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SAFETY DATA SHEET

1. Identification

Material name: POWERPLY ENDURE BIO ADHSV TF 0.5 GL PT B

Material: 365420BF801

Recommended use and restriction on use

Recommended use: Curative Restrictions on use: Not known.

Manufacturer/Importer/Supplier/Distributor Information

Tremco U.S. Roofing 3735 Green Road Beachwood OH 44122 US

Contact person: **EH&S** Department Telephone: 216-292-5000

Emergency telephone number: 1-800-424-9300 (US); 1-613-996-6666 (Canada)

2. Hazard(s) identification

Hazard Classification

Health Hazards

Acute toxicity (Inhalation - vapor) Category 4 Acute toxicity (Inhalation - dust and Category 4

mist)

Skin Corrosion/Irritation Category 2 Serious Eye Damage/Eye Irritation Category 2A Respiratory sensitizer Category 1 Skin sensitizer Category 1 Carcinogenicity Category 2 Specific Target Organ Toxicity -Category 3^{1.}

Single Exposure

Specific Target Organ Toxicity -Category 2

Repeated Exposure

Target Organs

Respiratory tract irritation.

Unknown toxicity - Health

Acute toxicity, oral 48.76 % Acute toxicity, dermal 48.76 % 33.53 % Acute toxicity, inhalation, vapor Acute toxicity, inhalation, dust 33.53 % or mist

Label Elements



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Hazard Symbol:



Signal Word: Danger

Hazard Statement: Harmful if inhaled.

Causes skin irritation.

Causes serious eye irritation.

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

May cause an allergic skin reaction. Suspected of causing cancer. May cause respiratory irritation.

May cause damage to organs through prolonged or repeated exposure.

Precautionary Statements

Prevention: Obtain special instructions before use. Do not handle until all safety

precautions have been read and understood. Do not breathe

dust/fume/gas/mist/vapors/spray. Wash face, hands and any exposed skin thoroughly after handling. Use only outdoors or in a well-ventilated area. Contaminated work clothing should not be allowed out of the workplace. Wear protective gloves/protective clothing/eye protection/face protection. Use personal protective equipment as required. [In case of inadequate

ventilation] wear respiratory protection.

Response: IF ON SKIN: Wash with plenty of soap and water. Wash contaminated

clothing before reuse. If skin irritation or rash occurs: Get medical advice/attention. Take off contaminated clothing. Specific treatment (see supplemental first aid instructions on this label). IF INHALED: Remove person to fresh air and keep comfortable for breathing. If experiencing respiratory symptoms: Call a POISON CENTER or doctor/ physician. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. IF exposed or concerned: Get medical

advice/attention.

Storage: Store in a well-ventilated place. Keep container tightly closed. Store locked

up.

Disposal: Dispose of contents/ container to an approved facility in accordance with

local, regional, national and international regulations.

Hazard(s) not otherwise classified (HNOC):

None.

3. Composition/information on ingredients



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Mixtures

Chemical Identity	CAS number	Content in percent (%)*
4,4'-Methylene bis(phenylisocyanate)	101-68-8	50 - <100%
Diphenylmethane diisocyanate	26447-40-5	10 - <20%

^{*} All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

Description of necessary first-aid measures

Inhalation: Call a physician or poison control center immediately. If breathing

stops, provide artificial respiration. Move to fresh air. If breathing is

difficult, give oxygen.

Skin Contact: Get medical attention. Destroy or thoroughly clean contaminated

shoes. Immediately remove contaminated clothing and shoes and wash skin with soap and plenty of water. If skin irritation or an allergic

skin reaction develops, get medical attention.

Eye contact: Immediately flush with plenty of water for at least 15 minutes. If easy

to do, remove contact lenses. Get medical attention.

Ingestion: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth.

Personal Protection for First-

aid Responders:

Self-contained breathing apparatus and full protective clothing must

be worn in case of fire.

Most important symptoms/effects, acute and delayed

Symptoms: Prolonged or repeated contact with skin may cause redness, itching,

irritation and eczema/chapping. Respiratory tract irritation.

Hazards: No data available.

Indication of immediate medical attention and special treatment needed

Treatment: Symptoms may be delayed.

5. Fire-fighting measures

General Fire Hazards: No unusual fire or explosion hazards noted.

Suitable (and unsuitable) extinguishing media

Suitable extinguishing

media:

Use fire-extinguishing media appropriate for surrounding materials.

Unsuitable extinguishing

media:

Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from

the chemical:

During fire, gases hazardous to health may be formed.



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Special protective equipment and precautions for firefighters

Special fire fighting

procedures:

No data available

Special protective equipment

for fire-fighters:

Self-contained breathing apparatus and full protective clothing must be

worn in case of fire.

6. Accidental release measures

Personal precautions. protective equipment and

emergency procedures:

Ventilate closed spaces before entering them. Evacuate area. See Section 8 of the SDS for Personal Protective Equipment, Keep upwind, Keep unauthorized personnel away. Do not touch damaged containers or spilled

material unless wearing appropriate protective clothing.

Accidental release measures: In the event of a spill or accidental release, notify relevant authorities in

accordance with all applicable regulations.

Methods and material for containment and cleaning

up:

Dam and absorb spillages with sand, earth or other non-combustible material. Collect spillage in containers, seal securely and deliver for

disposal according to local regulations.

Environmental Precautions: Do not contaminate water sources or sewer. Prevent further leakage or

spillage if safe to do so.

7. Handling and storage

Handling

Technical measures (e.g. Local and general ventilation):

Observe good industrial hygiene practices. Observe occupational exposure limits and minimize the risk of inhalation of vapors and mist. Mechanical

ventilation or local exhaust ventilation may be required.

Safe handling advice: Provide adequate ventilation. Wear appropriate personal protective

> equipment. Observe good industrial hygiene practices. Wash hands thoroughly after handling. Do not handle until all safety precautions have been read and understood. Obtain special instructions before use. Use personal protective equipment as required. Avoid contact with eyes. Do not breathe dust/fume/gas/mist/vapors/spray. Avoid contact with skin. Avoid

contact with eyes, skin, and clothing.

Contact avoidance measures: No data available.

Hygiene measures: Observe good industrial hygiene practices. Wash hands before breaks and

> immediately after handling the product. Avoid contact with eyes. Wash contaminated clothing before reuse. Avoid contact with skin. Contaminated

work clothing should not be allowed out of the workplace.

Storage

Safe storage conditions: Store locked up.

Safe packaging materials: No data available.



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8. Exposure controls/personal protection

Control Parameters

Occupational Exposure Limits

Chemical Identity	Туре	Exposure Limit	t Values	Source
4,4'-Methylene bis(phenylisocyanate)	TWA	0.005 ppm		US. ACGIH Threshold Limit Values, as amended (2011)
	Ceiling	0.02 ppm	0.2 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended (02 2006)

Chemical name	Туре	Exposure Limit Values	Source
4,4'-Methylene bis(phenylisocyanate)	CEILING	0.01 ppm	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
	TWA	0.005 ppm	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
4,4'-Methylene bis(phenylisocyanate)	TWA	0.005 ppm	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (06 2015)
	CEV	0.02 ppm	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (06 2015)
4,4'-Methylene bis(phenylisocyanate)	TWA	0.005 ppm 0.051 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation respecting occupational health and safety), as amended (09 2017)
Polymethylene polyphenyl isocyanate	TWA	0.005 ppm	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
	CEILING	0.01 ppm	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Diphenylmethane diisocyanate	TWA	0.005 ppm	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
	CEILING	0.01 ppm	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)

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	CEV	0.02 ppm	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (06 2015)



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	CEILING	0.01 ppm	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)

Appropriate Engineering Controls

Observe good industrial hygiene practices. Observe occupational exposure limits and minimize the risk of inhalation of vapors and mist. Mechanical ventilation or local exhaust ventilation may be required.

Individual protection measures, such as personal protective equipment

General information: Provide easy access to water supply and eye wash facilities. Good general

ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable

level.

Eye/face protection: Wear safety glasses with side shields (or goggles).

Skin Protection

Hand Protection: Use suitable protective gloves if risk of skin contact.

Other: Wear chemical-resistant gloves, footwear, and protective clothing

appropriate for the risk of exposure. Contact health and safety professional

or manufacturer for specific information.

Respiratory Protection: If engineering controls do not maintain airborne concentrations below

recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. Air-purifying respirator with an appropriate, government approved (where applicable), air-purifying filter,

cartridge or canister. Contact health and safety professional or

manufacturer for specific information.

Hygiene measures: Observe good industrial hygiene practices. Wash hands before breaks and

immediately after handling the product. Avoid contact with eyes. Wash contaminated clothing before reuse. Avoid contact with skin. Contaminated

work clothing should not be allowed out of the workplace.

9. Physical and chemical properties



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Appearance

Physical state: liquid
Form: liquid
Color: Amber
Odor: Mild

Odor threshold:

pH:

No data available.

Flash Point: > 177 °C > 350 °F(Pensky-Martens Closed Cup)

Evaporation rate: Slower than Ether

Flammability (solid, gas): No Upper/lower limit on flammability or explosive limits

Flammability limit - upper (%):

Flammability limit - lower (%):

Explosive limit - upper:

Explosive limit - lower:

No data available.

Vapor density: Vapors are heavier than air and may travel along the floor and

in the bottom of containers.

Relative density: 1.22

Solubility(ies)

Solubility in water: Practically Insoluble
Solubility (other): No data available.

Partition coefficient (n-octanol/water): No data available.

Auto-ignition temperature:No data available.Decomposition temperature:No data available.Viscosity:No data available.

10. Stability and reactivity

Reactivity: No data available.

Chemical Stability: Material is stable under normal conditions.

Possibility of hazardous

reactions:

No data available.

Conditions to avoid: Avoid heat or contamination.

Incompatible Materials: Alcohols. Amines. Strong acids. Strong bases. Water, moisture.

Hazardous Decomposition

Products:

Thermal decomposition or combustion may liberate carbon oxides and

other toxic gases or vapors.

11. Toxicological information

Information on likely routes of exposure



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In high concentrations, vapors, fumes or mists may irritate nose, throat and

mucus membranes.

Skin Contact: Causes skin irritation. May cause an allergic skin reaction.

Eye contact: Causes serious eye irritation.

Ingestion: May be harmful if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation: No data available.

Skin Contact: No data available.

Eye contact: No data available.

Ingestion: No data available.

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral

Product: ATEmix: 2,000 mg/kg

Dermal Product:

Specified substance(s):

4,4'-Methylene LD 50 (Rabbit): > 9,400 mg/kg

bis(phenylisocyanate)

Inhalation

Product: ATEmix: 11 mg/l

ATEmix: 1.5 mg/l

Repeated dose toxicity

Product: No data available.

Skin Corrosion/Irritation

Product: No data available.

Specified substance(s):

4,4'-Methylene in vivo (Rabbit): Irritating, 24 - 72 h

bis(phenylisocyanate)

Serious Eye Damage/Eye Irritation

Product: No data available.

Respiratory or Skin Sensitization



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

May cause sensitization by inhalation.

Carcinogenicity

Product: Suspected of causing cancer.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:

No carcinogenic components identified

US. National Toxicology Program (NTP) Report on Carcinogens:

No carcinogenic components identified

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050), as amended:

No carcinogenic components identified

Germ Cell Mutagenicity

In vitro

Product: No data available.

In vivo

Product: No data available.

Reproductive toxicity

Product: No data available.

Specific Target Organ Toxicity - Single Exposure

Product: No data available.

Specific Target Organ Toxicity - Repeated Exposure

Product: No data available.

Target Organs

Specific Target Organ Toxicity - Single Exposure: Respiratory tract irritation.

Aspiration Hazard

Product: No data available.

Other effects: No data available.

12. Ecological information

Ecotoxicity:

Acute hazards to the aquatic environment:



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Fish

Product: No data available.

Aquatic Invertebrates

Product: No data available.

Chronic hazards to the aquatic environment:

Fish

Product: No data available.

Aquatic Invertebrates

Product: No data available.

Toxicity to Aquatic Plants

Product: No data available.

Persistence and Degradability

Biodegradation

Product: No data available.

BOD/COD Ratio

Product: No data available.

Bioaccumulative potential

Bioconcentration Factor (BCF)

Product: No data available.

Partition Coefficient n-octanol / water (log Kow)

Product: No data available.

Specified substance(s):

4,4'-Methylene Log Kow: 5.22

bis(phenylisocyanate)

Mobility in soil: No data available.

Other adverse effects: No data available.

13. Disposal considerations

Disposal methods: Dispose of waste at an appropriate treatment and disposal facility in

accordance with applicable laws and regulations, and product

characteristics at time of disposal.

Contaminated Packaging: No data available.

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14. Transport information

TDG:

Not Regulated

CFR / DOT:

Not Regulated

IMDG:

Not Regulated

15. Regulatory information

US Federal Regulations

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

None present or none present in regulated quantities.

US. Toxic Substances Control Act (TSCA) Section 5(a)(2) Final Significant New Use Rules (SNURs) (40 CFR 721, Subpt E)

None present or none present in regulated quantities.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050), as amended

None present or none present in regulated quantities.

CERCLA Hazardous Substance List (40 CFR 302.4):

Chemical Identity

Reportable quantity

4,4'-Methylene

5000 lbs.

bis(phenylisocyanate)

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Immediate (Acute) Health Hazards

Delayed (Chronic) Health Hazard

Acute toxicity (any route or exposure)

Skin Corrosion or Irritation

Serious eye damage or eye irritation

Respiratory or Skin Sensitization

Carcinogenicity

Specific target organ toxicity (single or repeated exposure)

SARA 302 Extremely Hazardous Substance

None present or none present in regulated quantities.

SARA 304 Emergency Release Notification

None present or none present in regulated quantities.



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SARA 311/312 Hazardous Chemical

Chemical Identity Threshold Planning Quantity

SARA 313 (TRI Reporting)

Chemical Identity

4,4'-Methylene bis(phenylisocyanate) Polymethylene polyphenyl isocyanate

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

None present or none present in regulated quantities.

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)

None present or none present in regulated quantities.

US State Regulations

US. California Proposition 65

No ingredient requiring a warning under CA Prop 65.

US. New Jersey Worker and Community Right-to-Know Act

Chemical Identity

4,4'-Methylene bis(phenylisocyanate)
Polymethylene polyphenyl isocyanate
Diphenylmethane diisocyanate

US. Massachusetts RTK - Substance List

Chemical Identity

4,4'-Methylene bis(phenylisocyanate)

US. Pennsylvania RTK - Hazardous Substances

Chemical Identity

4,4'-Methylene bis(phenylisocyanate)

US. Rhode Island RTK

Chemical Identity

4,4'-Methylene bis(phenylisocyanate)

International regulations

Montreal protocol

Not applicable

Stockholm convention

Not applicable

Rotterdam convention

Not applicable

Kyoto protocol

Not applicable



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VOC:

Regulatory VOC (less water and : 0 g/l exempt solvent)

VOC Method 310 : 0.00 %

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Inventory Status:

Australia AICS: All components in this product are listed on or

exempt from the Inventory.

Canada DSL Inventory List:

All components in this product are listed on or

exempt from the Inventory.

EINECS, ELINCS or NLP: One or more components in this product are

not listed on or exempt from the Inventory.

China Inv. Existing Chemical Substances: All components in this product are listed on or

exempt from the Inventory.

Korea Existing Chemicals Inv. (KECI): All components in this product are listed on or

exempt from the Inventory.

Canada NDSL Inventory: One or more components in this product are

not listed on or exempt from the Inventory.

Philippines PICCS: All components in this product are listed on or

exempt from the Inventory.

US TSCA Inventory:

All components in this product are listed on or

exempt from the Inventory.

New Zealand Inventory of Chemicals:

All components in this product are listed on or

exempt from the Inventory.

Japan Pharmacopoeia Listing:

One or more components in this product are

not listed on or exempt from the Inventory.

Mexico INSQ:

One or more components in this product are

not listed on or exempt from the Inventory.

Ontario Inventory: One or more components in this product are

not listed on or exempt from the Inventory.

Taiwan Chemical Substance Inventory:

One or more components in this product are

not listed on or exempt from the Inventory.

Japan (ENCS) List: One or more components in this product are

not listed on or exempt from the Inventory.

Japan ISHL Listing: One or more components in this product are

not listed on or exempt from the Inventory.



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16.Other information, including date of preparation or last revision

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Version #: 2.3

Further Information: No data available.

Disclaimer: For Industrial Use Only. Keep out of Reach of Children. The hazard

information herein is offered solely for the consideration of the user, subject to their own investigation of compliance with applicable regulations, including

the safe use of the product under every foreseeable condition.