SAFETY DATA SHEET



1. Identification

Product identifier PENNGUARD™ ADHESIVE/MEMBRANE PART B

Other means of identification None.

Recommended use Not available. **Recommended restrictions** None known.

Manufacturer/Importer/Supplier/Distributor information

Company Name ErgonArmor, a division of Ergon Asphalt & Emulsions, Inc.

Address 2829 Lakeland Drive Jackson, MS 39232

USA

After hours telephone

number

1-800-222-7122

Normal work hours

telephone number

1-877-982-7667

Website www.ergonarmor.com E-mail sds@ergon.com

Emergency 24-hour telephone number

CHEMTREC: North America 1-800-424-9300 International 1-800-527-3887

Information on operation

hours

8:00 a.m. to 5:00 p.m.

2. Hazard(s) identification

Physical hazards Not classified.

Health hazards Acute toxicity, inhalation Category 4

> Skin corrosion/irritation Category 2 Serious eye damage/eye irritation Category 2B Sensitization, respiratory Category 1 Sensitization, skin Category 1B

Specific target organ toxicity, single exposure Category 3 respiratory tract irritation

Specific target organ toxicity, repeated Category 2

exposure

Environmental hazards Not classified. **OSHA** defined hazards Not classified.

Label elements



Signal word

Hazard statement Causes eye irritation. Causes skin irritation. Harmful if inhaled. May cause allergy or asthma

symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction. May cause respiratory irritation. May cause damage to organs through prolonged or repeated exposure.

Precautionary statement

Prevention Do not breathe dust/fume/gas/mist/vapors/spray. Wear protective gloves. Use only outdoors or in

a well-ventilated area. In case of inadequate ventilation wear respiratory protection. Contaminated work clothing should not be allowed out of the workplace. Wash thoroughly after handling.

Call a POISON CENTER/doctor if you feel unwell. IF IN EYES: Rinse cautiously with water for Response

several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Get medical assistance if you feel unwell. IF ON SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention. If experiencing respiratory symptoms: Call a poison center/doctor. If eye irritation persists: Get medical advice/attention. Take off contaminated clothing and wash before

reuse. Specific treatment (see this label).

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

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

Hazard(s) not otherwise classified (HNOC)

None known.

Supplemental information None.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
POLYMERIC DIPHENYLMETHANE DIISOCYANATE (pMDI)		9016-87-9	>=50.0 - <75.0
MDI		101-68-8	>=25.0 - <50
METHYLENEDIPHENYL DIISOCYANATE		26447-40-5	>=3.0 - <7.0
1,3-DIAZETIDINE-2,4-DIONE, 1,3-BIS[4-[(4-ISOCYANATOPHENYL) METHYL]PHENYL]-		17589-24-1	>=1.0 - <3.0
ISOCYANIC ACID, POLYMETHYLENEPOLYPHENYLENE ESTER, POLYMER WITH .ALPHAHYDROOMEGAHYDROX YPOLY(OXY-1,2-ETHANEDIYL)		57636-09-6	>=1.0 - <3.0
Other components below reportable	e levels		14

^{*}Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

Composition comments

The full text for all R- and H-phrases is displayed in section 16

4. First-aid measures

Inhalation

Remove victim to fresh air and keep at rest in a position comfortable for breathing. Oxygen or artificial respiration if needed. Do not use mouth-to-mouth method if victim inhaled the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Call a physician or poison control center immediately.

Skin contact

Remove contaminated clothing immediately and wash skin with soap and water. Call a physician or poison control center immediately. Wash contaminated clothing before reuse. Wash clothing separately before reuse.

Eye contact

Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.

Ingestion

IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Rinse mouth thoroughly. Immediately rinse mouth and drink plenty of water (200-300 ml). Never give anything by mouth to a victim who is unconscious or is having convulsions. Do not induce vomiting without advice from poison control center. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Do not use mouth-to-mouth method if victim ingested the substance.

Most important symptoms/effects, acute and delayed

Causes eye irritation. May cause allergic skin reaction. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause respiratory irritation. Coughing. Difficulty in breathing. Skin irritation. May cause redness and pain. Dermatitis. Rash. Prolonged exposure may cause chronic effects.

Indication of immediate medical attention and special treatment needed

Provide general supportive measures and treat symptomatically. Symptoms may be delayed.

General information In case of shortness of breath, give oxygen. IF exposed or concerned: Get medical

advice/attention. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Keep victim under

observation.

5. Fire-fighting measures

Suitable extinguishing media

Unsuitable extinguishing

media

Water spray. Dry powder. Foam. Carbon dioxide (CO2).

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

Specific hazards arising from

the chemical

Use a water spray to cool fire-exposed containers.

Special protective equipment and precautions for

firefighters

Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

Fire fighting

equipment/instructions

Move containers from fire area if you can do so without risk. Do not get water inside container. In the event of fire, cool tanks with water spray.

Specific methods

Use standard firefighting procedures and consider the hazards of other involved materials.

General fire hazards No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions. protective equipment and emergency procedures

Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist or vapor. Avoid skin contact and inhalation of vapors during disposal of spills. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up Do not get water on spilled substance or inside containers.

Large Spills: For spills, stop leaks and provide diking to contain the material. Prevent entry into sewage systems, ground and surface waters. If temporary control of isocyanate vapor is required, a blanket of protein foam or other suitable foam (available from most fire departments) may be placed over the spill. Transfer as much liquid as possible via pump or vacuum device into closed but not sealed containers for disposal.

Small Spills: Absorb isocyanate with suitable absorbent material (see§ 40 CFR, sections 260, 264 and 265 for further information). Shovel into open container. Spill area can be decontaminated with the following recommended decontamination solution: Mixture of 90 % water, 5-8 % household ammonia, 2-5 % detergent. Allow solution to stand for at least 10 minutes. Pick up with suitable absorbent material. Place into appropriately labeled waste containers. Do not make container pressure tight. Move container to a well-ventilated area (outside). Allow to stand for at least 48 hours to allow escape of evolved carbon dioxide. Dispose of absorbed material in accordance with regulations. For waste disposal, see section 13 of the SDS.

Never return spills in original containers for re-use.

For residues: The following measures should be taken for final cleanup: Spill area can be decontaminated with the following recommended decontamination solution: Mixture of 90 % water, 5-8 % household ammonia, 2-5 % detergent. Wash down spill area with decontamination solution. Allow solution to stand for at least 10 minutes. Pick up with suitable absorbent material. Place into appropriately labeled waste containers . Do not make container pressure tight. Move container to a well-ventilated area (outside). Allow to st,md for at least 48 hours to allow escape of evolved carbon dioxide. Dispose of absorbed material in accordance with regulations

Environmental precautions

Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling

Observe good industrial hygiene practices. Do not handle until all safety precautions have been read and understood. Do not get this material in contact with eyes. Avoid forming spray/aerosol mists. Do not get this material in contact with skin. Do not get this material on clothing. Avoid contact with eyes, skin, and clothing. Protect against moisture. Avoid prolonged exposure. Danger of bursting when sealed gaslight. If bulging of drum occurs, transfer to well ventilated area, puncture to relieve pressure, open vent and let stand for 48 hours before resealing. Provide adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Do not empty into drains.

Conditions for safe storage, including any incompatibilities

Store in closed original container at temperatures between 0°C and 38°C. Store locked up. Store in tightly closed container. Store away from incompatible materials (see Section 10 of the SDS). Keep away from food, drink and animal feedingstuffs. Formation of CO2 and build up of pressure possible. Keep container tightly closed and in a well-ventilated place. Outage of containers should be filled with dry inert gas at atmospheric pressure to avoid reaction with moisture.

8. Exposure controls/personal protection

Occupational exposure limits

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit At this time, the other constituents have no known exposure limits.

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)					
Components	Туре	Value			
MDI (CAS 101-68-8)	Ceiling	0.2 mg/m3			
		0.02 ppm			
US. ACGIH Threshold Limit Value	es				
Components	Туре	Value			
MDI (CAS 101-68-8)	TWA	0.005 ppm			
US. NIOSH: Pocket Guide to Che	mical Hazards				
Components	Туре	Value			
MDI (CAS 101-68-8)	Ceiling	0.2 mg/m3			

Biological limit values No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls

Provide adequate ventilation, including appropriate local extraction, to ensure that the defined occupational exposure limit is not exceeded. Provide eyewash station and safety shower.

0.02 ppm

0.05 mg/m3 0.005 ppm

Individual protection measures, such as personal protective equipment

Eye/face protection Wear chemical splash goggles and face shield when eye and face contact is possible due to

splashing or spraying of material.

TWA

Skin protection

Hand protection Chemical resistant gloves are recommended. If contact with forearms is likely wear gauntlet style

gloves. Neoprene, nitrile, polyethylene or PVC. Butyl rubber.

Other Avoid contact with the skin. Wear appropriate chemical resistant clothing. Use of an impervious

apron is recommended. Chemical resistant gloves.

Respiratory protection When workers are facing concentrations above the exposure limit they must use appropriate

certified respirators.

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

Do not get in eyes. Do not get this material in contact with skin. Keep away from food and drink. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Contaminated work clothing should not be allowed out of the workplace. Wash hands before breaks and immediately after handling the product. Provide eyewash station and safety shower.

9. Physical and chemical properties

Appearance Brown Liquid

Physical state Liquid.

Form Liquid.

Color Dark amber.

Odor Aromatic. Mild.

Odor threshold Not available.

PH Not available.

Melting point/freezing point 37.4 °F (3 °C)

SDS US

Initial boiling point and

boiling range

392 °F (200 °C)

Flash point 428.0 °F (220.0 °C) Open Cup

Evaporation rate Not available. Flammability (solid, gas) Not applicable. Upper/lower flammability or explosive limits

Flammability limit - lower Not available.

(%)

Flammability limit -

upper (%)

Not available.

Explosive limit - lower

(%)

Not available.

Explosive limit - upper

(%)

Not available.

0.00001 mm Hg @ 20° C Vapor pressure

Vapor density Not available. **Relative density** 1.22 g/cm3 @20°C

Solubility(ies)

Solubility (water) Not available. **Partition coefficient** Not available.

(n-octanol/water)

Auto-ignition temperature > 482 °F (> 250 °C)

Decomposition temperature Not available. 200 mPa·s **Viscosity**

Other information

Bulk density 10.17 lb/gal @25°C 1.22 g/cm3 @20°C Density **Explosive properties** Not explosive. Oxidizing properties Not oxidizing.

10. Stability and reactivity

Reactivity The product is stable and non-reactive under normal conditions of use, storage and transport

Chemical stability Material is stable under normal conditions.

Possibility of hazardous

reactions

Risk of bursting. Reacts with water, with formation of carbon dioxide. Risk of exothermic reaction. Hazardous polymerization can occur. Contact with certain rubbers and plastics can cause brittleness

of the substance/product with subsequent loss in strength.

Conditions to avoid Moisture. Contact with incompatible materials.

Incompatible materials Acids. Amines. Alcohols. Water. Alkaline metals. Strong bases. Substances/products that react with

isocyanates.

Hazardous decomposition

products

Carbon monoxide, carbon dioxide, hydrogen cyanide, nitrogen oxides, aromatic isocyanates,

gases/vapours. Gases/vapours.

11. Toxicological information

Information on likely routes of exposure

Harmful if inhaled. May cause irritation to the respiratory system. May cause allergy or asthma Inhalation

symptoms or breathing difficulties if inhaled. Prolonged inhalation may be harmful.

Skin contact Causes skin irritation. May cause an allergic skin reaction.

Eye contact Causes eye irritation.

Ingestion May cause discomfort if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Irritant effects. Irritating to eyes, respiratory system and skin. Irritating to mouth, throat, and stomach. Coughing. Difficulty in breathing. Skin irritation. May cause redness and pain. May cause an allergic skin

reaction. Dermatitis. Rash. Wheezing.

Information on toxicological effects

SDS US

Not applicable. **Acute toxicity** Skin corrosion/irritation Causes skin irritation. Serious eye damage/eye Causes eye irritation.

irritation

Respiratory or skin sensitization

Respiratory sensitization May cause allergy or asthma symptoms or breathing difficulties if inhaled

Skin sensitization May cause sensitization by skin contact. May cause an allergic skin reaction. Frequent or prolonged

contact may defat and dry the skin, leading to discomfort and dermatitis.

No data available to indicate product or any components present at greater than 0.1% are Germ cell mutagenicity

mutagenic or genotoxic.

Carcinogenicity Not classifiable as to carcinogenicity to humans.

IARC Monographs. Overall Evaluation of Carcinogenicity

MDI (CAS 101-68-8) 3 Not classifiable as to carcinogenicity to humans. METHYLENEDIPHENYL DIISOCYANATE (CAS 26447-40-5) 3 Not classifiable as to carcinogenicity to humans. POLYMERIC DIPHENYLMETHANE DIISOCYANATE (pMDI) 3 Not classifiable as to carcinogenicity to humans.

(CAS 9016-87-9)

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

Not regulated.

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

Not classified. Reproductive toxicity

Specific target organ toxicity

- single exposure

Respiratory tract irritation.

Specific target organ toxicity

May cause damage to organs through prolonged or repeated exposure. Olfactory organs.

- repeated exposure

Respiratory system.

Aspiration hazard Not available.

12. Ecological information

Ecotoxicity Not expected to be harmful to aquatic organisms.

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential No data available. Mobility in soil No data available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation

potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not discharge

into drains, water courses or onto the ground. Dispose of contents/container in accordance with

local/regional/national/international regulations.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code The waste code should be assigned in discussion between the user, the producer and the waste

disposal company.

Waste from residues / unused products

Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal

instructions). Avoid discharge into water courses or onto the ground.

Empty containers should be taken to an approved waste handling site for recycling or disposal. Contaminated packaging

Since emptied containers may retain product residue, follow label warnings even after container is

emptied.

14. Transport information

DOT

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

Transport in bulk according to Not established.

Annex II of MARPOL 73/78

and the IBC Code

General information If shipped below RO, this product is not subject to hazardous materials regulations.

15. Regulatory information

US federal regulationsThis product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard

29 CFR 1910.1200.

All components are on the U.S. EPA TSCA Inventory List.

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

Not regulated.

TSCA Chemical Action Plans, Chemicals of Concern

1,3-DIAZETIDINE-2,4-DIONE, Methylene Diphenyl Diisocyanate (MDI) And Related Compounds

1,3-BIS[4-[(4-ISOCYANATOPHENYL) METHYL]PHENYL]- Action Plan [RIN 2070-ZA15]

(CAS 17589-24-1)

MDI (CAS 101-68-8) Methylene Diphenyl Diisocyanate (MDI) And Related Compounds

Action Plan [RIN 2070-ZA15]

METHYLENEDIPHENYL DIISOCYANATE (CAS 26447-40-5) Methylene Diphenyl Diisocyanate (MDI) And Related Compounds

Action Plan [RIN 2070-ZA15]

POLYMERIC DIPHENYLMETHANE DIISOCYANATE (pMDI) Methylene Diphenyl Diisocyanate (MDI) And Related Compounds

(CAS 9016-87-9) Action Plan [RIN 2070-ZA15]

CERCLA Hazardous Substance List (40 CFR 302.4)

MDI (CAS 101-68-8) Listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Yes

Hazardous chemical

Classified hazard Acute toxicity (any route of exposure)

categories Skin corrosion or irritation

Serious eye damage or eye irritation Respiratory or skin sensitization

Specific target organ toxicity (single or repeated exposure)

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
MDI	101-68-8	>=25.0 - <50
POLYMERIC DIPHENYLMETHANE DIISOCYANATE (pMDI)	9016-87-9	>=50.0 - <75.0

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

MDI (CAS 101-68-8)

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

Not regulated.

Safe Drinking Water Act

(SDWA)

Not regulated.

US state regulations California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is

not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 2016 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins. For more information go to www.P65Warnings.ca.gov.

Material name: PENNGUARD™ ADHESIVE/MEMBRANE PART B

5860 Version #: 01 Issue date: 03-17-2021 7 /

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

MDI (CAS 101-68-8)

METHYLENEDIPHENYL DIISOCYANATE (CAS 26447-40-5)

POLYMERIC DIPHENYLMETHANE DIISOCYANATE (pMDI) (CAS 9016-87-9)

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

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

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

Issue date 03-17-2021

Version # 01
References ACGIH

ACGIH Documentation of the Threshold Limit Values and Biological Exposure Indices

EPA: AQUIRE database

IARC Monographs. Overall Evaluation of Carcinogenicity National Toxicology Program (NTP) Report on Carcinogens

NLM: Hazardous Substances Data Base

US. IARC Monographs on Occupational Exposures to Chemical Agents

Disclaimer The information provided in this Safety Data Sheet is correct to the best of our knowledge

information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. Ergon Armor cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or

expense due to improper use. The information in the sheet was written based on the best

knowledge and experience currently available.

Revision information Product and Company Identification: Alternate Trade Names

Physical & Chemical Properties: Multiple Properties

Material name: PENNGUARD™ ADHESIVE/MEMBRANE PART B 5860 Version #: 01 Issue date: 03-17-2021

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).