

SAFETY DATA SHEET

SDS# 1010

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: USP® PLY-FLASH (PART A) MODIFIED ASPHALT COMPOUND

CAS #: Mixture

Generic Name: Asphaltic Flashing Cement

Chemical Name: Asphalt Mixture (Article)

Chemical Family: Organic solvents and additives

Recommended Use: Used in conjunction with a urethane resin hardener as a cold process mastic for many types of asphaltic roofs.

Recommended Restrictions: For exterior use only. Do not use indoors. Adequate ventilation recommended.

Supplier Information:

U.S. PLY, INC.
P.O. Box 163980
Fort Worth, TX 76161
(817) 413-0103
Internet Website: www.usply.com
Email: technical@usply.com

Toll Manufacturer Location:

Ergon Armor
2829 Lakeland Drive
Jackson, MS 39232
1-800-222-7122
www.ergonarmor.com
sds@ergon.com

Emergency Telephone Number

Company Phone: (817) 413-0103
Call Chemtrec Day or Night: 1-800-424-9300

Trade Name: USP® PLY-FLASH (PART A) MODIFIED ASPHALT COMPOUND (aka BH5700 Part A)

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute toxicity, inhalation	Category 4
Flammable liquids	Category 3
Skin corrosion / Irritation	Category 2
Serious eye damage / Eye irritation	Category 2B
Specific target organ toxicity (Single exposure)	Category 3 narcotic effect
Specific target organ toxicity (repeated exposure)	Category 2

Label elements

Emergency Overview

Warning

Hazard Statements

Causes eye irritation.

Causes damage to organs through prolonged or repeated exposure by inhalation.

May cause drowsiness or dizziness

Causes skin irritation

Flammable liquid and vapor



Appearance

Thick mastic

Physical State

Liquid

Odor

Solvent (Mineral Spirits)

Precautionary Statements - Prevention

Obtain special instructions before use

Do not handle until all safety precautions have been read and understood

Use personal protective equipment as required

Do not breathe dust/fume/gas/mist/vapors/spray

Wash face, hands and any exposed skin thoroughly after handling

Do not eat, drink or smoke when using this product

Keep away from heat/sparks/open flames/hot surfaces. - No smoking

Keep container tightly closed when product is not in use. Ground/bond container and receiving equipment

Use only non-sparking tools

Take precautionary measures against static discharge

Use explosion-proof electrical/ventilating/lighting/equipment

Precautionary Statements - Response

IF exposed or concerned: Get medical advice/attention
 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with span and water/shower
 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
 Do NOT induce vomiting
 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 In case of fire: Use appropriate media for extinction.

Precautionary Statements - Storage

Store locked up.
 Store in well ventilated place. Keep cool.

Precautionary Statements - Disposal

Dispose of contents/container in accordance with local/regional/national/international regulations
 See section 13 of this SDS for disposal instructions.

Hazards not otherwise classified (HNOC)

None known

Supplemental Information

None

3. COMPOSITION / INFORMATION ON INGREDIENTS

Substance Mixture

This product is a mixture.
 This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Common Name Flashing Cement
Synonyms None
Chemical Nature Organic Solvents and additives

Chemical Name	CAS #	Weight - %	Trade Secret
Asphalt (at Ambient Temperature)	8052-42-4	50 – 60%	*
Stoddard Solvent	8052-41-3	5 - 15%	*
Quartz	14808-60-7	< 1%	*
Other components below reportable levels	-	2 5.54 %	*

4. FIRST AID MEASURES

Description of first aid measures

General Advice Contains petroleum distillate. Harmful or fatal if swallowed. Vapor harmful. May affect the brain or central nervous system causing dizziness, headache, or nausea. Reports have associated repeated and prolonged occupational exposure to solvents with permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling contents may be harmful or fatal.

Eye Contact Immediately flush eyes with plenty of water for at least 15 minutes. If a contact lens is present, DO NOT delay irrigation or attempt to remove the lens. Get medical attention if irritation develops and persists.

Skin Contact For hot product, immediately immerse in or flush the affected area with large amounts of cold water to dissipate heat. For minor skin contact, avoid spreading material on unaffected skin. Wash off with soap and plenty of water. If skin irritation occurs: Get medical advice/attention.

Inhalation Remove victim to fresh air and keep at rest in a position comfortable for breathing. For breathing difficulties, oxygen may be necessary. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Get medical attention, if needed.

Ingestion Rinse mouth thoroughly. Call a POISON CENTER or doctor/physician. 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.

Self-protection of the first aider First aider: Pay attention to self-protection!

Most important symptoms and effects, both acute and delayed

Symptoms Not available.

Indication of any immediate medical attention and special treatment needed

Note to Physicians In case of shortness of breath, give oxygen. Keep victim warm. Keep victim under observation. Symptoms may be delayed. May cause eye and skin irritation.

5. FIRE FIGHTING MEASURES

Suitable extinguishing media

Foam, Carbon dioxide (CO₂), water fog, dry chemical powder.

Unsuitable extinguishing media Do not use a solid water stream as it may scatter and spread fire.

Specific hazards arising from the chemical

Fire may produce irritating, corrosive and/or toxic gases.

Hazardous combustion products

Thermal decomposition (burning) may release irritating, corrosive and/or toxic gases, vapors and fumes.

Explosion data**Sensitivity to Mechanical Impact**

Not sensitive.

Sensitivity to Static Discharge

May be ignited by heat, sparks or flames.

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. Structural firefighter's protective clothing will only provide limited protection.

Firefighting equipment/instructions

In case of fire and/or explosion do not breathe fumes. Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Move containers from fire area if you can do so without risk. Do not get water inside container. Some of these materials, if spilled, may evaporate leaving a flammable residue.

In the event of fire and/or explosion do not breathe fumes.

6. ACCIDENTAL RELEASE MEASURES**Personal precautions, protective equipment and emergency procedures****Personal precautions**

Keep unnecessary personnel away. Keep upwind. Keep out of low areas. Ventilate closed spaces before entering them. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Do not touch or walk through spilled material.

Other Information

Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area).

For emergency responders

Use personal protection recommended in Section 8.

Environmental precautions**Environmental precautions**

Prevent further leakage or spillage if safe to do so. Do not contaminate water. If this material is spilled into navigable waters and creates a visible sheen, it is reportable to the National Response Center.

Methods and material for containment and cleaning up**Methods for containment**

Contain spillage with non-combustible absorbent material, e.g. sand, earth, diatomaceous earth, vermiculite.

Methods for cleaning up

Pick up the absorbed material (described just above) and transfer to properly labeled containers for disposal according to local / national regulations (see Section 13).

Prevention of secondary hazards

Clean contaminated objects and areas thoroughly observing environmental regulations.

7. HANDLING AND STORAGE**Precautions for safe handling****Advice on safe handling**

Avoid heat, sparks, open flames and other ignition sources. Avoid breathing dust/fume/gas/mist/vapors/spray. Wear personal protective equipment. Do not use in areas without adequate ventilation. Avoid prolonged exposure. When using, do not eat, drink or smoke. Wash hands thoroughly after handling. Do not empty into drains. Hydrogen sulfide, a very highly toxic gas, may be present with this material. Keep face clear of tank and/or tank car openings.

Conditions for safe storage, including any incompatibilities**Storage Conditions**

Store in a well-ventilated place. Keep container closed. Keep container dry. Keep away from food, drink and animal feeding stuffs. Keep out of reach of children. Use care in handling/storage.

Incompatible materials

Strong acids. Strong oxidizing agents.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters**Exposure Guidelines**

No ACGIH or OSHA PEL is assigned to this mixture. Exposure limits for the component materials are shown below. This product, as supplied, is not believed to contain any hazardous material that exceeds exposure limits established by OSHA.

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Asphalt at ambient temperature (CAS 8052-42-4)	TWA: 0.5 mg/m ³ benzene soluble aerosol fume, inhalable fraction	-	Ceiling: 5 mg/m ³ fume 15 min
Stoddard Solvent (CAS 8052-41-3)	TWA: 100 ppm	TWA: 500 ppm TWA: 2900 mg/m ³ (vacated) TWA: 100 ppm (vacated) TWA: 525 mg/m ³	IDLH: 20000 mg/m ³ Ceiling: 1800 mg/m ³ 15 min TWA: 350 mg/m ³
Quartz (CAS 14808-60-7)	TWA: 0.025 mg/m ³ respirable fraction	TWA: 0.3 mg/m ³ total dust 0.1 mg/m ³ respirable 2.4 mppcf respirable	TWA: 0.05 mg/m ³ respirable dust

Appropriate engineering controls**Engineering Controls**

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

Individual protection measures, such as personal protective equipment**Eye/face protection**

Wear safety glasses with side shields (or goggles).

Skin and body protection

Wear protective gloves and protective clothing that is resistant to chemical penetration.

Respiratory protection

No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, a NIOSH/MSHA approved respiratory protection should be worn.

General Hygiene Considerations

When using, do not eat, drink or smoke. Avoid contact with eyes. Avoid contact with skin. Wash hands before breaks and immediately after handling the product. Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES**Information on basic physical and chemical properties**

Physical State	Liquid	Odor	Solvent (mineral spirits) and asphaltic odor.
Appearance	Thick Mastic	Odor threshold	Not available
Color	Black		

Property**Values****Remarks + Methods**

pH	Not Available	
Melting point/freezing point	Not Available	Melting Point is not applicable. Freezing points are shown.
Boiling point / boiling range	300 - 360°F (148.89 - 182.22°C)	
Flash point	100.0 - 140.0°F (37.8 - 60.0°C)	
Evaporation rate	Not Available	
Flammability (solid, gas)	Not Available	
Flammability Limit in Air	Not Available	
Upper flammability limit:	Not Available	
Lower flammability limit:	Not Available	
Vapor pressure	Not Available	
Vapor density	Not Available	
Specific Gravity	1.0 – 1.05	Water = 1 g/ml
Solubility in other solvents	Insoluble	
Partition coefficient	No information available	
Autoignition temperature	No information available	
Decomposition temperature	No information available	
Kinematic viscosity	No information available	
Dynamic viscosity	No information available	
Explosive properties	No information available	
Oxidizing properties	None	

Other Information

Softening point	Not applicable
Molecular weight	No information available
VOC Content (%)	< 150 g/l

Density No information available
 Bulk density Not applicable

10. STABILITY AND REACTIVITY

Reactivity

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

Chemical Stability

Stable at normal conditions

Possible hazardous reactions

None under normal use

Hazardous polymerization Hazardous polymerization does not occur.

Conditions to avoid

Avoid heat, open flames and sparks.

Incompatible materials

Strong oxidizing agents.

Hazardous decomposition Products

Combustion may produce irritants, Carbon monoxide, Carbon dioxide, Sulphur oxides, and other asphyxiants.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information Toxicological testing has not been conducted for this product overall. Available toxicological data for individual ingredient are summarized below.

Ingestion If swallowed, do not induce vomiting. Get medical attention immediately. However, ingestion is not likely to be a primary route of exposure.

Inhalation Vapors have a narcotic effect and may cause headache, fatigue, dizziness and nausea.

Skin contact Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis. Causes skin irritation.

Eye contact Avoid contact with eyes. Contact with eyes causes serious irritation.

Component Information * The IARC Monograph (Vol. 103, 2013, Bitumen and Bitumen Emissions) defines Asphalt as 'Group 2B, Possible Carcinogen to Humans'. This definition is based on studies of exposure to Asphalt fumes at elevated temperatures. The Monograph states that temperature plays an important role in determining the degree of exposure and also the carcinogenic potential of bitumen emissions. This same Monograph states that Asphalt is nonvolatile at ambient temperature. There is no data presented in the Monograph to demonstrate that Asphalt at ambient temperature is considered a carcinogen. Since the normal use of this product is at ambient temperature, the Asphalt used in this product is not listed as a carcinogen. No other national or international agency has defined Asphalt as a carcinogen. * No significant exposure to Crystalline Silica (Quartz) is thought to occur during the use of products in which Crystalline Silica (Quartz) is bound to other materials, such as in paints and coatings. As one reference, see California Office of Health Hazard Assessment at: http://www.oehha.org/prop65/CRNR_notices/safe_use/sylicasud2.html

Chemical Name	CAS #	Oral LD50	Dermal LD50	Inhalation LC50
Asphalt (at Ambient Temperature) (CAS 8052-42-4)	> 5000 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	-	Asphalt (at Ambient Temperature) (CAS 8052-42-4)
Quartz (CAS 14808-60-7)	> 500 mg/kg (Rat)	-	-	Quartz (CAS 14808-60-7)

Information on toxicological effects

Symptoms Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation Can cause skin irritation.
Serious eye damage/eye irritation Irritating to eyes.
Irritation Irritating to eyes, respiratory system and skin.
Corrosivity Not classified
Respiratory Sensitization May cause sensitization of susceptible persons.
Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity The table below indicates whether each agency (ACGIH, IARC, NTP or OSHA) has listed any ingredient as a carcinogen or a potential carcinogen.

Chemical Name	CAS #	ACGIH	IARC	NTP	OSHA
Asphalt (at Ambient Temperature)	8052-42-4	-	2B	-	

Stoddard Solvent	8052-41-3	-	3	-	-
Quartz	14808-60-7	A2	Group 1	Known	X
Legend					
<i>ACGIH (American Conference of Governmental Industrial Hygienists)</i>			<i>IARC (International Agency for Research on Cancer)</i>		
A1	Known Human Carcinogen	Group 1	Carcinogenic to Humans		
A2	Suspected Human Carcinogen	Group 2A	Probably Carcinogenic to Humans		
A3	Animal Carcinogen	Group 2B	Possibly Carcinogenic to Humans		
A4	Not Classified as a Human Carcinogen	Group 3	Not Classifiable as a Human Carcinogen		
<i>NTP (National Toxicology Program)</i>			<i>OSHA (Occupational Safety and Health Administration of the US Department of Labor)</i>		
Known	Known Carcinogen	X	Present		
Reasonably Anticipated	Reasonably Anticipated to be a Human Carcinogen				

Reproductive toxicity: Not classified
 Developmental Toxicity: None known for product as a whole.
 Teratogenicity: None Known.
 STOT – Single exposure: Central nervous system.
 STOT – Repeated exposure: May cause damage to organs through prolonged or repeated exposure by inhalation.
 Aspiration hazard: No information available

12. ECOLOGICAL INFORMATION

Ecotoxicity

The following table lists information related to aquatic toxicity. Components of this product are hazardous to aquatic life. Accumulation in aquatic organisms is expected. Not expected to be harmful to aquatic organisms.

Chemical Name	Algae/aquatic plants	Species	Test Results
USP® PLY-FLASH (PART A) MODIFIED ASPHALT COMPOUND	-	Fish LC50	894.5402 mg/l, 96 hours estimated

Persistence and degradability

No information available.

Bioaccumulation potential

No information available.

Chemical Name	Partition coefficient
Asphalt (at Ambient Temperature) – 8052-42-4	> 6
Stoddard Solvent – 8052-41-3	3.16 – 7.15

Other adverse effects

No information available

13. DISPOSAL CONSIDERATIONS

Water treatment methods

Disposal of waste Contract with a disposal operator licensed by the Law on Disposal and Cleaning. Dispose of this material and its container to hazardous or special waste collection point. If discarded, this product is considered a RCRA ignitable waste, D001. Dispose of contents/container in accordance with local/regional/national/international regulations. Dispose in accordance with all applicable regulations.

Hazardous waste code D001: Waste flammable material with a flash point <140°F.

Contaminated packaging Do not reuse container.

14. TRANSPORTATION INFORMATION

DOT Regulated
UN number UN1999
UN proper shipping name Tars, liquid
Transport Hazard Class: 3, Combustible liquid
Subsidiary risk -
Packing Group III
Environmental hazards -
Marine pollutant No
Special precautions for user If shipped by ground in quantities LESS than 119 gallons (450 L); Not regulated as a hazardous material.
Special provisions B11, B12, IB3, T1, TP3
Packaging exceptions 150
Packaging non bulk 203
Packaging bulk 242

IATA	Regulated
UN number	UN1999
UN proper shipping name	Tars, liquid
Transport Hazard Class:	3
Subsidiary risk	-
Packing Group	III
Environmental hazards	No
ERG Code	3L
Special precautions for user	Not available
Other information	
Passenger and cargo aircraft	Allowed with restrictions
Cargo aircraft only	Allowed with restrictions

IMDG	
UN number	UN1999
UN proper shipping name	Tars, liquid
Transport Hazard Class:	3
Subsidiary risk	-
Packing Group	III
Environmental hazards	No
Marine pollutant	No
Special precautions for user	Not available
Transport in bulk according to annex II of MARPOL 73/78 and the IBC Code	Not available

IATA: IMDG

15. REGULATORY INFORMATION

International Inventories

TSCA	All of the components of this product are listed on the US TSCA (Toxic Substances Control Act) Inventory or are exempt.
DSL/NDSL	All of the components of this product are listed on the DSL.

Legend

TSCA	United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL	Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS	European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS	Japan Existing and New Chemical Substances
IECSC	China Inventory of Existing Chemical Substances
KECL	Korean Existing and Evaluated Chemical Substances
PICCS	Philippines Inventory of Chemicals and Chemical Substances
AICS	Australian Inventory of Chemical Substances

US Federal Regulations

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200. CERCLA/SARA Hazardous Substances - Not applicable.

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

Superfund Amendments and Reauthorization Act of 1986 (SARA)**Hazard Categories:**

Immediate Hazard	Yes
Delayed Hazard	Yes
Fire Hazard	Yes
Pressure Hazard	No
Reactivity Hazard	No

SARA 311/312**Hazard Categories:**

Acute health Hazard	Yes
Chronic Health Hazard	Yes
Fire Hazard	Yes
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR.122.42)

CERCLA

Asphalt (CAS 8052-42-4); Listed.

US State Regulations

This product contains a chemical known to the State of California to cause cancer.

US - California Proposition 65 - CRT: Listed date/Carcinogenic substance

Asphalt (CAS 8052-42-4) Listed: January 1, 1990

Quartz (CAS 14808-60-7) Listed: October 1, 1988

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

Asphalt (CAS 8052-42-4)

Quartz (CAS 14808-60-7)

Stoddard Solvent (CAS 8052-41-3)

U.S. State Right-to-Know Regulations

This product contains the following substances regulated by various State Right-to-Know regulations

Chemical Name	CA	FL	MA	MN	NJ	PA
Asphalt (at ambient temperature) 8052-42-4	YES	NO	YES	YES	YES	YES
Stoddard Solvent 8052-41-3	YES	NO	YES	YES	YES	YES
Quartz 14808-60-7	YES	NO	YES	YES	YES	YES

U.S. EPA Label Information

EPA Pesticide Registration Number

Not Applicable

International Inventories Country(s) or region	Inventory name	On inventory (yes/no)*
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	No

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

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION

NFPA **Health Hazard** 2 **Flammability** 2 **Instability** 0 **Physical and Chemical Properties** -

HMIS **Health Hazard** 2 **Flammability** 2 **Physical Hazards** 0 **Personal Protection** -

Chronic Hazard Star Legend * = Chronic Health Hazard

Issue Date: 5/09/2023
 Last Revision Date: 6/16/2023
 Original Issue Date: 9/24/2004
 Revision Disclosure: 12/23/2013

Prepared by:
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The information and recommendations provided in this Safety Data Sheet are presented in good faith and believed to be correct as of the date hereof. The manufacturer makes no representations as to the completeness or accuracy thereof. Information supplied upon the condition that the persons receiving said information will make their own determination as to its suitability for their particular purpose prior to use. In no event will the manufacturer be responsible for damages of any nature whatsoever resulting from the use of or reliance upon information. No representations or warranties, either expressed or implied, including the merchantability or fitness for a particular purpose are made herein with respect to this information or the product to which information refers. Information contained herein is deemed to be reliable, conservative and accurate. U.S. PLY, Inc. reserves the right to change the design, specification or any other features at any time, without notice, while otherwise maintaining regulatory compliance.

End of Safety Data Sheet

SAFETY DATA SHEET

SDS# 1011

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: USP® PLY-FLASH (PART B) URETHANE HARDENER**CAS #:** Mixture**Generic Name:** Urethane Hardener**Chemical Name:** MDI mixture**Chemical Family:** MDI**Recommended Use:** Used conjunction with a modified asphalt as a cold process mastic for many types of asphaltic roofs.**Recommended Restrictions:** For exterior use only. Do not use indoors. Adequate ventilation recommended.**Supplier Information:**

U.S. PLY, INC.

P.O. Box 163980

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(817) 413-0103

Internet Website: www.usply.com

Email: technical@usply.com

Toll Manufacturer Location:

Ergon Armor

2829 Lakeland Drive

Jackson, MS 39232

1-800-222-7122

www.ergonarmor.com

sds@ergon.com

Emergency Telephone Number

Company Phone: (817) 413-0103

Call Chemtrec Day or Night: 1-800-424-9300

Trade Name: USP® PLY-FLASH (PART B) URETHANE HARDENER (aka BH5700 Part B)

2. HAZARDS IDENTIFICATION

Classification**OSHA Regulatory Status**

This chemical is not classified hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Skin corrosion / Irritation	Category 2
Serious eye damage / Eye irritation	Category 2A
Sensitization, respiratory	Category 1
Sensitization, skin	Category 1
Specific target organ toxicity (Single exposure)	Category 3 respiratory tract irritation
Specific target organ toxicity (repeated exposure)	Category 2

Label elements**Emergency Overview****Danger****Hazard Statements**

Causes skin irritation.

May cause an allergic skin reaction.

Causes serious eye irritation.

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

May cause respiratory irritation.

Causes eye irritation.

**Appearance**

Brown liquid

Physical State

Liquid

Odor

No Odor

Precautionary Statements - Prevention

Use only outdoors or in a well-ventilated area.

Avoid breathing mist/vapors/spray.

Wash hands thoroughly after handling.

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

Wear protective gloves.

Wear eye/face protection.

In case of inadequate ventilation wear respiratory protection.

Precautionary Statements - Response

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

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

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

Take off contaminated clothing and wash before reuse.

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Specific treatment (see this label).

Precautionary Statements - Storage

Store locked up.

Store in well ventilated place. Keep cool.

Precautionary Statements - Disposal

Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Hazards not otherwise classified (HNOC)

None known

Supplemental Information

None

3. COMPOSITION / INFORMATION ON INGREDIENTS

Substance Mixture

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Chemical Name	CAS #	Weight - %	Trade Secret
METHYLENEDIPHENYL DIISOCYANATE	26447-40-5	45 - 55	*
MDI	101-68-8	< 45	*

4. FIRST AID MEASURES

Description of first aid measures

General Advice

Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. IF exposed or concerned: Get medical advice/attention. In case of shortness of breath, give oxygen. Keep victim under observation. Show this safety data sheet to the doctor in attendance.

Eye Contact

Immediately flush eyes with plenty of water for at least 15 minutes. Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately. Get medical attention if irritation develops and persists.

Skin Contact

Remove contaminated clothing. Remove and isolate contaminated clothing and shoes. Immediately flush skin with plenty of water. Wash off with soap and plenty of water. Call a physician or poison control center immediately. For minor skin contact, avoid spreading material on unaffected skin. If skin irritation occurs: Get medical advice/attention. Get medical attention if irritation develops and persists. Wash clothing separately before reuse.

Inhalation

If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. Move to fresh air. 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. If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.

Ingestion

Never give anything by mouth to a victim who is unconscious or is having convulsions. Rinse mouth thoroughly. 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. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

Self-protection of the first aider

First aider: Pay attention to self-protection!

Most important symptoms and effects, both acute and delayed

Symptoms

Irritation of eyes and mucous membranes. Prolonged exposure may cause chronic effects. Irritant effects. May cause allergic respiratory reaction. May cause allergic skin reaction.

Indication of any immediate medical attention and special treatment needed

Symptoms

In case of shortness of breath, give oxygen. Oxygen, if needed. Keep victim warm. Keep victim under observation. Symptoms may be delayed.

Note to Physicians

Treat symptomatically.

5. FIRE FIGHTING MEASURES

Suitable extinguishing media

Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog. Water spray mist or foam.

Unsuitable extinguishing media Do not use a solid water stream as it may scatter and spread fire.

Specific hazards arising from the chemical

Use a water spray to cool fire-exposed containers.

Protective equipment and precautions for firefighters

Wear suitable protective equipment. Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Firefighting equipment/instructions Move containers from fire area if you can do so without risk. Do not get water inside container.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Keep unnecessary personnel away. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Do not touch or walk through spilled material. Ventilate closed spaces before entering them. Ensure adequate ventilation. Avoid inhalation of vapors or mists. Avoid skin contact and inhalation of vapors during disposal of spills.

Other Information Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area).

For emergency responders Use personal protection recommended in Section 8.

Environmental precautions

Environmental precautions Prevent further leakage or spillage if safe to do so. No special environmental precautions required. Contact local authorities in case of spillage to drain/aquatic environment. Avoid discharge into drains, water courses or onto the ground.

Methods and material for containment and cleaning up

Methods for containment Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with DRY earth, DRY sand, or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Do not get water on spilled substance or inside containers.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills in original containers for re-use. For waste disposal, see section 13 of the SDS.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling In case of insufficient ventilation, wear suitable respiratory equipment. Do not handle until all safety precautions have been read and understood. Do not breathe dust/fume/gas/mist/vapors/spray. Do not get this material in contact with eyes. Do not get this material in contact with skin. Do not get this material on clothing. Use personal protective equipment as required. Wash hands thoroughly after handling. Do not empty into drains.

Conditions for safe storage, including any incompatibilities

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

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

Exposure Guidelines No ACGIH or OSHA PEL is assigned to this mixture. Exposure limits for the component materials are shown below. This product, as supplied, is not believed to contain any hazardous material that exceeds exposure limits established by OSHA.

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
MDI - (CAS 101-68-8)	TWA: 0.005 ppm	Ceiling: 0.2 mg/m ³ 0.02 ppm	Ceiling: 0.2 mg/m ³ 0.02 ppm TWA: 0.05 mg/m ³ 0.005 ppm

Appropriate engineering controls

Engineering Controls Provide adequate ventilation, including appropriate local extraction, to ensure that the defined occupational exposure limit is not exceeded.

Individual protection measures, such as personal protective equipment

Eye/face protection Avoid contact with eyes. Chemical goggles are recommended. Eye wash fountain is recommended.

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

Respiratory protection No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, a NIOSH/MSHA approved respiratory protection should be worn.

General Hygiene Considerations

When using, do not eat, drink or smoke. Avoid contact with eyes. Avoid contact with skin. Wash hands before breaks and immediately after handling the product. Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES**Information on basic physical and chemical properties**

Physical State	Liquid	Odor	Musty
Appearance	Liquid	Odor threshold	Not available
Color	Brown		

Property**Values****Remarks + Methods**

pH	Not Available	
Melting point/freezing point	Not Available	Melting Points are shown. Freezing points are not applicable.
Boiling point / boiling range	> 572 °F (> 300 °C)	
Flash point	> 482 °F (> 250 °C)	
Evaporation rate	Not Available	
Flammability (solid, gas)	Not Available	
Flammability Limit in Air	Not Available	
Upper flammability limit:	Not Available	
Lower flammability limit:	Not Available	
Vapor pressure	1 hPa @ 20 °C	
Vapor density	Not Available	
Specific Gravity	Not Available	
Solubility in other solvents	Insoluble	
Partition coefficient	No information available	
Autoignition temperature	No information available	
Decomposition temperature	No information available	
Kinematic viscosity	No information available	
Dynamic viscosity	No information available	
Explosive properties	No information available	
Oxidizing properties	None	

Other Information

Softening point	Not applicable
Molecular weight	No information available
VOC Content (%)	No information available
Density	1.24 g/cm ³
Bulk density	Not applicable

10. STABILITY AND REACTIVITY**Reactivity**

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

Chemical Stability

Stable at normal conditions

Possible hazardous reactions

This product will auto-polymerize at very high temperatures. (> 200 deg C)

Conditions to avoid

Not available.

Incompatible materials

Alcohols, and amines.

Hazardous decomposition Products

Carbon dioxide. Nitrogen oxides (NOx). Sulfur oxides.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information Toxicological testing has not been conducted for this product overall. Available toxicological data for individual ingredient are summarized below.

- Ingestion** If swallowed, do not induce vomiting. Get medical attention immediately. However, ingestion is not likely to be a primary route of exposure.
- Inhalation** May cause sensitization by inhalation. May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- Skin contact** Causes skin irritation.
- Eye contact** Contact with eyes causes serious irritation.

Component Information

Chemical Name	CAS #	Oral LD50	Dermal LD50	Inhalation LC50
MDI	101-68-8	-	-	369* mg/l (Rat) 4 h

Information on toxicological effects

Symptoms Not applicable

Delayed and immediate effects as well as chronic effects from short and long-term exposure

- Skin corrosion/irritation** Can cause skin irritation.
- Serious eye damage/eye irritation** Causes serious eye irritation.
- 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.
- Corrosivity** Not classified
- Respiratory Sensitization** May cause sensitization by inhalation. May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- Germ cell mutagenicity** No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic. Not available.
- Carcinogenicity** The table below indicates whether each agency (ACGIH, IARC, NTP or OSHA) has listed any ingredient as a carcinogen or a potential carcinogen.

Chemical Name	CAS #	ACGIH	IARC	NTP	OSHA
METHYLENEDIPHENYL DIISOCYANATE	26447-40-5	-	3	-	
MDI	101-68-8	-	3	-	-
Legend					
<i>ACGIH (American Conference of Governmental Industrial Hygienists)</i>		<i>IARC (International Agency for Research on Cancer)</i>			
<i>A1</i>	<i>Known Human Carcinogen</i>	<i>Group 1</i>	<i>Carcinogenic to Humans</i>		
<i>A2</i>	<i>Suspected Human Carcinogen</i>	<i>Group 2A</i>	<i>Probably Carcinogenic to Humans</i>		
<i>A3</i>	<i>Animal Carcinogen</i>	<i>Group 2B</i>	<i>Possibly Carcinogenic to Humans</i>		
<i>A4</i>	<i>Not Classified as a Human Carcinogen</i>	<i>Group 3</i>	<i>Not Classifiable as a Human Carcinogen</i>		
<i>NTP (National Toxicology Program)</i>		<i>OSHA (Occupational Safety and Health Administration of the US Department of Labor)</i>			
<i>Known</i>	<i>Known Carcinogen</i>	<i>X</i>	<i>Present</i>		
<i>Reasonably Anticipated</i>	<i>Reasonably Anticipated to be a Human Carcinogen</i>				

- Reproductive toxicity: Not classified
- Developmental Toxicity: None known for product as a whole.
- Teratogenicity: None Known.
- STOT – Single exposure: Respiratory tract irritation
- STOT – Repeated exposure: Prolonged inhalation may be harmful.
- Aspiration hazard: No information available
- Other information: Symptoms may be delayed

12. ECOLOGICAL INFORMATION

Ecotoxicity

Not expected to be harmful to aquatic organisms.

Persistence and degradability

No information available.

Bioaccumulation potential

No information available.

Other adverse effects No information available

13. DISPOSAL CONSIDERATIONS

Water treatment methods

Disposal of waste Dispose of contents/container in accordance with local/regional/national/international regulations. Do not discharge into drains, water courses or onto the ground.

Hazardous waste code Not regulated.

Contaminated packaging Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. TRANSPORTATION INFORMATION

DOT Not regulated

IATA Not regulated

IMDG Not regulated

Transport in bulk according to annex II of MARPOL 73/78 and the IBC Code Not available

15. REGULATORY INFORMATION

International Inventories

TSCA All of the components of this product are listed on the US TSCA (Toxic Substances Control Act) Inventory or are exempt.

DSL/NDSL All of the components of this product are listed on the DSL.

Legend

TSCA United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

ENCS Japan Existing and New Chemical Substances

IECSC China Inventory of Existing Chemical Substances

KECL Korean Existing and Evaluated Chemical Substances

PICCS Philippines Inventory of Chemicals and Chemical Substances

AICS Australian Inventory of Chemical Substances

US Federal Regulations

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200. CERCLA/SARA Hazardous Substances - Not applicable.

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 313 (TRI Reporting)

Chemical Name	CAS Number	% by wt.
MDI	101-68-8	< 45 %

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard Categories:

Immediate Hazard Yes

Delayed Hazard Yes

Fire Hazard No

Pressure Hazard No

Reactivity Hazard No

SARA 311/312

Hazard Categories:

Acute health Hazard Yes

Chronic Health Hazard Yes

Fire Hazard Yes

Sudden release of pressure hazard No

Reactive Hazard No

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR.122.42)

CERCLA

MDI (CAS 101-68-8); Listed.

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.

US - California Proposition 65 - CRT: Listed date/Carcinogenic substance:

Not Listed.

U.S. State Right-to-Know Regulations

This product contains the following substances regulated by various State Right-to-Know regulations

Chemical Name	MA	RI	NJ	PA
MDI 101-68-8	YES	YES	YES (500 lbs)	YES

U.S. EPA Label Information

EPA Pesticide Registration Number Not Applicable

International Inventories Country(s) or region	Inventory name	On inventory (yes/no)*
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
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) 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).

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION

Issue Date: 5/09/2023
 Last Revision Date: 6/16/2023
 Original Issue Date: 9/24/2004
 Revision Disclosure: 12/23/2013

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End of Safety Data Sheet