

MATERIAL SAFETY DATA SHEET

1. IDENTIFICATION OF SUBSTANCE AND PREPARATION

Supplier/Manufacturer:

American Polywater Corporation
11222 - 60th Street North
P.O. Box 53
Stillwater, MN 55082 USA
Phone: 1-651-430-2270
Fax: 1-651-430-3634

Polywater Europe BV
Mauritsplaat 126
NL-3012CD Rotterdam
Netherlands
Tel: +31 10 233 0578

Emergency Number: +1-651-430-2270

Product Name:
Power Patch® Cartridge
Gel Resin – EPCT Part A Reusable
Cartridge Package

Chemical Description: Sealant Resin, Part A of
two-part sealant

Product Use: Adhesive

2. COMPOSITION / INFORMATION ON INGREDIENTS

<u>Component</u>	<u>CAS #</u>	<u>EC #</u>	<u>Wt %</u>
Bisphenol A Diglycidyl Ether	25068-38-6	500-033-5	75 – 90

3. HAZARDS IDENTIFICATION

Emergency Overview: Moderate skin and eye irritant. May cause allergic skin reaction. Keep out of reach of children. Industrial use only.

Eye Contact: Direct eye contact with material or vapors may cause eye irritation. Contact at elevated temperatures may cause thermal burns.

Skin Contact: This product has moderate skin irritation potential. Persons with pre-existing skin disorders may be more susceptible to skin irritation from this material. Prolonged or repeated skin exposure may cause skin sensitization.

Irritation and Sensitization Potential: This product has moderate skin irritation potential. It is not a sensitizer.

Inhalation (Breathing): Low vapor pressure makes this route of exposure unlikely.

Ingestion (Swallowing): Material has a low level of oral toxicity. Ingestion may cause irritation of the gastrointestinal tract.

4. FIRST AID MEASURES

Eye Contact: Flush eyes with clean water. If irritation persists, seek medical attention. For direct eye contact, flush with large quantity of water for 15 minutes. Seek medical attention.

Skin Contact: Remove contaminated clothing; flush skin thoroughly with water. If irritation occurs, seek medical attention.

Inhalation (Breathing): If irritation of nose or throat develops, move to fresh air. If irritation persists, seek medical attention.

Ingestion (Swallowing): Drink one or two glasses of milk or water. Do not induce vomiting. If victim is unconscious, place on the left side with head down. Never give anything by mouth to an unconscious person. Do not leave victim unattended. Seek medical attention.

5. FIRE-FIGHTING MEASURES

Flash Point: >400 °F (204 °C) PMCC

Flammable Limits: Not Available

Autoignition Temperature: Not Available

Hazardous Decomposition and By-Products: CO₂, CO, aldehydes, acids and other organic substances may be formed during combustion or elevated temperature (>500°F) degradation.

Extinguishing Media: Water Fog, Carbon Dioxide, Dry Chemical or Foam.

Special Precautions: Full protective equipment including self-contained breathing apparatus should be used. Water spray may be used to cool fire exposed container to prevent pressure build-up and possible auto-ignition or rupture.

Unusual Hazards: Heating above 300°F in the presence of air may cause slow oxidative decomposition and above 500°F may cause polymerization.

6. ACCIDENTAL RELEASE MEASURES

Major spill unlikely with small package. Residual resin may be removed using steam or hot soapy water. Dispose of according to local and federal regulations. Prevent spill from entering drainage/sewer systems, waterways, and surface waters.

7. HANDLING AND STORAGE

Keep cartridge tightly closed. Reseal cartridge after use. Keep cartridge cool, dark, dry, and away from sources of ignition. Protect from freezing. Use and store this product with adequate ventilation. Avoid inhalation of vapors and personal contact with the product. Use good personal hygiene practice. All cartridges should be disposed of in an environmentally safe manner and in accordance with governmental regulations. Provide appropriate ventilation/respiratory protection against decomposition products during welding/flame operations (i.e. torches used to install heat shrink products) on or near cured product.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Respiratory Protection: None required for normal handling temperatures and conditions.

Protective Gloves: The use of impermeable gloves is recommended to prevent skin contact.

Eye Protection: Eye protection is recommended, especially if the material is used in ways where it could contact the eyes.

Other Protective Equipment: Use protective cream if skin contact is likely. Remove and wash contaminated clothing before reuse. Discard contaminated shoes.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Gel, black paste

Odor Threshold:	Not Available
Vapor Density (Air = 1):	>1
Specific Gravity (H₂O = 1):	<2.0
Solubility in Water:	Not Available
Boiling Point:	Not Available
Freezing Point:	Not Available
Evaporation Rate:	Not Available
Vapor Pressure:	< 0.001 mm Hg @ 20 °C
Coefficient of Water/Oil Distribution:	Not Available
pH:	Not Applicable
Volatiles (Weight %):	0%
VOC Content:	0 g/l

10. STABILITY AND REACTIVITY

Stability:	Stable
Conditions to Avoid:	Avoid heat and flame.
Materials to Avoid:	Strong acids or bases (especially primary or secondary aliphatic amines), strong oxidizing agents.
Hazardous Decomposition and By- Products:	CO ₂ , CO, aldehydes, acids and other organic substances may be formed during combustion or elevated temperature (>500°F) degradation.
Conditions Under Which Hazardous Polymerization May Occur:	When BonDuit® Resin (Part A) is mixed with BonDuit® Hardener (Part B), heat is generated. Use caution if combining and mixing more than one cartridge.

11. TOXICOLOGICAL INFORMATION

Toxicity to Animals:	Bisphenol A Diglycidyl Ether	LD ₅₀ (oral) >2000 mg/kg LD ₅₀ (dermal) >2000 mg/kg
Chronic Exposure:	Not Available	
Carcinogenic Status:	This substance has not been identified as a carcinogen or probable carcinogen by NTP, IARC, or OSHA, nor have any of its components.	
Reproductive Toxicity:	Not Available	
Mutagenicity:	Resins based on diglycidyl ether of bisphenol A have proved to be inactive when tested by in-vivo mutagenicity assays. These resins have shown activity in in-vitro microbial mutagenicity screening and have produced chromosomal aberrations in cultured rat-liver cells. The significance of these tests to humans is unknown.	
Teratogenicity:	Not Available	

Toxicologically Synergistic Products: Not Available

12. ECOLOGICAL INFORMATION

Mobility: No information available.
Bioaccumulation: No information available.
Ecotoxicity: No information available.
Aquatic Toxicity: May be toxic to aquatic organisms.

13. DISPOSAL CONSIDERATIONS

Dispose of product in accordance with National and Local Regulations.

14. TRANSPORTATION INFORMATION

DOT Not Regulated
UN Number: 3082
UN Proper Shipping Name: Environmentally hazardous substance, liquid, N.O.S. (Epoxy Resin)
Class and Subsidiary Risk: 9
Packing Group: III
ICAO/IATA-DGR: 9, Marine Pollutant
IMDG: 9, Marine Pollutant
ADR/RID: 9

15. REGULATORY INFORMATION

USA Federal and State

All components are listed on the TSCA inventory.

Hazard Categories for SARA Section 311/312 Reporting	<u>Acute</u> Yes	<u>Chronic</u> No	<u>Fire</u> No	<u>Pressure</u> No	<u>Reactive</u> No
-------------------------------------------------------------	---------------------	----------------------	-------------------	-----------------------	-----------------------

<u>Components</u>	CERCLA/SARA Sec 302 Hazardous Substance RQ	EHS TPQ	SARA Sec. 313 Toxic Release
Components are not affected by these Superfund regulations			

European Union

Product is classified as hazardous according to European Directives 88/379/EEC and 67/548/EEC and EU Regulation (EC) No 1272/2008.

Risk Phrases: R36/38: Irritating to eyes and skin.
R43: May cause sensitization by skin contact.
R51/53: Toxic to aquatic organisms.

Safety Phrases: S2: Keep out of reach of children.
S28: After contact with skin, wash immediately with plenty of water.
S37/39: Wear suitable gloves and eye/face protection.
S61: Avoid release to the environment.

Symbol: Xi: Irritant
N: Dangerous for the environment.

Product complies with the communication requirements of REACH Regulation (EC) No. 1907/2006. It does not contain Substances of Very High Concern (SVHC).

Canada

This product has been classified according to the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

WHMIS Classification: DB2 (toxic)

Canadian DSL: All ingredients listed.

Australia

All components are listed on the AICS.
Product is classified as hazardous according to criteria of NOHSC Australia.

Contact Information:

16. OTHER INFORMATION

NFPA Ratings: Health: 2
Fire: 1
Reactivity: 1

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel during spill, fire or similar emergencies. Hazard ratings are based on physical and toxic properties of combustion or decomposition.

Revision Date: January 18, 2013
Revision Number: 2
Reviewed By: S. H. Dahlke

The information and recommendations contained herein are believed to be reliable. However, the supplier makes no warranties, express or implied, concerning the use of this product. The buyer must determine conditions of safe usage and assumes all risk and liability in handling this product.

MATERIAL SAFETY DATA SHEET

1. IDENTIFICATION OF SUBSTANCE AND PREPARATION

Supplier/Manufacturer:

American Polywater Corporation
11222 - 60th Street North
P.O. Box 53
Stillwater, MN 55082 USA
Phone: 1-651-430-2270
Fax: 1-651-430-3634

Polywater Europe BV
Mauritsplaat 126
NL-3012CD Rotterdam
Netherlands
Tel: +31 10 233 0578

Emergency Number: +1-651-430-2270

Product Name:
PowerPatch® Cartridge
Gel Hardener – EPCT
Part B Reusable Cartridge Package

Chemical Description: Hardener, Part B of two-part sealant

Product Use: Adhesive

2. COMPOSITION / INFORMATION ON INGREDIENTS

<u>Component</u>	<u>CAS #</u>	<u>EC #</u>	<u>Wt %</u>
Polymercaptan Curing Agent	Proprietary	--	40 - 65
Polymer of C-18 Unsaturated Fatty Acid Dimers with TETA & TOFA	68082-29-1	500-191-5	10 - 15
2,4,6-Tris (Dimethylaminomethyl) Phenol	90-72-2	202-013-9	5 - 10
Polymer of C-18 Unsaturated Fatty Acid Dimers	68541-13-9	--	2 - 5
Triethylenetetramine	112-24-3	203-950-6	1 - 3

3. HAZARDS IDENTIFICATION

Emergency Overview:	Skin and eye irritant. May cause allergic skin reaction. Keep out of reach of children. Industrial use only.
Eye Contact:	Direct eye contact with material or vapors may cause severe eye irritation.
Skin Contact:	May cause severe skin irritation, especially on prolonged contact. Prolonged or repeated skin exposure may cause skin sensitization.
Irritation and Sensitization Potential:	This product has skin irritation potential. It is a sensitizer.
Inhalation (Breathing):	Excess vapor exposure may cause irritation of the nose and throat. Prolonged exposure may cause delayed lung injury and chemical pneumonia.
Ingestion (Swallowing):	Material is considered slightly toxic. Ingestion may cause irritation of the gastrointestinal tract, nausea, vomiting, and diarrhea.

4. FIRST AID MEASURES

Eye Contact:	If eye irritation from exposure to vapors develops, move to fresh air. Flush eyes with clean water. If irritation persists, seek medical attention. For direct eye contact, flush with large quantity of water for 15 minutes. Seek medical attention.
---------------------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

Skin Contact:	Remove contaminated clothing; flush skin thoroughly with water. If irritation occurs, seek medical attention.
Inhalation (Breathing):	If irritation of nose or throat develops, move to fresh air. If irritation persists, seek medical attention.
Ingestion (Swallowing):	Drink one or two glasses of milk or water. Do not induce vomiting. If victim is unconscious, place on the left side with head down. Never give anything by mouth to an unconscious person. Do not leave victim unattended. Seek medical attention.

5. FIRE-FIGHTING MEASURES

Flash Point:	>200°F PMCC
Flammable Limits:	Not Available
Autoignition Temperature:	Not Available
Hazardous Decomposition and By-Products:	Oxides of carbon, oxides of sulfur, oxides of nitrogen.
Extinguishing Media:	Water Fog, Carbon Dioxide, Dry Chemical or Foam.
Special Precautions:	Full protective equipment including self-contained breathing apparatus should be used. Water spray may be used to cool fire exposed container to prevent pressure build-up and possible auto-ignition or rupture.
Unusual Hazards:	Toxic smoke and vapors may form during combustion.

6. ACCIDENTAL RELEASE MEASURES

Major spill unlikely with small package. Residual resin may be removed using steam or hot soapy water. Dispose of according to local and federal regulations. Prevent spill from entering drainage/sewer systems, waterways, and surface waters.

7. HANDLING AND STORAGE

Keep cartridge tightly closed. Reseal cartridge after use. Avoid contact with skin, eyes, or clothing. Uncured BonDuit® Hardener Part B is a skin irritant. Use good personal hygiene practice. Provide appropriate ventilation/respiratory protection against decomposition products during welding/flame operations (i.e. torches used to install heat shrink products) on or near cured product. Keep containers cool, dark, dry, and away from sources of ignition. All cartridges should be disposed of in an environmentally safe manner and in accordance with governmental regulations.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Respiratory Protection:	None required for normal handling temperatures and conditions.
Protective Gloves:	The use of impermeable gloves is recommended to prevent skin contact.
Eye Protection:	Eye protection is recommended, especially if the material is used in ways where it could contact the eyes.
Other Protective Equipment:	Use protective cream if skin contact is likely. Remove and wash contaminated clothing before reuse. Discard contaminated shoes.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Off-white to yellow, gel paste.
Odor Threshold:	Not Available
Vapor Density (Air = 1):	Not Available
Specific Gravity (H₂O = 1):	<2
Solubility in Water:	Not Available
Boiling Point:	Not Available
Freezing Point:	Not Available
Evaporation Rate:	Not Available
Vapor Pressure:	<1 mm Hg @ 70°F
Coefficient of Water/Oil Distribution:	Not Available
pH:	Not Applicable
Volatiles (Weight %):	0%
VOC Content:	0 g/l

10. STABILITY AND REACTIVITY

Stability:	Stable
Conditions to Avoid:	Avoid extreme heat and open flame.
Materials to Avoid:	Strong oxidizing agents.
Hazardous Decomposition Products:	Oxides of carbon, oxides of sulfur, oxides of nitrogen.
Conditions Under Which Hazardous Polymerization May Occur:	When Hardener (Part B) is mixed with Resin (Part A), heat is generated. Use caution if combining and mixing more than one cartridge.

11. TOXICOLOGICAL INFORMATION

Toxicity to Animals:	Polymercaptan Curing Agent	LD ₅₀ (oral rat) >2000 mg/kg
	Polymer of C-18 Unsaturated Fatty Acid Dimers with TETA & TOFA	LD ₅₀ (oral rat) >2000 mg/kg LD ₅₀ (dermal rabbit) >2000 mg/kg
	2,4,6-Tris (Dimethylaminomethyl) Phenol	LD ₅₀ (oral) >2000 mg/kg
Chronic Exposure:	Not Available	
Carcinogenic Status:	This substance has not been identified as a carcinogen or probable carcinogen by NTP, IARC, or OSHA, nor have any of its components.	

Reproductive Toxicity: Not Available
Mutagenicity: Not Available
Teratogenicity: Not Available
Toxicologically Synergistic Products: Not Available

12. ECOLOGICAL INFORMATION

Mobility: No information available.
Bioaccumulation: No information available.
Ecotoxicity: No information available.

13. DISPOSAL CONSIDERATIONS

Dispose of product in accordance with National and Local Regulations.

14. TRANSPORTATION INFORMATION

UN Number: Not Listed
UN Proper Shipping Name: Not Applicable
Class and Subsidiary Risk: Not Applicable
Packing Group: Not Applicable
TDG: Not Regulated
ICAO/IATA-DGR: Not Regulated
IMDG: Not Regulated
ADR/RID: Not Regulated

15. REGULATORY INFORMATION

USA Federal and State

All components are listed on the TSCA inventory.

Hazard Categories for SARA Section 311/312 Reporting	<u>Acute</u> Yes	<u>Chronic</u> No	<u>Fire</u> No	<u>Pressure</u> No	<u>Reactive</u> No
-------------------------------------------------------------	---------------------	----------------------	-------------------	-----------------------	-----------------------

<u>Components</u>	<u>CERCLA/SARA Sec 302 Hazardous Substance RQ</u>	<u>EHS TPQ</u>	<u>SARA Sec. 313 Toxic Release</u>
Components are not affected by these Superfund regulations.			

European Union

Product is classified as hazardous according to European Directives 88/379/EEC and 67/548/EEC and EU Regulation (EC) No 1272/2008.

Risk Phrases: R43: May cause sensitization by skin contact.

Safety Phrases: S2: Keep out of reach of children.
S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Xi: Irritant

Product complies with the communication requirements of REACH Regulation (EC) No. 1907/2006. It does not contain Substances of Very High Concern (SVHC).

Canada

This product has been classified according to the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

WHMIS Classification: DB2 (toxic)

Canadian DSL: All ingredients listed.

Australia

All components are listed on the AICS.
Hazardous according to criteria of NOHSC Australia.

Contact Information:

16. OTHER INFORMATION

NFPA Ratings:	Health:	2
	Fire:	1
	Reactivity:	1

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel during spill, fire or similar emergencies. Hazard ratings are based on physical and toxic properties of combustion or decomposition.

Revision Date: May 13, 2013
Revision Number: 2
Reviewed By: S.H Dahlke

The information and recommendations contained herein are believed to be reliable. However, the supplier makes no warranties, express or implied, concerning the use of this product. The buyer must determine conditions of safe usage and assumes all risk and liability in handling this product.

MATERIAL SAFETY DATA SHEET

1. IDENTIFICATION OF SUBSTANCE AND PREPARATION

Supplier/Manufacturer:

American Polywater Corporation

11222 - 60th Street North
P.O. Box 53
Stillwater, MN 55082 USA
Phone: 1-651-430-2270
Fax: 1-651-430-3634

Polywater Europe BV

Mauritsplaat 126
NL-3012CD Rotterdam
Netherlands
Tel: +31 10 233 0578

Emergency Number: +1-651-430-2270

**Product Name: PowerPatch[®]
Putty Stick – Leak Sealant**

Chemical Description: Gray and dark gray, two-part putty stick

Product Use: Sealant resin

2. COMPOSITION / INFORMATION ON INGREDIENTS

<u>Component</u>	<u>CAS #</u>	<u>EC #</u>	<u>Wt %</u>
Diglycidyl Ether of Bisphenol A	25036-25-3	--	7 - 13
Diglycidyl Ether of Bisphenol A	25085-99-8	--	5 - 10
2,4,6-Tris(Dimethylamino)Methyl Phenol	90-72-2	202-013-9	0.5 – 1.5

3. HAZARDS IDENTIFICATION

Emergency Overview:

Moderate skin and eye irritant. May cause allergic skin reaction. Keep out of reach of children. Industrial use only.

Eye Contact:

May cause moderate eye irritation.

Skin Contact:

Skin irritant. Prolonged or repeated skin exposure can remove oils, causing redness, drying and cracking. Persons with pre-existing skin disorders may be more susceptible to skin irritation from this material.

Irritation and Sensitization Potential:

This product has moderate skin irritation potential. It is a sensitizer.

Inhalation (Breathing):

Low vapor pressure makes this route of exposure unlikely.

Ingestion (Swallowing):

Material has a low level of oral toxicity. Ingestion may cause irritation of the gastrointestinal tract.

4. FIRST AID MEASURES

Eye Contact:

Flush eyes with clean water. If irritation persists, seek medical attention. For direct eye contact, flush with large quantity of water for 15 minutes. Seek medical attention.

Skin Contact:

Remove contaminated clothing; flush skin thoroughly with water. If irritation occurs, seek medical attention.

Inhalation (Breathing):

Not Applicable

Ingestion (Swallowing): No emergency medical treatment necessary.

5. FIRE-FIGHTING MEASURES

Flash Point: >140°F (>60°C)

Flammable Limits: Not Available

Autoignition Temperature: Not Available

Hazardous Decomposition and By-Products: Carbon dioxide, carbon monoxide, aldehydes, acids, oxides of nitrogen and sulfur.

Extinguishing Media: Water Fog, Carbon Dioxide, Dry Chemical or Foam.

Special Precautions: Full protective equipment including self-contained breathing apparatus should be used.

Unusual Hazards: Toxic smoke and vapors may form during decomposition.

6. ACCIDENTAL RELEASE MEASURES

Not applicable. Do not flush to drainage/sewer systems, waterways, and surface waters.

7. HANDLING AND STORAGE

Store in a cool dry place. Use good personal hygiene practice. All containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations. Provide appropriate ventilation/respiratory protection against decomposition products during welding/flame cutting operations and to protect against nuisance dust during sanding/grinding of cured product.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Respiratory Protection: None required for normal handling temperatures and conditions.

Protective Gloves: The use of impermeable gloves is recommended to prevent skin contact.

Eye Protection: Eye protection is recommended, especially if the material is used in ways where it could contact the eyes.

Other Protective Equipment: Use protective cream if skin contact is likely. Remove and wash contaminated clothing before reuse.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Gray/Dark Gray putty stick.

Odor Threshold: Not Available

Vapor Density (Air = 1): Not Available

Specific Gravity (H₂O = 1): 2.25

Solubility in Water:	Insoluble
Boiling Point:	Not Available
Freezing Point:	Not Available
Evaporation Rate:	Not Available
Vapor Pressure:	Not Available
Coefficient of Water/Oil Distribution:	Not Available
pH:	Not Applicable
VOC Content:	<0.1%

10. STABILITY AND REACTIVITY

Stability:	Stable
Conditions to Avoid:	Avoid heat and flame.
Materials to Avoid:	Strong acids or bases (especially primary or secondary aliphatic amines), strong oxidizing agents.
Hazardous Decomposition and By-Products:	Carbon dioxide, carbon monoxide, aldehydes, acids, oxides of nitrogen and sulfur.
Conditions in Which Hazardous Polymerization May Occur:	None

11. TOXICOLOGICAL INFORMATION

Toxicity to Animals:	Bisphenol A Diglycidyl Ether	LD ₅₀ (oral, rat) >5000 mg/kg
		LD ₅₀ (dermal, rabbit) >20000 mg/kg
	2,4,6-Tris(Dimethylamino) Methyl Phenol	LD ₅₀ (oral, rat) 1653 mg/kg
		LC ₅₀ (inh, rat) >0.5 mg/l Skin Irritation 8 (scale 0-8) (rabbit)
Chronic Exposure:	Not Available	
Carcinogenic Status:	This substance has not been identified as a carcinogen or probable carcinogen by NTP, IARC, or OSHA, nor have any of its components.	
Reproductive Toxicity:	Not Available	
Mutagenicity:	Not Available	
Teratogenicity:	Not Available	
Toxicologically Synergistic Products:	Not Available	

12. ECOLOGICAL INFORMATION

Mobility:	No information available.
------------------	---------------------------

Bioaccumulation: No information available.

Ecotoxicity: No information available.

13. DISPOSAL CONSIDERATIONS

Dispose of product in accordance with National and Local Regulations.

14. TRANSPORTATION INFORMATION

UN Number: Not Listed

UN Proper Shipping Name: Not Applicable

Class and Subsidiary Risk: Not Applicable

Packing Group: Not Applicable

TDG: Not Regulated

ICAO/IATA-DGR: Not Regulated

IMDG: Not Regulated

ADR/RID: Not Regulated

15. REGULATORY INFORMATION

USA Federal and State

All components are listed on the TSCA inventory.

Hazard Categories for SARA Section 311/312 Reporting	<u>Acute</u> Yes	<u>Chronic</u> No	<u>Fire</u> No	<u>Pressure</u> No	<u>Reactive</u> No
-----------------------------------------------------------------	---------------------	----------------------	-------------------	-----------------------	-----------------------

<u>Components</u>	<u>CERCLA/SARA Sec 302 Hazardous Substance RQ</u>	<u>EHS TPQ</u>	<u>SARA Sec. 313 Toxic Release</u>
-------------------	-------------------------------------------------------	----------------	----------------------------------------

Components are not affected by these Superfund regulations.

European Union

Product is classified as hazardous according to European Directives 88/379/EEC and 67/548/EEC and EU Regulation (EC) No 1272/2008.

Risk Phrases: Not Applicable

Safety Phrases: Not Applicable

Product complies with the communication requirements of REACH Regulation (EC) No. 1907/2006. It does not contain Substances of Very High Concern (SVHC).

Canada

This product has been classified according to the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

WHMIS Classification: NC
Canadian DSL: All ingredients listed.

Australia

All components are listed on the AICS.
Not considered hazardous according to criteria of NOHSC Australia.

Contact Information: ADAPT Australia Pty. Ltd.
11 - 19 Global Drive
Tullamarine Victoria 3043
Telephone Number. 03 9330 0666

Emergency Telephone Number: 0421 277 889

16. OTHER INFORMATION

NFPA Ratings: Health: 2
Fire: 1
Reactivity: 1

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel during spill, fire or similar emergencies. Hazard ratings are based on physical and toxic properties of combustion or decomposition.

Revision Date: May 13, 2013
Revision Number: 3
Reviewed By: S. H. Dahlke

The information and recommendations contained herein are believed to be reliable. However, the supplier makes no warranties, express or implied, concerning the use of this product. The buyer must determine conditions of safe usage and assumes all risk and liability in handling this product.

MATERIAL SAFETY DATA SHEET

1. IDENTIFICATION OF SUBSTANCE AND PREPARATION

Supplier/Manufacturer:

American Polywater Corporation
11222 - 60th Street North
P.O. Box 53
Stillwater, MN 55082 USA
Phone: 1-651-430-2270
Fax: 1-651-430-3634

**Product Name: Type TR™
Cleaner/Degreaser
Saturated Wipe or Towel Package**

Polywater Europe BV
Mauritsplaat 126
NL-3012CD Rotterdam
Netherlands
Tel: +31 10 233 0578

Chemical Description: Non-flammable Solvent
Azeotrope

Product Use: Towelette Saturated with Cleaning
Preparation

Emergency Number: +1-651-430-2270

2. COMPOSITION / INFORMATION ON INGREDIENTS

<u>Component</u>	<u>CAS #</u>	<u>EC #</u>	<u>Wt</u>
1-Bromopropane	106-94-5	203-445-0	< 30 gm/towel (>95%)
Stabilizers	proprietary	--	< 2 gm/towel (<5%)

Components listed as proprietary are considered trade secret in accordance with the OSHA Hazard and Communication Standard (29 CFR 1910.1200). Identity of proprietary components will be made available as provided in this standard.

3. HAZARDS IDENTIFICATION

Emergency Overview:

Use with adequate ventilation; vapors harmful. Irritating to eyes, respiratory system and skin. Avoid contact with skin and eyes. Wear gloves. In case of eye contact, flush eyes with water. Keep out of reach of children. Industrial use only.

Eye Contact:

Direct eye contact with vapors or splashes may cause eye irritation.

Skin Contact:

Skin exposure can remove oils, causing redness, drying and cracking. Persons with pre-existing skin disorders may be more susceptible to skin irritation from this material.

Irritation and Sensitization Potential:

Product may be irritating to skin and eyes. It is not a sensitizer.

Inhalation (Breathing):

Prolonged exposure to excessively high vapor concentrations can result in central nervous system depression (e.g., drowsiness, dizziness, loss of coordination, and fatigue) and may cause adverse effects in the liver, lung, and kidney. Persons with impaired lung function may experience additional breathing difficulties due to the irritant properties of this material.

Ingestion (Swallowing):

Maximum amount in a single saturated towel is less than 30 grams of solvent. Not expected to be acutely toxic.

4. FIRST AID MEASURES

- Eye Contact:** If eye irritation from exposure to vapors develops, move to fresh air. Flush eyes with clean water. If irritation persists, seek medical attention. For direct eye contact, flush with large quantity of water for 15 minutes. Seek medical attention.
- Skin Contact:** Remove contaminated clothing; flush skin thoroughly with water. If irritation occurs, seek medical attention.
- Inhalation (Breathing):** If irritation of nose or throat develops, move to fresh air. If irritation persists, seek medical attention. If breathing is difficult, provide oxygen. If not breathing, give artificial respiration. Seek immediate medical attention.
- Ingestion (Swallowing):** Less than 30 grams solvent per package. Do not induce vomiting or give anything by mouth. If victim is drowsy or unconscious, place on the left side with head down. Do not leave victim unattended. Seek medical attention.

5. FIRE-FIGHTING MEASURES

- Flash Point (bulk liquid):** None (TCC) for solvent (bulk).
- Flammable Limits (bulk liquid):** Approximately 3-8% in air.
- Autoignition Temperature:** Not Available
- Hazardous Decomposition and By-Products:** Include hydrogen bromide, bromine, oxides of carbon and oxides of nitrogen.
- Extinguishing Media:** In case of fire, use extinguishing media suitable for surrounding conditions, possibly water, foam, carbon dioxide, or dry agent.
- Special Precautions:** Towelettes will ignite. If burning, smother or isolate from other flammable materials.
- Unusual Hazards:** Vapors are heavier than air and may travel considerable distances.

6. ACCIDENTAL RELEASE MEASURES

No spill hazard with saturated towel package.

7. HANDLING AND STORAGE

Keep containers and cartons containing saturated wipes tightly closed. Keep containers and cartons cool, dry, and away from sources of ignition. Use and store this product with adequate ventilation. Avoid inhalation of vapors and personal contact with the product. Use good personal hygiene practice. Use of pre-saturated towel limits exposure. All wipes should be disposed of in an environmentally safe manner and in accordance with governmental regulations.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Respiratory Protection:	Normal ventilation is adequate. Towelette limits solvent vapor exposure. If exposure exceeds recommended limits, respirator protection is recommended. Use a respirator or gas mask with cartridges for organic vapors (NIOSH-approved) or use supplied air equipment.						
Protective Gloves:	The use of impermeable gloves is recommended to prevent drying and possible irritation. Use of chemically resistant gloves such as Nitrile for short-term exposure, or Viton or Silvershield for extended exposures is suggested.						
Eye Protection:	None necessary. Wipe package eliminates splash hazard. Do not allow wipe/towel to directly contact eyes.						
Other Protective Equipment:	It is suggested that a source of clean water be available in work area for flushing eyes and skin. Impervious clothing should be worn as needed.						
Exposure Limits and Recommendations:	<table> <thead> <tr> <th><u>Chemical Component</u></th> <th><u>OSHA PEL</u></th> <th><u>ACGIH TLV</u></th> </tr> </thead> <tbody> <tr> <td colspan="3">An AEL (acceptable exposure limit) of 25 ppm has been recommended by the United States EPA. OES/LTEL 100 ppm (525mg/m³)</td> </tr> </tbody> </table>	<u>Chemical Component</u>	<u>OSHA PEL</u>	<u>ACGIH TLV</u>	An AEL (acceptable exposure limit) of 25 ppm has been recommended by the United States EPA. OES/LTEL 100 ppm (525mg/m ³)		
<u>Chemical Component</u>	<u>OSHA PEL</u>	<u>ACGIH TLV</u>					
An AEL (acceptable exposure limit) of 25 ppm has been recommended by the United States EPA. OES/LTEL 100 ppm (525mg/m ³)							

9. PHYSICAL AND CHEMICAL PROPERTIES (bulk liquid)

Appearance:	A non-linting towel, lightly saturated with clear, colorless liquid.
Odor Threshold:	Very low
Vapor Density (Air = 1):	4.3
Specific Gravity (H₂O = 1):	1.33
Solubility in Water:	2.5 grams per liter
Boiling Point:	160°F / 71°C (initial)
Freezing Point:	Not Available
Evaporation Rate:	> 2 (n-butyl acetate = 1)
Vapor Pressure:	>140 mm Hg @ 20°C
Coefficient of Water/Oil Distribution:	Not Available
pH:	Not Applicable
Volatiles (Weight %):	100%
VOC Content:	1330 g/L

10. STABILITY AND REACTIVITY

Stability:	Stable
Conditions to Avoid:	Avoid heat, flame or other hot surfaces that could cause thermal decomposition.
Materials to Avoid:	Strong alkalis, oxidizers and reactive metals (i.e. potassium, sodium, etc.).
Hazardous Decomposition Products:	Thermal decomposition products include hydrogen bromide, bromine and oxides of carbon as well as oxides of nitrogen.

11. TOXICOLOGICAL INFORMATION

Toxicity to Animals:	Medium Aliphatic Petroleum Solvent	LD ₅₀ (oral rat) 4,260 mg/kg LC ₅₀ (inhl rat) 253,000 mg/m ³ /0.5 hr
Chronic Exposure:	Not Available	
Carcinogenic Status:	This substance contains less than 1% 1,2 butylene oxide listed as IARC 2B, "Possibly carcinogenic to humans".	
Reproductive Toxicity:	Product may cause reproductive effects based on animal studies. Target organs include kidneys, CNS, liver, and bone marrow.	
Mutagenicity:	Not Available	
Teratogenicity:	Not Available	
Toxicologically Synergistic Products:	Not Available	

12. ECOLOGICAL INFORMATION

Mobility:	Sinks in water.
Bioaccumulation:	Low potential.
Ecotoxicity:	Large volumes may penetrate soil and contaminate groundwater. (Unlikely in towelette package.)
Ozone Depletion Potential:	0.013 - 0.018
Other:	Not readily biodegradable, but low atmospheric lifetime.
Aquatic Toxicity:	1-Bromopropane: 96 h LC ₅₀ Fathead Minnow 67,300 µl/l

13. DISPOSAL CONSIDERATIONS

Dispose of product in accordance with National and Local Regulations.

14. TRANSPORTATION INFORMATION

UN Number:	Not Listed
UN Proper Shipping Name:	Not Applicable
Class and Subsidiary Risk:	Not Applicable
Packing Group:	Not Applicable
TDG:	Not Regulated
ICAO/IATA-DGR:	Not Regulated
IMDG:	Not Regulated
ADR/RID:	Not Regulated

15. REGULATORY INFORMATION**USA Federal and State**

All components are listed on the TSCA inventory.

Hazard Categories for SARA Section 311/312 Reporting	<u>Acute</u> Yes	<u>Chronic</u> Yes	<u>Fire</u> No	<u>Pressure</u> No	<u>Reactive</u> No
Components					
1,2-Butylene Oxide (CAS# 106-88-7)					
	CERCLA/SARA Sec 302 Hazardous Substance RQ			EHS TPQ	SARA Sec. 313 Toxic Release
		100 lbs		No	1%

Type TR™ Cleaner/Degreaser Solvent Wipes contain less than 1% 1,2 Butylene Oxide as a stabilizer. Any release of 100 lbs or greater must be reported (over 1 million TR-1 Solvent Wipes).

California Proposition 65

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

European Union

Product is classified as hazardous according to European Directives 88/379/EEC and 67/548/EEC and EU Regulation (EC) No 1272/2008.

Risk Phrases:	R36/37/38: Irritating to eyes, respiratory system and skin R48/20: Harmful: danger of serious damage to health by prolonged exposure through inhalation R60: May impair fertility R63: Possible risk of harm to the unborn child R67: Vapors may cause drowsiness and dizziness
Safety Phrases:	S2: Keep out of reach of children S53: Avoid exposure S45: In case or accident or if you feel unwell, seek medical advice immediately.
Symbol:	T: Toxic

Product complies with the communication requirements of REACH Regulation (EC) No. 1907/2006. It does not contain Substances of Very High Concern (SVHC).

Canada

This product has been classified according to the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

WHMIS Classification: Class D, Division 2B

Canadian DSL: All ingredients listed.

Australia

All components are listed on the AICS.
Hazardous according to criteria of NOHSC Australia.

Contact Information: ADAPT Australia Pty. Ltd.
11 - 19 Global Drive
Tullamarine Victoria 3043
Telephone Number. 03 9330 0666

Emergency Telephone Number: 0421 277 889

16. OTHER INFORMATION

NFPA Ratings: Health: 2
Fire: 0
Reactivity: 0

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel during spill, fire or similar emergencies. Hazard ratings are based on physical and toxic properties of combustion or decomposition.

Revision Date: May. 13, 13
Revision Number: 2
Reviewed By: S. H. Dahlke

The information and recommendations contained herein are believed to be reliable. However, the supplier makes no warranties, express or implied, concerning the use of this product. The buyer must determine conditions of safe usage and assumes all risk and liability in handling this product.