After inhalation:

Do not use mouth to mouth or mouth to nose resuscitation.

Supply fresh air and to be sure call for a doctor.

In case of unconsciousness place patient stably in side position for transportation.

## · After skin contact:

Immediately wash with water and soap and rinse thoroughly.

Immediately remove any clothing soiled by the product.

Do not pull solidified product off the skin.

Seek immediate medical advice.

## · After eye contact:

Protect unharmed eye.

Rinse opened eve for several minutes under running water.

Remove contact lenses if worn, if possible.

Rinse opened eye for several minutes under running water. Then consult a doctor.

Seek immediate medical advice.

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. After swallowing:

(Contd. of page 4)

Rinse out mouth and then drink plenty of water.

Do not induce vomiting; call for medical help immediately.

4.2 Most important symptoms and effects, both acute and delayed

Dizziness

Coughing

Breathing difficulty

Nausea

Cyanosis

Unconsciousness

· Hazards

Danger of impaired breathing.

Danger of pulmonary oedema.

Danger of convulsion.

Danger of disturbed cardiac rhythm.

Condition may deteriorate with alcohol consumption.

## 4.3 Indication of any immediate medical attention and special treatment needed

If swallowed, gastric irrigation with added, activated carbon.

Monitor circulation, possible shock treatment.

Medical supervision for at least 48 hours.

If necessary oxygen respiration treatment.

Later observation for pneumonia and pulmonary oedema.

If blue colouring appears (lips, ear-lobes, finger-nails), give oxygen treatment as quickly as possible.

Treat skin and mucous membrane with antihistamine and corticoid preparations.

### 5 Firefighting measures

- . 5.1 Extinguishing media
- . Suitable extinguishing agents: Use fire extinguishing methods suitable to surrounding conditions.
- . For safety reasons unsuitable extinguishing agents: None.
- $\cdot$  5.2 Special hazards arising from the substance or mixture

In case of fire, the following can be released:

Hydrogen cyanide (HCN)

Carbon monoxide (CO)

Nitrogen oxides (NOx)

Under certain fire conditions, traces of other toxic gases cannot be excluded.

- · 5.3 Advice for firefighters
- · Protective equipment:

Do not inhale explosion gases or combustion gases.

Wear self-contained respiratory protective device.

Wear fully protective suit.

Additional information

Cool endangered receptacles with water spray.

Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

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## 6 Accidental release measures

## · 6.1 Personal precautions, protective equipment and emergency procedures

Use respiratory protective device against the effects of fumes/dust/aerosol.

Ensure adequate ventilation

Wear protective equipment. Keep unprotected persons away.

Protect from heat.

- · 6.2 Environmental precautions: Do not allow to enter sewers/ surface or ground water.
- · 6.3 Methods and material for containment and cleaning up:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose contaminated material as waste according to item 13.

Clean the affected area carefully; suitable cleaners are:

Weak alkaline solution

Ensure adequate ventilation.

6.4 Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

## 7 Handling and storage

#### 7.1 Precautions for safe handling

Keep receptacles tightly sealed.

Take note of emission threshold.

Wear suitable respiratory protective device when decanting larger quantities without extractor facilities. Ensure good ventilation/exhaustion at the workplace.

Prevent formation of aerosols.

- . Information about fire and explosion protection: Keep respiratory protective device available.
- · 7.2 Conditions for safe storage, including any incompatibilities
- · Storage:
- · Requirements to be met by storerooms and receptacles:

Store only in the original receptacle.

Provide ventilation for receptacles.

Information about storage in one common storage facility:

Store away from oxidizing agents.

Do not store together with acids.

Store away from foodstuffs.

· Further information about storage conditions:

Store in cool, dry conditions in well sealed receptacles.

Protect from humidity and water.

Keep container tightly sealed.

· 7.3 Specific end use(s) No further relevant information available.

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## 8 Exposure controls/personal protection

- · Additional information about design of technical facilities: No further data; see item 7.
- · 8.1 Control parameters
- · Ingredients with limit values that require monitoring at the workplace:

## 101-68-8 4,4'-methylenediphenyl diisocyanate

PEL (USA) Short-term value: C 0,2 mg/m³, C 0,02 ppm REL (USA) Short-term value: C 0,2\* mg/m³, C 0,02\* ppm

Long-term value: 0,05 mg/m³, 0,005 ppm

\*10-min

TLV (USA) 0,051 mg/m³, 0,005 ppm EL (Canada) Short-term value: C 0,01 ppm

Long-term value: 0,005 ppm

Skin; S

EV (Canada) 0,005 ppm

- · DNELs No further relevant information available.
- . PNECs No further relevant information available.
- . Additional Occupational Exposure Limit Values for possible hazards during processing:

### 74-90-8 hydrogen cyanide

Under Extreme Temperatures or Fire Conditions

PEL (USA) 11 mg/m³, 10 ppm

Skin

REL (USA) Short-term value: 5 mg/m³, 4,7 ppm

Skin

TLV (USA) Short-term value: C 5\* mg/m³, C 4,7\* ppm

\*as CN; Skin

EL (Canada) Short-term value: C 4,7 ppm

Skin

EV (Canada) Skin

- · Additional information: The lists valid during the making were used as basis.
- . 8.2 Exposure controls
- · Personal protective equipment:
- · General protective and hygienic measures:

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

Do not inhale gases / fumes / aerosols. Avoid contact with the eves and skin.

· Respiratory protection:



Combined Organic Vapor and Particulate Respirator is recommended for use during all processing activities.

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Fresh air mask

Wear positive pressure NIOSH or European EN149 vapor respirators when deploying product in large quantities.

· Protection of hands:



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material cannot be calculated in advance and has therefore to be checked prior to the application.

· Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· For the permanent contact gloves made of the following materials are suitable:

Neoprene gloves

Natural rubber, NR

- · As protection from splashes gloves made of the following materials are suitable: PVC or PE gloves
- · Eve protection:

Contact lenses should not be worn.



Safety glasses

Face protection

- · Body protection: Protective work clothing
- · Limitation and supervision of exposure into the environment

No further relevant information available.

· Risk management measures

Organizational measures should be in place for all activities involving this product.

See Section 7 for additional information.

### 9 Physical and chemical properties

- . 9.1 Information on basic physical and chemical properties
- General Information
- · Appearance:

Form: Liquid
Colour: Dark brown
Odour: Aromatic

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		(Contd. of pag
. Odour threshold:	Not determined.	
· pH-value:	Not determined.	
· Change in condition		
Melting point/Melting range:	Undetermined.	
Boiling point/Boiling range:	300 °C (572 °F)	
· Flash point:	> 250 °C (> 482 °F)	
· Flammability (solid, gaseous):	Not applicable.	
. Ignition temperature:	400 °C (752 °F)	
Decomposition temperature:	Not determined.	
· Self-igniting:	Product is not self-igniting.	
Danger of explosion:	Product does not present an explosion hazard.	
. Explosion limits:		
Lower:	0,4 Vol %	
Upper:	Not determined.	
· Vapour pressure:	Not determined.	
. Density at 20 °C:	1,24 g/cm³	
. Relative density	Not determined.	
. Vapour density	Not determined.	
· Evaporation rate	Not determined.	
. Solubility in / Miscibility with		
water:	Not miscible or difficult to mix.	
. Partition coefficient (n-octanol/wa	ter): Not determined.	
. Viscosity:		
Dynamic:	Not determined.	
Kinematic:	Not determined.	
. 9.2 Other information	No further relevant information available.	

## 10 Stability and reactivity

- . 10.1 Reactivity
- · 10.2 Chemical stability
- Thermal decomposition / conditions to be avoided: Avoid temperatures above 120 °F / 49 °C.
- . 10.3 Possibility of hazardous reactions

Temperatures above 120 °F / 49 °C may result in hazardous reactions.

Reacts with alcohols, amines, aqueous acids and alkalis.

Corrodes copper and brass.

Reacts with catalysts.

Reacts with water.

Reacts with humid air.

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- 10.4 Conditions to avoid No further relevant information available.
- · 10.5 Incompatible materials: Contact with acids liberates toxic gases.
- · 10.6 Hazardous decomposition products:

Carbon monoxide and carbon dioxide

Nitrogen oxides

Hydrogen cyanide (prussic acid)

Poisonous gases/vapours

Irritant gases/vapours

## 11 Toxicological information

- . 11.1 Information on toxicological effects
- . Acute toxicity:
- . LD/LC50 values relevant for classification:

#### 101-68-8 4,4'-methylenediphenyl diisocyanate

Oral LD50 2200 mg/kg (mouse)

- · Primary irritant effect:
- · on the skin: Irritant to skin and mucous membranes.
- . on the eye: Irritating effect.
- · Sensitization:

Sensitization possible through inhalation.

Sensitization possible through skin contact.

· Additional toxicological information:

The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:

Harmful

Irritant

Danger through skin adsorption.

Toxic and/or corrosive effects may be delayed up to 24 hours.

- · Sensitisation Sensitization possible by inhalation and/or dermal contact.
- Repeated dose toxicity

May cause damage to organs through prolonged or repeated exposure.

Repeated exposures may result in skin and/or respiratory sensitivity.

## 12 Ecological information

- . 12.1 Toxicity
- . Aquatic toxicity: The product contains materials that are harmful to the environment.
- 12.2 Persistence and degradability Not easily biodegradable
- · 12.3 Bioaccumulative potential

Due to the distribution coefficient n-octanol/water an accumulation in organisms is not expected.

- · 12.4 Mobility in soil No further relevant information available.
- · Additional ecological information:
- . General notes:

This statement was deduced from the properties of the single components.

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The product contains materials that are harmful to the environment.

Due to the consistence and the low watersolubility of the product a bioavailability is not probable.

Due to available data on eliminability/decomposition and bioaccumulation potential prolonged term damage of the environment cannot be excluded.

Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

- · 12.5 Results of PBT and vPvB assessment
- . PBT: Not applicable.
- · **vPvB**: Not applicable.
- . 12.6 Other adverse effects No further relevant information available.

## 13 Disposal considerations

- · 13.1 Waste treatment methods
- · Recommendation

Can be disposed of with household garbage after solidification following consultation with the waste disposal facility operator and the pertinent authorities and adhering to the necessary technical regulations. After prior treatment product has to be disposed of in an incinerator for hazardous waste adhering to the regulations pertaining to the disposal of particularly hazardous waste.

Damaged materials pose a danger to anyone in the immediate area; consult experts for disposal of damaged products.

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

- . Uncleaned packaging:
- · Recommendation:

Packagings that may not be cleansed are to be disposed of in the same manner as the product.

. Recommended cleansing agents: Diluted caustic solution.

I Transport information		
. 14.1 UN-Number . DOT, ADR, ADN, IMDG, IATA	N/A	
. 14.2 UN proper shipping name . DOT, ADR, ADN, IMDG, IATA	N/A	
· 14.3 Transport hazard class(es)		
. DOT, ADR, ADN, IMDG, IATA		
. Class	N/A	
. 14.4 Packing group		
. DOT, ADR, IMDG, İATA	N/A	
. 14.5 Environmental hazards:		
. Marine pollutant:	No	
		(Contd. on page

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		(Contd. of page 11)
. 14.6 Special precautions for user	Not applicable.	
. 14.7 Transport in bulk according to Annex II of		
MARPOL73/78 and the IBC Code	Not applicable.	
. UN "Model Regulation":	-	

## 15 Regulatory information

- . 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
- United States (USA)
- . SARA

· Orani			
. Section 355 (extremely hazardous substances):			
None of the	None of the ingredients is listed.		
· Section 313 (Specific toxic chemical listings):			
9016-87-9	diphenylmethanediisocyanate,isomeres and homologues		
101-68-8	4,4'-methylenediphenyl diisocyanate		
26447-40-5	methylenediphenyl diisocyanate		
TSCA (Toxic Substances Control Act):			
All ingredier	All ingredients are listed		

- · Proposition 65 (California):
- . Chemicals known to cause cancer:

None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

. Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed.

. Chemicals known to cause developmental toxicity:

None of the ingredients is listed.

· Carcinogenic Categories

. EPA (Envi	ronmental Protection Agency)	
9016-87-9	diphenylmethanediisocyanate,isomeres and homologues	CBD
101-68-8	4,4'-methylenediphenyl diisocyanate	CBD
· IARC (Inte	rnational Agency for Research on Cancer)	<u>'</u>
9016-87-9	diphenylmethanediisocyanate,isomeres and homologues	3
101-68-8	4,4'-methylenediphenyl diisocyanate	3
. TLV (Thre	shold Limit Value established by ACGIH)	1
None of the	e ingredients is listed.	
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## . NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients is listed.

. OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients is listed.

- . Canada
- · Canadian Domestic Substances List (DSL)

All ingredients are listed.

· Canadian Ingredient Disclosure list (limit 0.1%)

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

26447-40-5 methylenediphenyl diisocyanate

· Canadian Ingredient Disclosure list (limit 1%)

None of the ingredients is listed.

· 15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

### 16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

#### . Relevant phrases

- H315: Causes skin irritation.
- H317: May cause an allergic skin reaction.
- H319: Causes serious eye irritation.
- H332: Harmful if inhaled.
- H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- H335: May cause respiratory irritation.
- H373: May cause damage to organs through prolonged or repeated exposure.

R20: Harmful by inhalation.

R36/37/38: Irritating to eyes, respiratory system and skin.

R42/43: May cause sensitisation by inhalation and skin contact.

### · Abbreviations and acronyms:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

ACGIH: American Conference of Governmental Industrial Hygienists

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

WHMIS: Workplace Hazardous Materials Information System (Canada)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

DNEL: Derived No-Effect Level (REACH)

PNEC: Predicted No-Effect Concentration (REACH)