

MATERIAL SAFETY DATA SHEET

1. Product and Company Identification

Product name Black Polyurethane Adhesive
Synonym(s) 59503
CAS # Mixture
Product Use Not available
Manufacturer ITW Permatex Canada
35 Brownridge Road, Unit 1
Halton Hills, ON L7G 0C6 CA
Phone: 1-905-693-8900
Emergency Telephone: 1-877-504-9352

2. Hazards Identification

Emergency overview DANGER

MAY CAUSE ALLERGIC RESPIRATORY REACTION.
MAY CAUSE ALLERGIC SKIN REACTION.
MAY CAUSE RESPIRATORY TRACT IRRITATION.
MAY CAUSE SKIN IRRITATION.
MAY CAUSE EYE IRRITATION.

Potential short term health effects

Routes of exposure Eye, Skin contact, Inhalation, Ingestion.

Eyes May cause irritation.

Skin May cause irritation.

Contact with skin can cause irritation and allergic reaction (sensitisation) in some individuals.

Inhalation May cause respiratory irritation.

Ingestion May cause stomach distress, nausea or vomiting.

Target organs Respiratory system. Skin. Eyes.

Chronic effects Significant lung effects have been observed in animals following exposure to airborne concentrations of Carbon Black of less than 100 mg/m³.
Prolonged or repeated exposure can cause drying, defatting and dermatitis.

Signs and symptoms Exposed may experience eye tearing, redness, and discomfort.
Symptoms may include redness, oedema, drying, defatting and cracking of the skin.
Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.

Potential environmental effects See section 12.

3. Composition/Information on Ingredients

Components	CAS #	Percent
Methyloxirane Polymer With Oxirane, Ether With 1,2,3-propanetriol (3:1) Polymer With 1,1'-methylenebis[4-isocyanatobenzene]	59675-67-1	15 - 40
Alkanes, C9- 12-iso-	90622-57-4	1 - 5
Ethylbenzene	100-41-4	1 - 5
m-Xylene	108-38-3	1 - 5
4,4'-Diphenylmethane Diisocyanate	101-68-8	0.1 - 1
4,4'-methylenediphenyl Diisocyanate, Oligomers	25686-28-6	0.1 - 1
Carbon black	1333-86-4	0.1 - 1
p-Xylene	106-42-3	0.1 - 1

4. First Aid Measures

First aid procedures

Eye contact	Flush with cool water. Remove contact lenses, if applicable, and continue flushing. Obtain medical attention if irritation persists.
Skin contact	Immediately flush with cool water for 15 minutes while removing contaminated clothing and shoes. Discard or wash well before reuse. Obtain medical attention if irritation persists.
Inhalation	If symptoms develop move victim to fresh air. If symptoms persist, obtain medical attention.
Ingestion	Do not induce vomiting. Never give anything by mouth if victim is unconscious, or is convulsing. Obtain medical attention.

Notes to physician

Symptoms may be delayed.

General advice

Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. If you feel unwell, seek medical advice (show the label where possible). Show this safety data sheet to the doctor in attendance. Avoid contact with eyes and skin. Keep out of reach of children.

5. Fire Fighting Measures

Flammable properties

Not flammable by WHMIS criteria.

Extinguishing media

Suitable extinguishing media	Carbon dioxide. Dry chemical powder. Water spray. Alcohol resistant foam.
Unsuitable extinguishing media	Not available

Protection of firefighters

Specific hazards arising from the chemical Not available

Protective equipment for firefighters Firefighters should wear full protective clothing including self contained breathing apparatus.

Hazardous combustion products

May include and are not limited to: Oxides of nitrogen. Oxides of carbon. Hydrocarbons.

Explosion data

Sensitivity to mechanical impact	Not available.
Sensitivity to static discharge	Not available.

6. Accidental Release Measures

Personal precautions

Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.

Environmental precautions

Do not discharge into lakes, streams, ponds or public waters.

Methods for containment

Stop leak if you can do so without risk. Use water spray to reduce vapours or divert vapour cloud drift. Prevent entry into waterways, sewers, basements or confined areas.

Methods for cleaning up

Before attempting clean up, refer to hazard data given above. Small spills may be absorbed with non-reactive absorbent and placed in suitable, covered, labelled containers. Prevent large spills from entering sewers or waterways. Contact emergency services and supplier for advice. Never return spills to original containers for re-use.

7. Handling and Storage

Handling

Avoid contact with eyes.
Avoid contact with skin and clothing.
Use only with adequate ventilation.
Do not breathe vapour.
Use good industrial hygiene practices in handling this material.
Wash thoroughly after handling.
When using do not eat or drink.
Keep container tightly closed.

Storage

Store in a closed container away from incompatible materials. Keep out of reach of children.

8. Exposure Controls/Personal Protection

Occupational exposure limits

ACGIH Biological Exposure Indices

Components	Type	Value
Ethylbenzene (CAS 100-41-4)	BEI	0.7 g/g
m-Xylene (CAS 108-38-3)	BEI	1.5 g/g
p-Xylene (CAS 106-42-3)	BEI	1.5 g/g

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
4,4'-Diphenylmethane Diisocyanate (CAS 101-68-8)	TWA	0.005 ppm	
Carbon black (CAS 1333-86-4)	TWA	3 mg/m ³	Inhalable fraction.
Ethylbenzene (CAS 100-41-4)	TWA	20 ppm	
m-Xylene (CAS 108-38-3)	STEL	150 ppm	
	TWA	100 ppm	
p-Xylene (CAS 106-42-3)	STEL	150 ppm	
	TWA	100 ppm	

Exposure limits Chemicals listed in section 3 that are not listed here do not have established limit values for ACGIH.

Engineering controls General ventilation normally adequate.

Personal protective equipment

Eye/Face protection	Wear safety glasses with side shields.
Hand protection	Rubber gloves. Confirm with a reputable supplier first.
Skin and body protection	As required by employer code.
Respiratory protection	Where exposure guideline levels may be exceeded, use an approved NIOSH respirator.
General hygiene considerations	Wash hands before breaks and immediately after handling the product. Handle in accordance with good industrial hygiene and safety practices. When using do not eat or drink.

9. Physical and Chemical Properties

Appearance	Viscous
Colour	Black
Form	Paste
Odour	Characteristic
Odour threshold	Not available.
Physical state	Liquid.
pH	Not available.
Freezing point	Not available.
Boiling point	Not available.
Pour point	Not available.
Evaporation rate	Not available
Flash point	> 200.0 °C (> 392.0 °F)
Auto-ignition temperature	Not available.
Flammability Limits in Air, Upper, % by Volume	Not available.
Flammability Limits in Air, Lower, % by Volume	Not available.
Heat of combustion	Not available.
Vapour pressure	Not available.

Vapour density	Not available.
Specific gravity	1.19 g/cm ³
Partition coefficient (n-octanol/water)	Not available.
Solubility (Water)	Not available.
Relative density	Not available.
Viscosity	Not available.
VOC	Not available
Percent volatile	Not available

10. Stability and Reactivity

Reactivity	May react with incompatible materials.
Possibility of hazardous reactions	Hazardous polymerisation does not occur.
Chemical stability	Stable under recommended storage conditions.
Conditions to avoid	Do not mix with other chemicals. Avoid heat, flames, sparks, and all other sources of ignition.
Incompatible materials	Oxidizers. Amines. Alcohols. Water.
Hazardous decomposition products	May include and are not limited to: Oxides of nitrogen. Oxides of carbon. Hydrocarbons

11. Toxicological Information

Toxicological data

Components	Species	Test results
4,4'-Diphenylmethane Diisocyanate (CAS 101-68-8)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	10000 mg/kg
<i>Inhalation</i>		
LC50	Rat	> 2.2 mg/l, 4 hours
		0.4 mg/l, 4 Hours
<i>Oral</i>		
LD50	Rat	9200 mg/kg
4,4'-methylenediphenyl Diisocyanate, Oligomers (CAS 25686-28-6)		
Acute		
<i>Inhalation</i>		
LC50	Not available	
<i>Oral</i>		
LD50	Not available	
Alkanes, C9- 12-iso- (CAS 90622-57-4)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	>= 3200 mg/kg
<i>Inhalation</i>		
LC50	Rat	975 mg/l/4h
<i>Oral</i>		
LD50	Rat	>= 10000 mg/kg
Carbon black (CAS 1333-86-4)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	> 3000 mg/kg

Components	Species	Test results
<i>Inhalation</i> LC50	Not available	
<i>Oral</i> LD50	Rat	> 8000 mg/kg
Ethylbenzene (CAS 100-41-4)		
Acute <i>Dermal</i> LD50	Rabbit	15380 mg/kg
<i>Inhalation</i> LC50	Rat	4000 ppm, 4 Hours
<i>Oral</i> LD50	Rat	5460 mg/kg
		3500 mg/kg
m-Xylene (CAS 108-38-3)		
Acute <i>Dermal</i> LD50	Rabbit	14100 mg/kg
		12100 mg/kg
<i>Inhalation</i> LC50	Mouse	6451 ppm
		5300 ppm, 6 Hours
	Rat	5000 mg/l/4h
<i>Oral</i> LD50	Mouse	1590 mg/kg
	Rat	4300 mg/kg
p-Xylene (CAS 106-42-3)		
Acute <i>Dermal</i> LD50	Rabbit	> 43 g/kg
<i>Inhalation</i> LC50	Mouse	4800 ppm
		3900 ppm, 6 Hours
	Rat	4550 ppm
		4550 mg/l/4h
<i>Oral</i> LD50	Mouse	1590 mg/kg
	Rat	4030 mg/kg
		3523 - 8600 mg/kg

Effects of acute exposure

Eye contact	May cause irritation.
Skin contact	May cause irritation. Contact with skin can cause irritation and allergic reaction (sensitisation) in some individuals.
Inhalation	May cause respiratory irritation.
Ingestion	May cause stomach distress, nausea or vomiting.
Sensitisation	May cause sensitisation by inhalation. Contains a potential respiratory tract sensitizer. Contains a potential skin sensitizer.

Chronic effects	Significant lung effects have been observed in animals following exposure to airborne concentrations of Carbon Black of less than 100 mg/m3.
Carcinogenicity	Contains a potential carcinogen.
ACGIH Carcinogens	
Carbon black (CAS 1333-86-4)	A3 Confirmed animal carcinogen with unknown relevance to humans.
Ethylbenzene (CAS 100-41-4)	A3 Confirmed animal carcinogen with unknown relevance to humans.
m-Xylene (CAS 108-38-3)	A4 Not classifiable as a human carcinogen.
p-Xylene (CAS 106-42-3)	A4 Not classifiable as a human carcinogen.
IARC Monographs. Overall Evaluation of Carcinogenicity	
4,4'-Diphenylmethane Diisocyanate (CAS 101-68-8)	Volume 19, Supplement 7, Volume 71 - 3 Not classifiable as to carcinogenicity to humans.
Carbon black (CAS 1333-86-4)	Volume 65, Volume 93 - 2B Possibly carcinogenic to humans.
Ethylbenzene (CAS 100-41-4)	Volume 77 - 2B Possibly carcinogenic to humans.
m-Xylene (CAS 108-38-3)	Volume 47, Volume 71 - 3 Not classifiable as to carcinogenicity to humans.
p-Xylene (CAS 106-42-3)	Volume 47, Volume 71 - 3 Not classifiable as to carcinogenicity to humans.
Mutagenicity	Health injuries are not known or expected under normal use.
Reproductive effects	Health injuries are not known or expected under normal use.
Teratogenicity	Health injuries are not known or expected under normal use.
Name of Toxicologically Synergistic Products	Not available.

12. Ecological Information

Ecotoxicity	See below		
Ecotoxicological data			
Components	Species		Test results
Ethylbenzene (CAS 100-41-4)			
Algae	IC50	Algae	4.6 mg/L, 72 Hours
Crustacea	EC50	Daphnia	2.1 mg/L, 48 Hours
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	1.37 - 4.4 mg/l, 48 hours
Fish	LC50	Fathead minnow (Pimephales promelas)	7.5 - 11 mg/l, 96 hours
m-Xylene (CAS 108-38-3)			
Algae	IC50	Algae	4.9 mg/L, 72 Hours
Crustacea	EC50	Daphnia	3.905 mg/L, 48 Hours
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	2.81 - 5 mg/l, 48 hours
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	8.4 mg/l, 96 hours
p-Xylene (CAS 106-42-3)			
Algae	IC50	Algae	105.1 mg/L, 72 Hours
Crustacea	EC50	Daphnia	4.93 mg/L, 48 Hours
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	3.55 - 6.31 mg/l, 48 hours
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	2.6 mg/l, 96 hours
Persistence and degradability	Not available.		
Bioaccumulation/accumulation	Not available		
Mobility in environmental media	Not available.		
Environmental effects	Not available.		

Aquatic toxicity	Not available.
Partition coefficient	
Ethylbenzene	3.15
m-Xylene	3.2
p-Xylene	3.15
Chemical fate information	Not available.

13. Disposal Considerations

Disposal instructions	Dispose in accordance with all applicable regulations.
Waste from residues / unused products	Not available
Contaminated packaging	Not available

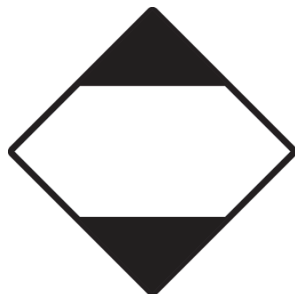
14. Transport Information

Transportation of Dangerous Goods (TDG - Canada)

Basic shipping requirements:

UN number	UN3082
Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Di-"isononyl" Phthalate)
Hazard class	Limited Quantity - Canada
Packing group	III
Special provisions	16
Packaging exceptions	<5L Limited Quantity

TDG



15. Regulatory Information

Canadian federal regulations This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

Canada DSL Challenge Substances: Listed substance

Carbon black (CAS 1333-86-4) Listed.

Canada NPRI VOCs with Additional Reporting Requirements: Mass reporting threshold/Identification Number

m-Xylene (CAS 108-38-3) 1 TONNES
p-Xylene (CAS 106-42-3) 1 TONNES

Canada WHMIS Ingredient Disclosure: Threshold limits

4,4'-Diphenylmethane Diisocyanate (CAS 101-68-8) 0.1 %
Carbon black (CAS 1333-86-4) 1 %
Ethylbenzene (CAS 100-41-4) 0.1 %
m-Xylene (CAS 108-38-3) 1 %
p-Xylene (CAS 106-42-3) 0.1 %

WHMIS Classification Exempt - Consumer product

Inventory status

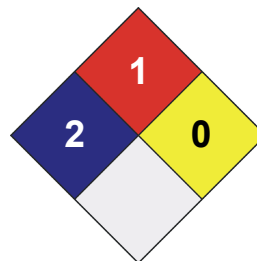
Country(s) or region	Inventory Name	On Inventory (Yes/No)*
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

16. Other Information

LEGEND	
Severe	4
Serious	3
Moderate	2
Slight	1
Minimal	0

HEALTH	*	2
FLAMMABILITY		1
PHYSICAL HAZARD		0
PERSONAL PROTECTION		X



Disclaimer

Information contained herein was obtained from sources considered technically accurate and reliable. While every effort has been made to ensure full disclosure of product hazards, in some cases data is not available and is so stated. Since conditions of actual product use are beyond control of the supplier, it is assumed that users of this material have been fully trained according to the requirements of all applicable legislation and regulatory instruments. No warranty, expressed or implied, is made and supplier will not be liable for any losses, injuries or consequential damages which may result from the use of or reliance on any information contained in this document.

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Other information

For an updated MSDS, please contact the supplier/manufacturer listed on the first page of the document.

This MSDS conforms to the ANSI Z400.1/Z129.1-2010 Standard.