

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			
This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).			
Chemical Name	Common Name and synonyms	CAS #	Weight - %
Asphalt (at Ambient Temperature)	Asphalt	8052-42-4	50 - 60
Stoddard Solvent	Stoddard Solvent	8052-41-3	5-15
Quartz	Quartz	14808-60-7	< 1
Other components below reportable levels		NE	25.54
NE = Not Established			

4. 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.

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.

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.

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.

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.

Most important symptoms /effects, acute and delayed: Not available.

Indication of immediate medical and special treatment needed: 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.

General information: IF exposed or concerned: Get medical advice/attention. In case of shortness of breath, give oxygen. Keep victim warm. Keep victim under observation. Get medical attention if symptoms occur. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Wash contaminated clothing before reuse.

Physicians note: Treat symptomatically.

5. FIRE FIGHTING MEASURES

Suitable extinguishing media: Foam, Carbon dioxide (CO2), water fog, dry chemical powder.

Unsuitable extinguishing media: Do not use water jet.

Specific hazards arising from the chemical: Fire may produce irritating, corrosive and/or toxic gases.

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. 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.

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

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:

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.

Methods and materials for containment and cleaning up:

Stop the flow of material, if this is without risk. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Never return spills in original containers for re-use.

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.

7. HANDLING AND STORAGE

Precautions for 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:

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.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Read all product instructions before using. Personal protective equipment should include safety eye wear, chemical resistant gloves, and long sleeve work clothes to prevent excessive skin contact.
Occupational Exposure Limits

Components	ACGIH TLV	OSHA PEL Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)	NIOSH
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

Biological limit values:
Appropriate engineering
controls:

No biological exposure limits noted for the ingredient(s).
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) are recommended.
Hand protection: Wear chemical resistant gloves and protective clothing that is resistant to chemical penetration. If contact with forearms is likely wear gauntlet style gloves.
Skin protection: Wear chemical resistant gloves and protective clothing that is resistant to chemical penetration. If contact with forearms is likely wear gauntlet style gloves.
Other: It is a good industrial hygiene practice to minimize skin contact. Wear appropriate clothing to prevent any possibility of liquid contact and repeated or prolonged vapor contact.
Respiratory protection: When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.
Thermal hazards: Not available.

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

Appearance:	Black mastic
Physical State:	Liquid
Form:	Thick mastic
Color:	Black
Odor:	Solvent (mineral spirits) and asphaltic odor.
Odor threshold:	Not available.
pH:	Not available.
Melting point:	Not available.
Freezing point:	Not available.
Boiling point:	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 Limits: Lower/upper %:	Not available.
Explosive Properties:	Not available.
Oxidizing Properties:	Not available.
Vapor Pressure:	Not available.
Vapor Density:	Not available.
Solubility in Water:	Not available.
Solubility in other solvents	Not available.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temp:	Not available.
Decomposition temp:	Not available.
Kinematic Viscosity:	Not available.
Dynamic Viscosity:	Not available.
Softening Point:	Not available.
Molecular Weight:	Not available.
VOC Content	< 150 g/L
Specific gravity:	1.0 - 1.05

10. STABILITY AND REACTIVITY

Reactivity:	Not available.
Chemical Stability:	This product is stable under normal temperature conditions.
Possible hazardous reactions:	Hazardous polymerization will not occur.
Conditions to avoid:	Heat, flames and sparks.
Incompatible materials:	Strong oxidizing agents.
Hazardous decomposition Products:	Irritants. Toxic gas.

11. TOXICOLOGICAL INFORMATIONInformation on likely routes 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.
Eye contact:	Avoid contact with eyes. Causes eye irritation.
Ingestion:	May cause discomfort if swallowed. However, ingestion is not likely to be a primary route of occupational exposure.

Systems related to the physical, chemical and toxicological characteristics: Not available.

Information on toxicological effects:

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

Acute toxicity: Not classified

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:

Not classified. Contact with eyes may cause physical damage due as well as severe irritation and pain.

Corrosivity:

Not classified.

Respiratory sensitization:

May cause sensitization of susceptible persons.

Skin sensitization:

Irritating to skin.

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.

Component Information:

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

* Estimates for product may be based on additional component data not shown.

IARC Monographs, Overall Evaluation of Carcinogenicity

Component Name	ACGIH	IARC	NTP	OSHA (29 CFR 1910.1001-1050)
Asphalt (at Ambient Temperature) (CAS 8052-42-4)	-	2B	-	-
Stoddard Solvent (CAS 8052-41-3)	-	3	-	-
Quartz (CAS 14808-60-7)	A2	1	Known	X

Legend

ACGIH (American Conference of Governmental Industrial Hygienists)		IARC (International Agency for Research on Cancer)	
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

NTP (National Toxicology Program)		OSHA (Occupational Safety and Health Administration of the US Department of Labor)	
Known	Known Carcinogen	X	Present
Reasonably Anticipated	Reasonably Anticipated to be a Human Carcinogen		

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 non-volatile 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

Reproductive toxicity:

Not classified.

Specific target organ toxicity:

- Single exposure:

Central nervous system.

- Repeated exposure:

May cause damage to organs through prolonged or repeated exposure by inhalation.

Aspiration hazard:

Not classified.

Chronic effects:

Prolonged exposure may cause chronic effects.

Further information:

Symptoms may be delayed.

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.

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

* Estimates for product may be based on additional component data not shown.

Persistence and degradability: Not available.
 Bioaccumulation potential: Not available.
 Partition coefficient: Not available.
 Asphalt (CAS 8052-42-4) (at ambient temperature): 6
 Stoddard Solvent (CAS 8052-41-3): 3.16 – 7.15
 Mobility in soil: Not available.
 Other adverse effects: Not available.

13. DISPOSAL CONSIDERATIONS

Disposal instructions: 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.
 Waste from residues /unused products: Dispose of in accordance with local regulations.
 Contaminated packaging: Do not reuse container.

14. TRANSPORTATION INFORMATION

DOT
 UN number: UN1999
 UN proper shipping name: Tars, liquid
 Transport Hazard Class: 3, Combustible liquid
 Subsidiary risk: -
 Packing Group: III
 Environmental hazards: No
 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: B1, B13, IB3, T1, TP3
 Packaging exceptions: 150
 Packaging non bulk: 203
 Packaging bulk: 242

IATA
 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:
 Marine pollutant: No
 EmS: F-E, S-E
 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

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.

TSCA Section 12(b) Export Notification (40 CFR 707, Sub pt. D): Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4): Asphalt (CAS 8052-42-4); Listed.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050): Not regulated.

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 302 Extremely hazardous substance: Not listed.

SARA 311/312: No

Hazard Categories:
 Acute health hazard: Yes
 Chronic health hazard: Yes
 Fire hazard: Yes
 Sudden pressure: No
 Reactive hazard: No

SARA 313 (TRI reporting): 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.

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).

Other federal regulations:

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List:
 Not regulated

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

Component	CA	FL	MA	MN	NJ	PA
Asphalt (CAS 8052-42-4)	YES	NO	YES	YES	YES	YES
Stoddard Solvent (CAS 8052-41-3)	YES	NO	YES	YES	YES	YES

Quartz (CAS 14808-60-7)	YES	NO	YES	YES	YES	YES
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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)

US EPA Label Information

EPA Pesticide Registration: n/a

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 Hazards 2	Flammability 2	Instability 0	Physical and Chemical Properties
HMIS	Health Hazards 2	Flammability 2	Physical Hazards 0	Personal Protection -
<i>Chronic Hazard Star Legend</i>		<i>* = Chronic Health Hazard</i>		

Issue Date: 1/31/2017 SDS Format
 Original Issue Date: 1/31/2017 SDS Format

Prepared by:
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 Fort Worth, TX USA 76110

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# 1038

SDS Date: January 2017

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. Box11740
 Fort Worth, TX 76110
 (866) 787-4759 or (817) 413-0103
 Internet Website: www.usply.com
 Email: technical@usply.com

Toll Manufacturer Location:

ErgonArmor
 2829 Lakeland Drive
 Jackson, MS 39232

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

Physical Hazards:	Not classified
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2A
Sensitization, respiratory	Category 1
Sensitization, skin	Category 1
Health Hazards: Specific target organ toxicity (single exposure):	Category 3 respiratory tract irritation
Health Hazards: Specific target organ toxicity (repeated exposure):	Category 2

Environmental Hazards: Not classified
 OSHA Defined Hazards: Not classified

Label elements:



Appearance: Brown liquid Physical State: Liquid
 Danger

Signal word:

Hazard statement: 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.

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.

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

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

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

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

Chemical Name	Common Name and synonyms	CAS #	Weight - %
METHYLENEDIPHENYL DIISOCYANATE	METHYLENEDIPHENYL DIISOCYANATE	26447-40-5	45 - 55
MDI	MDI	101-68-8	< 45
NE = Not Established			

4. FIRST AID MEASURES

- 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.
- 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.
- 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.
- 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.
- Most important symptoms /effects, acute and delayed:** 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 immediate medical and special treatment needed:** In case of shortness of breath, give oxygen. Oxygen, if needed. Keep victim warm. Keep victim under observation. Symptoms may be delayed.
- General information:** 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.
- Physicians note:** 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 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:** Wear suitable protective equipment. Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
- Fire-fighting 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:

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.

Methods and materials for containment and cleaning up:

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.

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.

7. HANDLING AND STORAGE

Precautions for 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:

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

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Read all product instructions before using. Personal protective equipment should include safety eye wear, chemical resistant gloves, and long sleeve work clothes to prevent excessive skin contact.
Occupational Exposure Limits

Components	ACGIH TLV	OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)	NIOSH
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

**Biological limit values:
Appropriate engineering
controls:**

No biological exposure limits noted for the ingredient(s).
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.
- Hand protection:** Chemical resistant gloves are recommended. If contact with forearms is likely wear gauntlet style gloves.
- Skin protection:** Chemical resistant gloves are recommended. If contact with forearms is likely wear gauntlet style gloves.
- Other:** Avoid contact with the skin. Chemical resistant gloves. Wear suitable protective clothing.
- Respiratory protection:** When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.
- Thermal hazards:** Not available.

General hygiene considerations:

Do not get in eyes. Do not get this material in contact with skin. Wash hands after handling. Keep away from food and drink. Contaminated work clothing should not be allowed out of the workplace. Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Brown liquid
 Physical State: Liquid
 Form: Liquid
 Color: Brown
 Odor: Musty
 Odor threshold: Not available.
 pH: Not available.
 Melting point: Not available.
 Freezing point: Not available.
 Boiling point: > 572°F (> 300°C)
 Flash point: > 482.0°F (> 250.0°C)
 Evaporation rate: Not available.
 Flammability (solid, gas): Not available.
 Flammability Limits: Not available.
 Lower/upper %: Not available.
 Explosive Properties: Not available.
 Oxidizing Properties: Not available.
 Vapor Pressure: 1 hPa @ 20 deg C
 Vapor Density: Not available.
 Solubility in Water: Not available.
 Solubility in other solvents: Not available.
 Partition coefficient (n-octanol/water): Not available.
 Auto-ignition temp: Not available.
 Decomposition temp: Not available.
 Viscosity: Not available.
 Density: 1.24 g/cm³

10. STABILITY AND REACTIVITY

Reactivity: Not available.
 Chemical Stability: This material is stable under normal temperature conditions.
 Possible hazardous reactions: This product will auto-polymerize at very high temperatures. (> 200 deg C)
 Conditions to avoid: Not available.
 Incompatible materials: Alcohols. Amines.
 Hazardous decomposition Products: Carbon dioxide. Nitrogen oxides (NOx). Sulfur oxides.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure:

Ingestion: Not classified. May cause discomfort if swallowed.
 Inhalation: May cause sensitization by inhalation. May cause allergy or asthma symptoms or breathing difficulties if inhaled.
 Skin contact: Irritating to skin.
 Eye contact: Causes serious eye irritation.

Systems related to the physical, chemical and toxicological characteristics:

Irritating to eyes, respiratory system and skin. Irritating to mouth, throat, and stomach. Irritant effects.

Information on toxicological effects:

Acute toxicity: Not applicable.

Component Information:

Component	Acute	Species	Test Results
Urethane Hardener (CAS Mixture)	Inhalation LC50	Rat	1.64 mg/l, 4 Hours estimated

MDI (CAS 101-68-8)	Inhalation LC50	Rat	0.369 mg/l, 4 Hours
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* Estimates for product may be based on additional component data not shown.

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

Skin corrosion/irritation: Irritating to skin.
 Serious eye damage /eye irritation: Causes serious eye irritation.
 Corrosivity: Not classified.
 Respiratory sensitization: May cause sensitization by inhalation. 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.
 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.

Component Information:

IARC Monographs, Overall Evaluation of Carcinogenicity

Component Name	ACGIH	IARC	NTP	OSHA (29 CFR 1910.1001-1050)
METHYLENEDIPHENYL DIISOCYANATE (CAS 26447-40-5)	-	3	-	-
MDI (CAS 101-68-8)	-	3	-	-

Legend

ACGIH (American Conference of Governmental Industrial Hygienists)		IARC (International Agency for Research on Cancer)	
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
NTP (National Toxicology Program)		OSHA (Occupational Safety and health Administration of the US Department of Labor)	
Known	Known Carcinogen	X	Present
Reasonably Anticipated	Reasonably Anticipated to be a Human Carcinogen		

Reproductive toxicity: Not available. Not classified.
 Specific target organ toxicity:
 - Single exposure: Respiratory tract irritation.
 - Repeated exposure: Causes damage to organs. Respiratory system.
 Aspiration hazard: Not available.
 Chronic effects: Prolonged inhalation may be harmful.
 Other information: Symptoms may be delayed.

12. ECOLOGICAL INFORMATION

Ecotoxicity: Not expected to be harmful to aquatic organisms.
 Persistence and degradability: Not available. No data is available on the degradability of this product.
 Bioaccumulation potential: Not available.
 Mobility in soil: Not available.
 Other adverse effects: Not available.

13. DISPOSAL CONSIDERATIONS

Disposal instructions: 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.

Waste from residues /unused products: Contaminated packaging: Dispose of in accordance with local regulations. Avoid discharge into water courses or onto the ground. 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 as dangerous goods.
IATA Not regulated as dangerous goods.
IMDG Not regulated as dangerous goods.
 Transport in bulk according to Annex II of MARPOL 73/78 And the IBC Code: Not available.
 Further Information: If shipped below RQ, this product is not subject to hazardous materials regulations.

15. REGULATORY INFORMATION

US Federal Regulations: This 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.

CERCLA Hazardous Substance List (40 CFR 302.4): MDI (CAS 101-68-8); Listed.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050): Not regulated.

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 302 Extremely hazardous substance: Not listed.

SARA 311/312: No
Hazard Categories:
 Acute health hazard: Yes
 Chronic health hazard: Yes
 Fire hazard: Yes
 Sudden pressure: No
 Reactive hazard: No

SARA 313 (TRI reporting):

Chemical Name	CAS number	% by wt.
MDI	(CAS 101-68-8)	< 45%

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).

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.

Component	MA	NJ	PA	RI
MDI (CAS 101-68-8)	YES	YES (500 LBS)	YES	YES

US - California Proposition 65 - CRT: Listed date/Carcinogenic substance
Not Listed.

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: 1/31/2017 SDS Format
Original Issue Date: 1/31/2017 SDS Format

Prepared by:
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End of Safety Data Sheet