

Wayne's Roofing, Inc.

13105 Houston Road
Sumner, WA 98390
www.waynesroofing.com



MSDS

August 21, 2012

Section—075321 EPDM Membrane Roofing (Area R-5 Only)

Section—075322 EPDM Membrane Repair & Retrofit

PROJECT

Natural Resources Building

Roof & Cladding Repairs

1111 S Washington Street SE

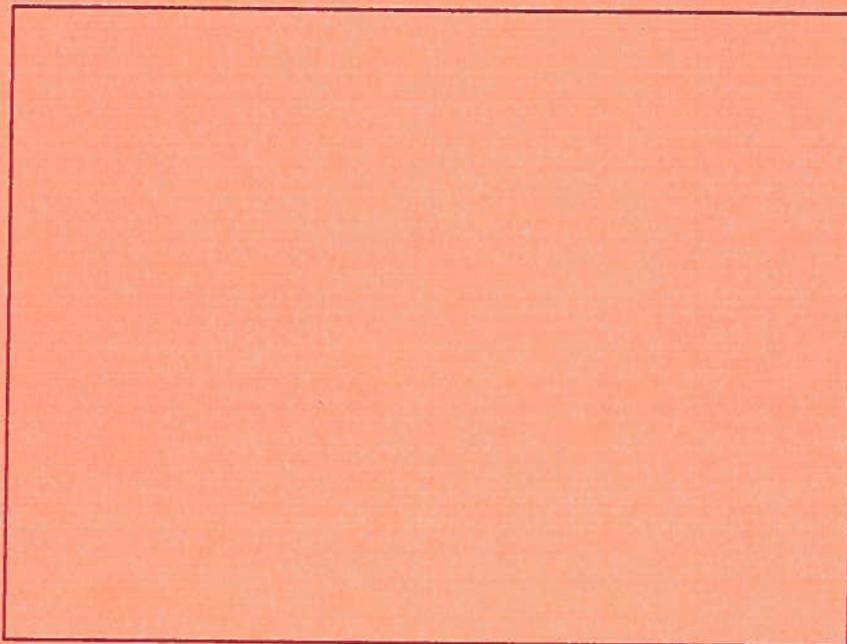
Olympia, WA

PREPARED FOR

Westmark Construction

6102 North 9th Street, Suite 400

Tacoma, WA



WRI PROJECT 12-045

SUMNER (253) 863-4455 SEATTLE (206) 575-0078 FAX (253) 863-8311

To: Industry Professionals or whom it may concern

Thank you for your inquiry regarding an MSDS for Carlisle Sheeting and accessory products. The following list of Carlisle products are considered to be an "Article" as under normal conditions of use they do not pose a hazard in the work place or to the building occupants. Since these products or "Articles" pose no health hazard under normal conditions of use there is no requirement for an MSDS. For technical information on each of these products please refer to the Product Data Sheet (PDS) or Technical Data Bulletin (TDB) published on the Carlisle website at www.carlisle-syntec.com

Articles as defined in 29 CFR 1910.1200:

EPDM, PVC and TPO membranes
EPDM, PVC and TPO flashings
EPDM, PVC and TPO walkway pads
HP Polyiso insulations
Expanded Polystyrene insulations
Extruded Polystyrene insulations
HP Recovery Board

Dens-Deck cover boards
Securock cover board
FR and Modified base sheets
HP and HP-X fasteners and plates
SecurEdge metal edgings and copings
Drylights and associated curbs

Background Information: OSHA promulgated the Hazard Communication Standard (HCS), also known as the "Right to Know" rule, to ensure that the hazards of all chemicals produced or imported into the U.S. are evaluated, and that information concerning their hazards is transmitted to employers and employees. The standard applies to **all chemicals**, which are known to be present in the workplace in such a manner that employees may be exposed to them **under normal conditions** of use or in a foreseeable emergency. For this reason it is incumbent upon manufacturers to assess whether or not their products present a hazard in the work place. The current definition of "Article" in 29 CFR 1910.1200 is provided as follows:

"Article" means a manufactured item other than a fluid or particle: (i) which is formed to a specific shape or design during manufacture; (ii) which has end use function(s) dependent in whole or in part upon its shape or design during end use; and (iii) which does not release, or otherwise result in exposure to, a hazardous chemical under normal conditions of use.

A product or "Article" meeting this criterion is **exempt** from the MSDS requirement. OSHA realizes that manufacturers often provide MSDSs for reasons other than those of meeting the requirements of the Hazard Communication Standard and that this can cause confusion to downstream users. Carlisle's intent is to eliminate confusion by publishing MSDS sheets for the products that workers and end-users really need to operate in a safe environment. Carlisle SynTec Incorporated believes the information contained herein to be very accurate. It is not to be taken as a warranty or representation for which Carlisle SynTec Incorporated assumes any legal responsibility for product liability. This information is offered solely for our customers' consideration, investigation and any necessary verification. Any use of this information or of the sheeting and accessories provided by Carlisle SynTec Incorporated must be determined by the user to be acceptable for their intended purpose and in accordance with the appropriate federal, state or local laws and regulations including 29 CFR in its entirety.

Should you have any further questions or need additional information please contact our Research and Development office at 800-479-6832.

Material Safety Data Sheet

CARLISLE 725TR Temporary Roof / Air and Vapor Barrier

Page 1 of 4
MSDS No. 309998 / 310632

Date of Preparation: 05/21/08

Revision: 000

Section 1 - Chemical Product and Company Identification

Product/Chemical Name: CARLISLE 725TR Temporary Roof / Air and Vapor Barrier
Chemical Formula: Mixture
Other Designations: Self-Adhering Temporary Roof / Air and Vapor Barrier
Manufacturer: Carlisle SynTec Incorporated, 1285 Ritner Highway, Carlisle, PA 17013, Phone: 800-479-6832
24-Hour Emergency Phone Number: CHEMTREC (USA) 800-424-9300

Section 2 - Hazards Identification

☆☆☆☆☆ Emergency Overview ☆☆☆☆☆

Under normal conditions of use, this product is not expected to cause any unusual emergency hazards.

HMIS	
H	2
F	1
R	0
PPE†	
	†Sec. 8

Emergency and Hazards Overview:

Repeated skin contact with rubberized asphalt may result in slight irritation. Prolonged or repeated skin contact with process oil in the rubberized asphalt may cause an increased risk of skin cancer, liver damage and reproductive effects based on laboratory animal testing. Skin cleansing studies, with aromatic oils, show that the toxic effects are not likely to occur in humans if good personal hygiene practices are used.

Appearance: Black membrane with textured plastic surface and mild asphaltic odor.

Potential Health Effects

Primary Entry Routes: Skin absorption, inhalation, eye contact, ingestion.

Acute Effects

Inhalation: Contact with dusts or fumes may cause irritation of the nose, throat and respiratory tract.

Eye: Irritation, if oil residue on hands is wiped or rubbed into eyes.

Skin: Possible irritation if oil residue is allowed to remain on skin for any length of time.

Ingestion: Ingestion is not considered to be likely due to the form of the material.

Inhalation: Inhalation is not considered to be likely due to the form of the material.

Carcinogenicity: See comments in Section 11. IARC Group 2 carcinogen.

Chronic Effects: Repeated or prolonged contact with oil in this product may cause skin irritation and cancer (see comments in Section 11).

Hazards: Flammable/Combustible X Acute Toxin X Chronic Toxin X Carcinogen X
 Pressure No Reactive No

Section 3 - Ingredient Information

Hazardous Ingredients	CAS Number	% wt
Asphalt	8052-42-4	60-100
Aromatic Oil	64742-04-7	1-5
Additional Ingredients	CAS Number	% wt
SBR Copolymer	9003-55-8	10-30

This product is hazardous according to OSHA 29 CFR 1910.1200

Section 4 - First Aid Measures

Inhalation: Due to the nature of this product, inhalation is unlikely.

Eye Contact: Immediately flush with plenty of water for at least 15 minutes. Call a physician.

Skin Contact: Wash promptly with soap and water. Remove all material under fingernails. See a physician if irritation develops.

Ingestion: Due to the nature of this product, ingestion is unlikely. Should ingestion occur, seek the assistance of a physician immediately.

After first aid, get appropriate in-plant, paramedic, or community medical support.

Note to Physicians: This product contains asphalt and mineral process oil.

Special Precautions/Procedures: Gloves are recommended to prevent skin contact. Provide adequate ventilation in confined area or respirators if material is heated. Clothing as needed to prevent skin contact.

Section 5 - Fire-Fighting Measures

Flash Point: Above 232 °C (450° F)
Flash Point Method: COC.
Autoignition Temperature: Not determined.
Extinguishing Media: Standard fire extinguishers (CO₂, foam, dry chemical)
Unusual Fire or Explosion Hazards: None known



Hazardous Combustion Products: Toxic gases or vapors, such as carbon monoxide, carbon dioxide, or oxides of nitrogen may be released in a fire.
Fire-Fighting Instructions: Wear NIOSH/MSHA approved respirator, or self-contained breathing apparatus. Avoid breathing smoke.
Fire-Fighting Equipment: Because fire may produce toxic thermal decomposition products, wear a self-contained breathing apparatus (SCBA) with a full face piece operated in pressure-demand or positive-pressure mode.

Section 6 - Accidental Release Measures

Spill /Leak Procedures: The use of rubber gloves and/or barrier creams to minimize skin contact is recommended.
Containment: Unless molten, material will not flow.
Cleanup: Pick, scoop, or sweep up material for proper disposal.
Regulatory Requirements: This material is not an EPA, RCRA hazardous waste according to federal regulations. For Canada, observe all precautions noted above.

Section 7 - Handling and Storage

Handling Precautions: Avoid removing release paper where spark may ignite flammable vapors from other products.
Storage Requirements: Store inside or under cover. Avoid prolonged exposure to extreme temperature.
Regulatory Requirements: The information contained in this Material Safety Data Sheet is based on the product as shipped. According to preliminary toxicity testing during a two year study, asphalt fume condensate caused skin cancer in laboratory animals when repeatedly applied to skin and not washed off. The data also indicates that asphalt fume condensate is mutagenic to cells in bacterial tests. Occupational studies have provided no convincing evidence of lung cancer in humans exposed to petroleum asphalt alone without the presence of coal tar. It is prudent to avoid prolonged and repeated inhalation of heated asphalt fume and to use approved respiratory protection if engineering controls cannot maintain acceptable exposure levels. It is also prudent to avoid prolonged and repeated skin contact; **the use of protective gloves and/or barrier creams is highly recommended.**
 A product containing a substance for which OSHA has established a permissible exposure limit (PEL) is considered hazardous. OSHA has established a PEL of 5mg/m³ for worker exposure to airborne mists of mineral oil. Therefore, the presence of mineral oil brings this product within the provisions of OSHA hazard communication standard where the PEL reaches or exceeds 5mg/m³. According to the International Agency for Research on Cancer (IARC) monograph, there is evidence that oils of this type can induce cancer in animals under laboratory conditions. Inhalation of mists arising from products containing these materials may also present a cancer hazard. This specific product has not been tested in long-term, chronic exposure tests. The applicability of animal test data to determinations about the hazardous nature of lubricating oils to humans is unknown at this time. As with any industrial product, the practice of good personal hygiene is recommended where prolonged contact is anticipated.
 This product has been reviewed in accordance with Sections 311 (MSDS Inventory) and Section 312 (Tier I/II Inventory) of the Superfund Amendments and Reauthorization Act of 1986 (40 CFR 370.2). The product meets the following categories: Immediate (acute) health hazard and delayed (chronic) health hazard.

Section 8 - Exposure Controls / Personal Protection

Exposure Limits:

Ingredient	OSHA PEL		ACGIH TLV		NIOSH REL		NIOSH IDLH
	TWA	STEL	TWA	STEL	TWA	STEL	
Asphalt	none estab.	none estab.	5 mg/m ³ (airborne)	none estab.	none estab.	5 mg/m ³ (airborne)	none estab.
Aromatic Oil	5 mg/m ³ (airborne)	none estab.	none estab.	none estab.	none estab.	none estab.	none estab.

Engineering Controls:

Ventilation: If material is heated, provide general or local exhaust ventilation systems to maintain airborne concentrations below OSHA PELs (Sec. 2). Local exhaust ventilation is preferred because it prevents contaminant dispersion into the work area by controlling it at its source.

Administrative Controls:

Respiratory Protection: Provide adequate ventilation in confined area or respirators if material is heated.

Protective Clothing/Equipment: Clothing as needed to avoid skin contact. Gloves or barrier creams are recommended to prevent skin contact. Eye/face protection is not required for normal use.

Other: Make emergency eyewash stations/bottles and washing facilities available in work area.

Contaminated Equipment: Separate contaminated work clothes from street clothes. Launder before reuse. Remove this material from your shoes and clean personal protective equipment.

Comments: Never eat, drink, or smoke in work areas. Practice good personal hygiene after using this material, especially before eating, drinking, smoking, using the toilet, or applying cosmetics. Avoid rubbing face/eyes while handling this material.

Section 9 - Physical and Chemical Properties

Flash Point: Above 232 °C (450° F)

Flash Point Method: COC.

Autoignition Temperature: Not determined.

Physical State: Solid

Appearance and Odor: Black pliable adhesive sheet with slight petroleum odor

Specific Gravity (H₂O=1, at 4 °C): 1.0 – 1.1

Water Solubility: Negligible

Percent Volatile by Volume: Negligible

Volatile Organic Content: Negligible

Viscosity at 100° F: Solid

Viscosity at 40° F: Solid

Melting Point: 185° F to 270° F

Pour Point: >300° F

Section 10 - Stability and Reactivity

Stability: Stable under normal conditions.

Possibility of Hazardous Reactions: Will not occur.

Chemical Incompatibilities: Strong oxidizers or strong bases.

Conditions to Avoid: Extreme heat or open flames.

Hazardous Decomposition Products: Toxic gases or vapors, such as carbon monoxide, carbon dioxide, or oxides of nitrogen may be released in a fire.

Section 11- Toxicological Information

Eye Effects: Irritating

Skin Effects: May be irritating

Oral toxicity: Mineral oil mist: LD₅₀ (mouse)
22,000 mg/kg

Toxicity Data:

Carcinogenicity: Prolonged exposure to > 5mg/m³ mineral oil mist may result in increased cancer risk. IARC Group 2 carcinogen.

Section 12 - Ecological Information

Ecotoxicity: Not known

Environmental Fate: Not known

Environmental Degradation: Not known

Soil Absorption/Mobility: Not known

Section 13 - Disposal Considerations

Disposal: Dispose of in accordance with all local, state, provincial, and federal regulations.

Section 14 - Transport Information

DOT Transportation Data (49 CFR 172.101):

Highway/Rail (Bulk): Not classified

Highway/Rail (non-bulk): Not classified

International information

Vessel: IMDG Regulated: Not classified **IMDG Not Regulated**

Air: ICAO Regulated: Not classified **ICAO Not Regulated**

Section 15 - Regulatory Information

EPA Regulations:

SARA 311/312 Categories: Acute Yes Chronic Yes Fire No Pressure No Reactive No

WHMIS Classification: B4

State Regulations: MA, MN, PA, RI, and WA

European Union Classification

Hazard Symbol:



Toxic

Risk Phrases: R45

Safety Phrases: S38, S45, S53

Section 16 - Other Information

Health and Environmental Label Language

All ingredients contained in this product are included on the US EPA Toxic Substances Control Act (TSCA) inventory. All ingredients contained in this product comply with the requirements of the Canadian Environmental Protection Act (CEPA) and are listed on the Domestic Substance List (DSL) or Non-Domestic Substance List (NDSL).

California Proposition 65 Information: Warning! This product contains substances known to the State of California to cause cancer.

Prepared By: Research & Development

Revision Notes: New Product

Additional Hazard Rating Systems:

Disclaimer: The information contained in this document is based upon data that was supplied to Carlisle by other companies and organizations. No warranty of merchantability or fitness for a particular purpose is expressed or implied regarding the accuracy or completeness of the data and/or information in this material safety data sheet.

Material Safety Data Sheet

CCW-702 LV

Date of Preparation: 02/06/09

MSDS No. 316148

Revision: 003

Section 1 - Chemical Product and Company Identification

Product/Chemical Name: CCW-702 LV

Chemical Formula: Mixture

General Use: Quick Dry Coating

Manufacturer: Carlisle SynTec Incorporated, 1285 Ritner Highway, Carlisle, PA 17013, Phone: 800-479-6832

24-Hour Emergency Phone Number: CHEMTREC (USA) 800-424-9300

Section 2 - Hazards Identification

☆☆☆☆ Emergency Overview ☆☆☆☆

Danger- Highly flammable liquid and vapor

Warning - Causes skin irritation

Warning - Causes serious eye irritation

Warning - May be harmful if swallowed and enters airways

Danger - May damage fertility or the unborn child

Warning - May cause an allergic skin reaction

Warning - Suspected of causing genetic defects (skin)

Warning - May cause drowsiness and dizziness

Warning - May cause damage to organs (liver, kidney, ear) through prolonged or repeated exposure

HMI
S
H 2
F 3
R 0
PPE†
†Sec. 8

Potential Health Effects

Emergency and Hazards Overview:

Mixture contains flammable components and the vapors may ignite explosively. Vapors are heavier than air and may travel to distant sources of ignition and flash back. Harmful if swallowed or inhaled. Overexposure to vapors may cause dizziness, headache or central nervous depression. May cause irritation to eyes, skin and respiratory tract.

Primary Entry Routes: Skin contact, skin absorption, eye contact, inhalation, ingestion.

Inhalation: May cause irritation of the nose, throat and respiratory tract. At very high concentrations, breathing vapors may cause pulmonary edema, anorexia, nausea and vomiting.

Eye: May cause eye irritation if wiped or rubbed into eyes.

Skin: May cause skin irritation if wiped or left on the skin.

Ingestion: Ingestion may cause symptoms similar to those of inhalation. The oral toxicity is estimated to be low, therefore not expected to be harmful in small amounts.

Carcinogenicity: IARC, NTP, and OSHA do not list this product as a carcinogen.

Medical Conditions Aggravated by Long-Term Exposure: Respiratory symptoms associated with pre-existing lung disorders and pre-existing heart disorders may be aggravated by exposure to this product. Prolonged skin contact with this product may defat skin leading to irritation or dermatitis resulting in itching, redness and rash.

Chronic Effects: Overexposure may result in headache, dizziness, fatigue, nausea and loss of consciousness. Chronic exposure may cause reversible kidney and liver injury. Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Repeated exposure to Toluene has been associated with high frequency hearing loss based on animal tests.

Section 3 - Composition / Information on Ingredients

Ingredient Name

Ingredient Name	CAS Number	% wt or % vol
Toluene	108-88-3	7-13
Acetone	67-64-1	7-13
Tert Butyl Acetate	540-88-5	15- 40
Hydrocarbon Tackifying Resin	62258-49-5	
Synthetic Isoprene Polymer	25038-32-8	
Butadiene - Styrene Copolymer	9003-55-8	

Hazardous Ingredients:

Ingredient	OSHA PEL		ACGIH TLV		NIOSH REL		NIOSH IDLH
	TWA	STEL	TWA	STEL	TWA	STEL	
Toluene	200 ppm	150 ppm	20 ppm	none estab.	100 ppm	150 ppm	500 ppm
Acetone	1000 ppm	1000 ppm	500 ppm	750 ppm	250 ppm	none estab.	2500 ppm
Tert Butyl Acetate	none estab.	none estab.	200 ppm	none estab.	none estab.	none estab.	none estab.

Section 4 - First Aid Measures

Inhalation: Get fresh air if symptoms develop due to inhalation. Give oxygen if breathing is difficult. If not breathing give artificial respiration and get medical attention immediately.

Eye Contact: Immediately flush eyes with running water for at least 15 minutes. Get medical attention.

Skin Contact: Immediately flush skin with running water and remove contaminated clothing. Wash exposed area with soap and water. Get medical attention.

Ingestion: DO NOT induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention immediately.

Note to Physicians: This product contains toluene and acetone.

Special Precautions/Procedures: Whenever possible, remove the worker from the source of contamination.

Section 5 - Fire-Fighting Measures

Flash Point: -4°F (-20°C)

Flash Point Method: TCC

Autoignition Temperature: 869 °F (465 °C)

LEL: 1.2% v/v

UEL: 12.8% v/v

Flammability Classification: Division 2



Extinguishing Media: In case of fire, use dry chemical, carbon dioxide, or foam. Water may not be effective as an extinguishing agent. Water fog or spray may be used to provide a smothering effect on fire and to cool fire-exposed containers and surrounding combustibles. Do not use a solid stream of water because it can scatter and spread the fire.

Unusual Fire or Explosion Hazards: Extremely flammable. Store and use away from all sources of heat, flame, or sparks. Do not smoke while applying. Vapors are heavier than air and may travel along ground or may be moved by ventilation and ignited by pilot lights, other flames, sparks, heaters, smoking, electrical motors, static discharge, or other ignition sources at location distant from material handling point and flashback. All containers should be grounded when material is transferred. Do not pressurize, cut, weld, drill, grind or expose containers to heat, flame, sparks, static electricity or other sources of ignition.

Hazardous Combustion Products: Toxic gases or vapors, such as carbon monoxide or carbon dioxide, may be released in a fire. Unburned hydrocarbons. Emits acrid fumes.

Fire-Fighting Instructions: This product contains solvents that are dangerous fire and explosion hazards when exposed to heat or flame. Fire fighters should wear self-contained breathing apparatus and full protective clothing with a full face piece operated in the positive pressure demand mode. Containers should be kept cool with water spray. Liquid or vapor may settle in low areas or travel along the ground to ignition sources where they may ignite or explode and flash back.

Fire-Fighting Equipment: Because fire may produce toxic thermal decomposition products, wear a self-contained breathing apparatus (SCBA) with a full face piece operated in pressure-demand or positive-pressure mode.

Section 6 - Accidental Release Measures

Spill/Leak Procedures: Remove all sources of ignition. Avoid breathing vapors. Use self-contained breathing apparatus in enclosed area. Ventilate area. Contain and remove with inert absorbent materials and non-sparking tools.

Personnel Safeguards: Immediately evacuate all non-essential personnel to safe areas. Emergency responders should wear proper protective gears before entering the affected area. Observe all precautions noted above.

Regulatory Notifications: Waste of this product is defined as hazardous according to U.S. EPA. Spill reporting requirements and reportable quantities vary by region. Consult all applicable state and local regulations. For Canada, observe all precautions noted above.

Containment and Cleanup: Remove all sources of ignition. Do not use metal shovels or other tools which could create sparks. Prevent liquids from entering sewers, drains or waterways by diking with sand or earth. Absorb with vermiculite or other absorbent material and remove for disposal.

Section 7 - Handling and Storage

Handling Precautions: Use away from all sources of heat, flame, or sparks. Do not smoke while using. Handling equipment must be grounded to prevent sparking. Handle with non-sparking tools. Avoid prolonged contact with skin. Use solvent resistant gloves (that meet ANSI/ISEA 105-2005). Avoid rubbing eyes while handling. Wash with soap and water before eating or drinking. Launder contaminated clothing. **KEEP OUT OF REACH OF CHILDREN.**

Storage Requirements: Keep containers cool, dry, and store away from all sources of heat, flame, and sparks. Keep containers tightly closed and store with adequate ventilation. Do not pressurize, cut, weld, or grind the containers, or empty containers which may contain residual product and solvent vapors that may ignite explosively.

Section 8 - Exposure Controls / Personal Protection

Engineering Controls: Do not use in enclosed areas without proper explosion-proof ventilation. General and local exhaust ventilation must be sufficient to control vapor concentrations and keep the vapor concentration below TLV/TWA. Use explosion proof ventilation equipment. Take care not to draw vapors into non-explosion proof or spark generating equipment.

Ventilation: Provide general or local exhaust ventilation systems to maintain airborne concentrations below OSHA PELs. Local exhaust ventilation is preferred because it prevents contaminant dispersion into the work area by controlling it at its source.

Administrative Controls:

Respiratory Protection: Provide adequate ventilation to maintain vapors below TLV/TWA. If vapor levels are exceeded, use NIOSH approved respirator, both during and immediately after application, until vapor levels are below limits.

Protective Clothing/Equipment: Permeation resistant gloves (that meet ANSI/ISEA 105-2005) required. Protective glasses or goggles recommended. Industrial boots to protect feet from cleaner contact. Impervious clothing is recommended to protect skin from cleaner contact. Protective skin creams or emollients useful.

Safety Stations: Source of clean water should be available in the work area for flushing eyes and skin.

Contaminated Equipment: Separate contaminated work clothes from street clothes. Launder before reuse. Remove this material from your shoes and clean personal protective equipment.

Comments: Never eat, drink, or smoke in work areas. Practice good personal hygiene after using this material, especially before eating, drinking, smoking, using the toilet, or applying cosmetics.

Section 9 - Physical and Chemical Properties

Physical State: Liquid

Appearance and Odor: Thin dark red liquid with sweet solvent odor.

Odor Threshold: Not available.

Vapor Pressure: 80 mm Hg at 20 °C (68°F)

Vapor Density (Air=1): > air

Formula Weight: NA

Specific Gravity (H₂O=1, at 4°C/39°F): 0.90

pH: Not applicable

VOC: less than 250 gpl

Water Solubility: Negligible

Boiling Point: 180 to 232 °F (82 - 111°C)

Freezing/Melting Point: NA

Viscosity: NA

% Volatile: 53

Evaporation Rate:

Flash Point: -4°F (-20°C)

Flash Point Method: TCC

Autoignition Temperature: 869 °F (465 °C)

LEL: 1.2% v/v

UEL: 12.8% v/v

Flammability Classification: Division 2

Section 10 - Stability and Reactivity

Stability: Stable under normal conditions.

Possibility of Hazardous Reactions: Will not occur.

Chemical Incompatibilities: Avoid strong acids and strong oxidizers.

Conditions to Avoid: heat, sparks, and flames; ignition sources.

Hazardous Decomposition Products: Toxic gases or vapors, such as carbon monoxide or carbon dioxide, may be released in a fire.

Section 11 - Toxicological Information**Toxicity Data:**

Eye Effects: Irritating

Skin Effects: Irritating

Acute Inhalation Effects: Product toxicity has not been determined.
Following are the component data:

TC₅₀:

Toluene: Rat > 26,700 ppm 1 hr; Mouse 400 ppm 24 hr
Acetone: Rat > 20,700 ppm 8 hr

Acute Oral Effects: Product toxicity has not been determined.
Following are component data:

LD₅₀:

Toluene: Rat 5,000 mg/kg
Acetone: Rat 5,800 mg/kg
Mouse 3000 mg/kg
Rabbit 5,340 mg/kg

Chronic Effects: May cause skin sensitization in some people.

Carcinogenicity: Not listed in IARC or NTP

Mutagenicity: Some evidence in animal exposure to Toluene.

Teratogenicity: Some evidence in animal exposure to Toluene.

Section 12 - Ecological Information

Aquatic Toxicity: Not known

Terrestrial Toxicity: Not known

Chemical Fate and Transport: Not known

No other ecological information available.

Section 13 - Disposal Considerations

Disposal: Dispose of in accordance with all local, state, and federal regulations.

Regulatory Information: Consult all regulations (federal, state, provincial, local etc.) or a qualified waste disposal firm when characterizing waste for disposal.

Waste Disposal Methods: Dispose of waste in accordance with all applicable regulations. Waste which results from the clean-up of spilled product, absorbed by a noncombustible absorbing media, would not be considered a hazardous waste once toluene and acetone have evaporated.

Section 14 - Transport Information**DOT Transportation Data (49 CFR 172.101):**Shipping Name: Adhesives, 3,
UN1133, II

Shipping Symbols: Flammable

Hazard Class: 3

ID No.: UN1133

Packing Group: II

Label: red Flammable label
required.Special Provisions (172.102):
149, B52, IB2, T4, TP1, TP8**Packaging Authorizations**

- a) Exceptions: 173.150
b) Non-bulk Packaging: 173.173
c) Bulk Packaging: 173.242

Quantity Limitations

- a) Passenger, Aircraft, or Railcar: 5 L
b) Cargo Aircraft Only: 60 L

Vessel Stowage Requirements

- a) Vessel Stowage: B
b) Other: none

Section 15 - Regulatory Information**EPA Regulations:**

RCRA Hazardous Waste Number (40 CFR 261.33): Not listed

RCRA Hazardous Waste Classification (40 CFR 261.31): F003 (Acetone) and F005 (Toluene)

CERCLA Hazardous Substance (40 CFR 302.4) listed/unlisted specific per RCRA, Sec. 3001; CWA, Sec. 311 (b)(4); CWA,
Sec. 307(a), CAA, Sec. 112

02/06/09

CCW-702 LV

MSDS No. 316148

CERCLA Reportable Quantity (RQ), Toluene 1,000 lb (454.5 kg) Acetone 5,000 lbs (2,272.7 kg)

SARA 311/312 Codes: Acute: YES Chronic: YES Fire: YES Pressure: YES Reactive: NO

SARA Toxic Chemical (40 CFR 372.65): Toluene, CAS#108-88-3, 40-70%

SARA EHS (Extremely Hazardous Substance) (40 CFR 355): Not listed, Threshold Planning Quantity (TPQ)

OSHA Regulations:

Air Contaminant (29 CFR 1910.1000, Table Z-1, Z-1-A): Not listed

Clean Air Act Data: Toluene: SOCMI: Yes HAP code: XOV
Acetone: SOCMI: Yes

Clean Water Act: Toluene is listed as a priority pollutant. RQ: 1,000 lb (454.5 kg)

State Regulations:

California Proposition 65: This product contains the following chemical(s) known to the state of California to cause birth defects or other reproductive harm: Toluene.

Delaware Air Quality Management List: Toluene: DRQ: 1000 State: Must be reported to the DRQ
Acetone: DRQ: 5000 State: Must be reported to the DRQ

Massachusetts Hazardous Substance codes: Toluene 108-88-3 2, 4, 5, 6, F7, F8
Acetone 67-64-1 2, 4, 5, 6, F8, F9

Michigan Critical Materials Register: Toluene 108-88-3 Report: -- Class: --

Minnesota Hazardous Substance: Toluene: Codes: ANO Hazards: skin Carcinogen? No
Acetone: Codes: AON Hazards: --- Carcinogen? No

New Jersey RTK Hazardous Substance:
Toluene: DOT: 1294 Sub No.: 1866 TPQ: --- EHS:

New York List of Hazardous Substances: Toluene: RQ - Air: 1000 RQ - Land: 1 Note: none
Acetone: RQ - Air: 5000 RQ - Land: 1 Note: none

Pennsylvania Hazardous Substance Code:

Chemical Name	CAS #	Code
Methyl benzene	108-88-3	E
2-Propanone	67-64-1	E

Washington Air Contaminant:

TWA (ppm):	100 (Toluene)	750 (Acetone)
TWA (mg):	375 (Toluene)	1800 (Acetone)
STEL (ppm):	150 (Toluene)	1000 (Acetone)
STEL (mg):	560 (Toluene)	2400 (Acetone)
Ceiling (ppm):	None listed	
Ceiling (mg):	None listed	
Skin:	None listed	

Canadian WHMIS Classification:

Class: B

Division: 2

This product has been classified in accordance with hazard criteria of the Controlled Products Regulations (CPR). This MSDS contains all the information required by the CPR.

European Union Classification: Highly Flammable and Harmful

Risk Phrases: R11, R20, R42/43

Safety Phrases: S9, S16, S36, S51

Section 16 - Other Information

Prepared By: Research & Development

Revision Notes: Revised Section 14

Additional Hazard Rating Systems: No other information available.

Disclaimer: The information contained in this document is based upon data that was supplied to Carlisle by other companies and organizations. No warranty of merchantability or fitness for a particular purpose is expressed or implied regarding the accuracy or completeness of the data and/or information in this material safety data sheet.

Material Safety Data Sheet

Sure-Seal CCW-702 Membrane Adhesive

MSDS No. 305363

Date of Preparation: 02/06/09

Revision: 009

Section 1 - Chemical Product and Company Identification

Product/Chemical Name: Sure-Seal CCW-702 Membrane Adhesive

Chemical Formula: Mixture

General Use: Quick Dry Coating

Manufacturer: Carlisle SynTec Incorporated, 1285 Ritner Highway, Carlisle, PA 17013, Phone: 800-479-6832

24-Hour Emergency Phone Number: CHEMTREC (USA) 800-424-9300

Section 2 - Hazards Identification

☆☆☆☆☆ Emergency Overview ☆☆☆☆☆

Danger – Highly flammable liquid and vapor

Warning – Causes skin irritation

Warning – Causes serious eye irritation

Warning – May be harmful if swallowed and enters airways

Danger – May damage fertility or the unborn child

Warning – May cause an allergic skin reaction

Warning – Suspected of causing genetic defects (skin)

Warning – May cause drowsiness and dizziness

Warning – May cause damage to organs (liver, kidney, ear) through prolonged or repeated exposure

HMIS	
H	2
F	3
R	0
PPE†	
†Sec 8	

Potential Health Effects

Emergency and Hazards Overview:

Mixture contains flammable components and the vapors may ignite explosively. Vapors are heavier than air and may travel to distant sources of ignition and flash back. Harmful if swallowed or inhaled. Overexposure to vapors may cause dizziness, headache or central nervous depression. May cause irritation to eyes, skin and respiratory tract.

Primary Entry Routes: Skin contact, skin absorption, eye contact, inhalation, ingestion.

Inhalation: May cause irritation of the nose, throat and respiratory tract. At very high concentrations, breathing vapors may cause pulmonary edema, anorexia, nausea and vomiting.

Eye: May cause eye irritation if wiped or rubbed into eyes.

Skin: May cause skin irritation if wiped or left on the skin.

Ingestion: Ingestion may cause symptoms similar to those of inhalation. The oral toxicity is estimated to be low, therefore not expected to be harmful in small amounts.

Carcinogenicity: IARC, NTP, and OSHA do not list this product as a carcinogen.

Medical Conditions Aggravated by Long-Term Exposure: Respiratory symptoms associated with pre-existing lung disorders and pre-existing heart disorders may be aggravated by exposure to this product. Prolonged skin contact with this product may defat skin leading to irritation or dermatitis resulting in itching, redness and rash.

Chronic Effects: Overexposure may result in headache, dizziness, fatigue, nausea and loss of consciousness. Chronic exposure may cause reversible kidney and liver injury. Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Repeated exposure to Toluene has been associated with high frequency hearing loss based on animal tests.

Section 3 - Composition / Information on Ingredients

Ingredient Name	CAS Number	% wt or % vol
Toluene	108-88-3	40-70
Acetone	67-64-1	7-13
Hydrocarbon Tackifying Resin	62258-49-5	
Synthetic Isoprene Polymer	25038-32-8	
Butadiene – Styrene Copolymer	9003-55-8	

Hazardous Ingredients:

Ingredient	OSHA PEL		ACGIH TLV		NIOSH REL		NIOSH IDLH
	TWA	STEL	TWA	STEL	TWA	STEL	
Toluene	200 ppm	150 ppm	20 ppm	none estab.	100 ppm	150 ppm	500 ppm
Acetone	1000 ppm	1000 ppm	500 ppm	750 ppm	250 ppm	none estab.	2500 ppm

Section 4 - First Aid Measures

Inhalation: Get fresh air if symptoms develop due to inhalation. Give oxygen if breathing is difficult. If not breathing give artificial respiration and get medical attention immediately.

Eye Contact: Immediately flush eyes with running water for at least 15 minutes. Get medical attention.

Skin Contact: Immediately flush skin with running water and remove contaminated clothing. Wash exposed area with soap and water. Get medical attention.

Ingestion: DO NOT induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention immediately.

Note to Physicians: This product contains toluene and acetone.

Special Precautions/Procedures: Whenever possible, remove the worker from the source of contamination.

Section 5 - Fire-Fighting Measures

Flash Point: -4°F (-20°C)

Flash Point Method: TCC

Autoignition Temperature: 869 °F (465 °C)

LEL: 1.2% v/v

UEL: 12.8% v/v

Flammability Classification: Division 2



Extinguishing Media: In case of fire, use dry chemical, carbon dioxide, or foam. Water may not be effective as an extinguishing agent. Water fog or spray may be used to provide a smothering effect on fire and to cool fire-exposed containers and surrounding combustibles. Do not use a solid stream of water because it can scatter and spread the fire.

Unusual Fire or Explosion Hazards: Extremely flammable. Store and use away from all sources of heat, flame, or sparks. Do not smoke while applying. Vapors are heavier than air and may travel along ground or may be moved by ventilation and ignited by pilot lights, other flames, sparks; heaters, smoking, electrical motors, static discharge, or other ignition sources at location distant from material handling point and flashback. All containers should be grounded when material is transferred. Do not pressurize, cut, weld, drill, grind or expose containers to heat, flame, sparks, static electricity or other sources of ignition.

Hazardous Combustion Products: Toxic gases or vapors, such as carbon monoxide or carbon dioxide, may be released in a fire. Unburned hydrocarbons. Emits acrid fumes.

Fire-Fighting Instructions: This product contains solvents that are dangerous fire and explosion hazards when exposed to heat or flame. Fire fighters should wear self-contained breathing apparatus and full protective clothing with a full face piece operated in the positive pressure demand mode. Containers should be kept cool with water spray. Liquid or vapor may settle in low areas or travel along the ground to ignition sources where they may ignite or explode and flash back.

Fire-Fighting Equipment: Because fire may produce toxic thermal decomposition products, wear a self-contained breathing apparatus (SCBA) with a full face piece operated in pressure-demand or positive-pressure mode.

Section 6 - Accidental Release Measures

Spill/Leak Procedures: Remove all sources of ignition. Avoid breathing vapors. Use self-contained breathing apparatus in enclosed area. Ventilate area. Contain and remove with inert absorbent materials and non-sparking tools.

Personnel Safeguards: Immediately evacuate all non-essential personnel to safe areas. Emergency responders should wear proper protective gears before entering the affected area. Observe all precautions noted above.

Regulatory Notifications: Waste of this product is defined as hazardous according to U.S. EPA. Spill reporting requirements and reportable quantities vary by region. Consult all applicable state and local regulations. For Canada, observe all precautions noted above.

Containment and Cleanup: Remove all sources of ignition. Do not use metal shovels or other tools which could create sparks. Prevent liquids from entering sewers, drains or waterways by diking with sand or earth. Absorb with vermiculite or other absorbent material and remove for disposal.

Section 7 - Handling and Storage

Handling Precautions: Use away from all sources of heat, flame, or sparks. Do not smoke while using. Handling equipment must be grounded to prevent sparking. Handle with non-sparking tools. Avoid prolonged contact with skin. Use solvent resistant gloves (that meet ANSI/ISEA 105-2005). Avoid rubbing eyes while handling. Wash with soap and water before eating or drinking. Launder contaminated clothing. KEEP OUT OF REACH OF CHILDREN.

Storage Requirements: Keep containers cool, dry, and store away from all sources of heat, flame, and sparks. Keep containers tightly closed and store with adequate ventilation. Do not pressurize, cut, weld, or grind the containers, or empty containers which may contain residual product and solvent vapors that may ignite explosively.

Section 8 - Exposure Controls / Personal Protection

Engineering Controls: Do not use in enclosed areas without proper explosion-proof ventilation. General and local exhaust ventilation must be sufficient to control vapor concentrations and keep the vapor concentration below TLV/TWA. Use explosion proof ventilation equipment. Take care not to draw vapors into non-explosion proof or spark generating equipment.

Ventilation: Provide general or local exhaust ventilation systems to maintain airborne concentrations below OSHA PELs. Local exhaust ventilation is preferred because it prevents contaminant dispersion into the work area by controlling it at its source.

Administrative Controls:

Respiratory Protection: Provide adequate ventilation to maintain vapors below TLV/TWA. If vapor levels are exceeded, use NIOSH approved respirator, both during and immediately after application, until vapor levels are below limits.

Protective Clothing/Equipment: Permeation resistant gloves (that meet ANSI/ISEA 105-2005) required. Protective glasses or goggles recommended. Industrial boots to protect feet from cleaner contact. Impervious clothing is recommended to protect skin from cleaner contact. Protective skin creams or emollients useful.

Safety Stations: Source of clean water should be available in the work area for flushing eyes and skin.

Contaminated Equipment: Separate contaminated work clothes from street clothes. Launder before reuse. Remove this material from your shoes and clean personal protective equipment.

Comments: Never eat, drink, or smoke in work areas. Practice good personal hygiene after using this material, especially before eating, drinking, smoking, using the toilet, or applying cosmetics.

Section 9 - Physical and Chemical Properties

Physical State: Liquid

Appearance and Odor: Thin blue liquid with hydrocarbon odor.

Odor Threshold: Not available.

Vapor Pressure: 80 mm Hg at 20 °C (68°F)

Vapor Density (Air=1): > air

Formula Weight: NA

Specific Gravity (H₂O=1, at 4°C/39°F): 0.91

pH: Not applicable

VOC: 450 gpl

Water Solubility: Negligible

Boiling Point: 180 to 232 °F (82 - 111°C)

Freezing/Melting Point: NA

Viscosity: NA

% Volatile: 53

Evaporation Rate:

Flash Point: -4°F (-20°C)

Flash Point Method: TCC

Autoignition Temperature: 869 °F (465 °C)

LEL: 1.2% v/v

UEL: 12.8% v/v

Flammability Classification: Division 2

Section 10 - Stability and Reactivity

Stability: Stable under normal conditions.

Possibility of Hazardous Reactions: Will not occur.

Chemical Incompatibilities: Avoid strong acids and strong oxidizers.

Conditions to Avoid: heat, sparks, and flames; ignition sources.

Hazardous Decomposition Products: Toxic gases or vapors, such as carbon monoxide or carbon dioxide, may be released in a fire.

Section 11 - Toxicological Information**Toxicity Data:****Eye Effects:** Irritating**Skin Effects:** Irritating**Acute Inhalation Effects:** Product toxicity has not been determined.
Following are the component data:TC₅₀:

Toluene: Rat > 26,700 ppm 1 hr; Mouse 400 ppm 24 hr

Acetone: Rat > 20,700 ppm 8 hr

Acute Oral Effects: Product toxicity has not been determined.
Following are component data:LD₅₀:

Toluene: Rat 5,000 mg/kg

Acetone: Rat 5,800 mg/kg

Mouse 3000 mg/kg

Rabbit 5,340 mg/kg

Chronic Effects: May cause skin sensitization in some people.**Carcinogenicity:** Not listed in IARC or NTP**Mutagenicity:** Some evidence in animal exposure to Toluene.**Teratogenicity:** Some evidence in animal exposure to Toluene.**Section 12 - Ecological Information****Aquatic Toxicity:** Not known**Terrestrial Toxicity:** Not known**Chemical Fate and Transport:** Not known

No other ecological information available.

Section 13 - Disposal Considerations**Disposal:** Dispose of in accordance with all local, state, and federal regulations.**Regulatory Information:** Consult all regulations (federal, state, provincial, local etc.) or a qualified waste disposal firm when characterizing waste for disposal.**Waste Disposal Methods:** Dispose of waste in accordance with all applicable regulations. Waste which results from the clean-up of spilled product, absorbed by a noncombustible absorbing media, would not be considered a hazardous waste once toluene and acetone have evaporated.**Section 14 - Transport Information****DOT Transportation Data (49 CFR 172.101):****Shipping Name:** Adhesives, 3,
UN1133, II**Shipping Symbols:** Flammable**Hazard Class:** 3**ID No.:** UN1133**Packing Group:** II**Label:** red Flammable label
required.**Special Provisions (172.102):**

149, B52, IB2, T4, TP1, TP8

Packaging Authorizations

a) Exceptions: 173.150

b) Non-bulk Packaging: 173.173

c) Bulk Packaging: 173.242

Quantity Limitations

a) Passenger, Aircraft, or Railcar: 5 L

b) Cargo Aircraft Only: 60 L

Vessel Stowage Requirements

a) Vessel Stowage: B

b) Other: none

Section 15 - Regulatory Information**EPA Regulations:**

RCRA Hazardous Waste Number (40 CFR 261.33): Not listed

RCRA Hazardous Waste Classification (40 CFR 261.31): F003 (Acetone) and F005 (Toluene)

CERCLA Hazardous Substance (40 CFR 302.4) listed/unlisted specific per RCRA, Sec. 3001; CWA, Sec. 311 (b)(4); CWA, Sec. 307(a), CAA, Sec. 112

CERCLA Reportable Quantity (RQ), Toluene 1,000 lb (454.5 kg) Acetone 5,000 lbs (2,272.7 kg)

SARA 311/312 Codes: Acute: YES Chronic: YES Fire: YES Pressure: YES Reactive: NO

SARA Toxic Chemical (40 CFR 372.65): Toluene, CAS#108-88-3, 40-70%

SARA EHS (Extremely Hazardous Substance) (40 CFR 355): Not listed, Threshold Planning Quantity (TPQ)

OSHA Regulations:

Air Contaminant (29 CFR 1910.1000, Table Z-1, Z-1-A): Not listed

Clean Air Act Data: Toluene: SOCOMI: Yes HAP code: XOY

Acetone: SOCOMI: Yes

Clean Water Act: Toluene is listed as a priority pollutant. RQ: 1,000 lb (454.5 kg)

State Regulations:

California Proposition 65: This product contains the following chemical(s) known to the state of California to cause birth defects or other reproductive harm: Toluene.

Delaware Air Quality Management List: Toluene: DRQ: 1000 State: Must be reported to the DRQ
Acetone: DRQ: 5000 State: Must be reported to the DRQ

Massachusetts Hazardous Substance codes: Toluene 108-88-3 2, 4, 5, 6, F7, F8
Acetone 67-64-1 2, 4, 5, 6, F8, F9

Michigan Critical Materials Register: Toluene 108-88-3 Report: -- Class: --

Minnesota Hazardous Substance: Toluene: Codes: ANO Hazards: skin Carcinogen? No
Acetone: Codes: AON Hazards: --- Carcinogen? No

New Jersey RTK Hazardous Substance:

Toluene: DOT: 1294 Sub No.: 1866 TPQ: --- EHS:

New York List of Hazardous Substances: Toluene: RQ - Air: 1000 RQ - Land: 1 Note: none
Acetone: RQ - Air: 5000 RQ - Land: 1 Note: none

Pennsylvania Hazardous Substance Code:

Chemical Name	CAS #	Code
Methyl benzene	108-88-3	E
2-Propanone	67-64-1	E

Washington Air Contaminant:

TWA (ppm):	100 (Toluene)	750 (Acetone)
TWA (mg):	375 (Toluene)	1800 (Acetone)
STEL (ppm):	150 (Toluene)	1000 (Acetone)
STEL (mg):	560 (Toluene)	2400 (Acetone)
Ceiling (ppm):	None listed	
Ceiling (mg):	None listed	
Skin:	None listed	

Canadian WHMIS Classification:

Class: B

Division: 2

This product has been classified in accordance with hazard criteria of the Controlled Products Regulations (CPR). This MSDS contains all the information required by the CPR.

European Union Classification: Highly Flammable and Harmful

Risk Phrases: R11, R20, R42/43

Safety Phrases: S9, S16, S36, S51

Section 16 - Other Information

Prepared By: Research & Development

Revision Notes: Revised Section 14.

Additional Hazard Rating Systems: No other information available.

Disclaimer: The information contained in this document is based upon data that was supplied to Carlisle by other companies and organizations. No warranty of merchantability or fitness for a particular purpose is expressed or implied regarding the accuracy or completeness of the data and/or information in this material safety data sheet.

Material Safety Data Sheet

FAST Dual Cartridge Adhesive Part A

MSDS No. 310150A

Date of Preparation: 05/01/10

Revision: 001

Section 1 - Chemical Product and Company Identification

Product/Chemical Name: FAST Dual Cartridge Adhesive Part A

Chemical Name: Polymeric Diphenylmethane Diisocyanate

Chemical Formula: Mixture

General Use: Spray Adhesive

Manufacturer: Carlisle SynTec, 1285 Ritner Highway, Carlisle, PA 17013, Phone: 800-4SYNTEC

Emergency Phone Number: CHEMTREC (USA) 800-424-9300

Section 2 - Hazards Identification

☆☆☆☆☆ Emergency Overview ☆☆☆☆☆

Warning – Causes skin irritation

Warning – Causes eye irritation

Danger – May cause allergy or asthma symptoms or breathing difficulties if inhaled

Warning – May cause an allergic skin reaction

Warning – Suspected of causing genetic defects (inhalation)

Warning – May cause damage to organs (lungs)

Warning – May cause damage to organs (respiratory tract) through prolonged or repeated exposure

Potential Health Effects

Primary Entry Routes: Inhalation, skin contact, eye contact, ingestion.

Target Organs: Respiratory tract, skin, eyes.

Acute Effects

Inhalation: MDI vapors or mist at concentrations above the TLV can irritate (burning sensation) the mucous membranes in the respiratory tract (nose, throat, lungs) causing runny nose, sore throat, coughing, chest discomfort, shortness of breath and reduced lung function (breathing obstruction). Persons with a pre-existing, non-specific bronchial hyperactivity can respond to concentrations below the TLV with similar symptoms as well as asthma attack or asthma-like symptoms. Acute or chronic overexposure to isocyanates may cause sensitization in some individuals, resulting in allergic respiratory reactions including wheezing, shortness of breath and difficulty breathing. Airborne overexposure, well above the TLV, may lead to eye irritation, headache, chemical bronchitis, asthma-like findings, bronchial spasm and pulmonary edema (fluid in lungs). These effects are usually reversible. Chemical or hypersensitive pneumonitis, with flu-like symptoms (e.g., fever, chills) has also been reported. These symptoms can be delayed up to several hours after exposure.

Eye: Liquid, aerosols or vapors are irritating and can cause tearing, reddening and swelling. Eye contact with isocyanates may also result in conjunctival irritation and mild corneal opacity. If left untreated, corneal damage can occur and injury is slow to heal. However, damage is usually reversible. Vapor or aerosol may cause irritation with symptoms of burning and tearing.

Skin: Isocyanates react with skin protein and moisture and can cause irritation which may include the following symptoms: reddening, swelling, rash, scaling or blistering. Skin sensitization, irritation, and/or dermatitis (irritative or allergic) may develop after repeated and/or prolonged contact with human skin. Data derived from an animal model (guinea pig) demonstrate that dermal exposure to MDI can lead to respiratory sensitization. The data indicate that the greater the amount of MDI skin exposure, the greater risk of developing respiratory sensitization. Cured material is difficult to remove. Contact with MDI can cause discoloration.

Ingestion: Can result in irritation and corrosive action in the mouth, pharynx, stomach tissue and digestive tract. Symptoms can include sore throat, abdominal pain, nausea, vomiting and diarrhea. Acute oral LD50 in rat reported above 10,000 mg/kg.

Carcinogenicity: IARC, NTP, and OSHA do not list this product as a carcinogen.

Medical Conditions Aggravated by Long-Term Exposure: Individuals, who are sensitized to Isocyanates and those with preexisting lung diseases or conditions, including non-specific bronchial hyper reactivity or asthma, must avoid all exposure to isocyanates. Skin allergies and Eczema.

HMIS

H 2*

F 1

R 1

PPE†

*Chronic Health Hazard

†Sec. 8

Chronic Effects:

Inhalation: As a result of previous repeated overexposure or a single large dose, certain individuals develop isocyanate sensitization (chemical asthma) which will cause them to react to a later exposure to isocyanate at levels well below the TLV. These symptoms, which can include chest tightness, wheezing, cough, shortness of breath or asthma attack, could be immediate or delayed (up to several hours after exposure). Similar to many non-specific asthmatic responses, there are reports that once sensitized an individual can experience these symptoms upon exposure to dust, cold air or other irritants. This increased lung sensitivity can persist for weeks and in severe cases for several years. Overexposure to isocyanates has also been reported to cause lung damage (including decrease in lung function) which may be permanent. Sensitization can either be temporary or permanent.

Skin: Prolonged contact can cause reddening, swelling, rash, scaling, blistering and in some cases, skin sensitization. Individuals who have skin sensitization can develop these symptoms from contact with liquid or vapors. Animal tests have indicated that respiratory sensitization can result from skin contact with MDI. This data reinforces the need to prevent direct skin contact with MDI.

Eye: Prolonged vapor contact may cause conjunctivitis.

Section 3 - Composition / Information on Ingredients

Ingredient Name	CAS Number	% wt or % vol
4,4' Diphenylmethane Diisocyanate (MDI)	101-68-8	30-60
Polymeric Diphenylmethane Diisocyanate (polymeric MDI)	9016-87-9	40-70
Other MDI Isomers and Oligomers	26447-40-5	5-10

Hazardous Ingredients:

Ingredient	OSHA PEL		ACGIH TLV		NIOSH REL		NIOSH IDLH
	TWA	CEIL	TWA	STEL	TWA	STEL	
4,4' Diphenylmethane Diisocyanate (MDI)	0.005 ppm	0.02 ppm	0.005 ppm (8 hr., 40 hr/wk)	None estab.	0.005 ppm (10 hr, 40 hr/wk)	0.02 ppm (15 min)	75 mg/m ³

Section 4 - First Aid Measures

Inhalation: Remove victim to fresh air and provide oxygen if breathing is difficult. Asthmatic symptoms may develop and may be immediate or delayed up to several hours. Extreme asthmatic reactions can be life threatening. Get medical attention.

Eye Contact: Immediately flush eyes with water for at least 15 minutes. Use lukewarm water if possible. Use fingers to ensure that eyelids are separated and that the eye is being irrigated. Get medical attention.

Skin Contact: Immediately remove contaminated clothing and shoes and wash skin with soap and water or corn oil. Wash contaminated clothing before reuse. If redness, itching, or a burning sensation develops, have skin examined and treated by medical personnel.

Ingestion: If swallowed, consult a physician immediately. Do not induce vomiting. Wash out mouth with water. If swallowed dilute with water. Do not give anything by mouth to an unconscious person.

After first aid, get appropriate in-plant, paramedic, or community medical support.

Note to Physicians:

Eyes: Stain for evidence of corneal injury. If cornea is burned, instill antibiotic/steroid preparation as needed. Workplace vapors could produce reversible corneal epithelial edema impairing vision.

Skin: This compound is a skin sensitizer. Treat symptomatically as for contact dermatitis or thermal burn.

Ingestion: Treat symptomatically. There is no specific antidote. Inducing vomiting is contraindicated because of the irritating nature of the compound.

Inhalation: Treatment is essentially symptomatic. An individual having a dermal or pulmonary sensitization reaction to this material should be removed from further exposure to any diisocyanate.

Special Precautions/Procedures: Whenever possible, remove the worker from the source of contamination.

Section 5 - Fire-Fighting Measures

Flash Point: 198.9°C, Pensky-Martens closed cup
218°C (425°F), Open Cup

Burning Rate: Not Established

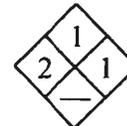
Autoignition Temperature: 240°C (464°F)

LEL: Not available.

UEL: Not available.

Flammability Classification: Class III B Combustible Liquid.

NFPA



Extinguishing Media: Dry chemical, carbon dioxide, high expansion chemical foam, or water spray for large fires. If water is used, use very large quantities, as the reaction between water and hot isocyanate may be vigorous.

Unusual Fire or Explosion Hazards: At temperatures greater than 204°C, polymeric MDI can polymerize and decompose which can cause pressure build-up in closed containers. Explosive rupture is possible. Therefore, use cold water from a safe distance to cool fire-exposed containers. Water contamination of liquid will produce carbon dioxide. Do not reseal open containers if they are contaminated with water, since pressure build-up may rupture the container.

Hazardous Combustion Products: Carbon monoxide, carbon dioxide oxides of nitrogen, traces of HCN, MDI vapors or aerosols.

Fire-Fighting Instructions: Full emergency equipment with self-contained breathing apparatus and full protective clothing should be worn by firefighters. During a fire, MDI vapors and other irritating, highly toxic gases may be generated by thermal decomposition or combustion. Do not release runoff from fire control methods into sewers or waterways. Avoid contact with the product and decontaminate equipment and protective clothing prior to reuse.

Fire-Fighting Equipment: Because fire may produce toxic thermal decomposition products, wear a self-contained breathing apparatus (SCBA) with a full-face piece operated in pressure-demand or positive-pressure mode. NFPA compliant helmet, hood, boots and gloves should also be worn.

Section 6 - Accidental Release Measures

Spill /Leak Procedures: Evacuate and ventilate spill area. Remove ignition sources. Control the source of the leak. Dike spill to prevent entry into water system or soil. Wear full protective equipment including respiratory equipment during clean-up.

Small Spills: Absorb isocyanates with sawdust or other absorbent, shovel into suitable unsealed containers, transport to well-ventilated area (outside) and treat with neutralizing solution. Add about 10 parts of neutralizer per part of isocyanate, with mixing. Allow container to stand uncovered for 48 hours to let CO₂ escape. Cleanup spill area by scrubbing with decontaminate solution and letting it stand for 15 minutes. Clean up with suitable absorbent and place in uncovered container for 48 hours to let CO₂ escape.

Large Spills: If temporary control of isocyanate vapor is required, a blanket of protein foam or other suitable foam (available at most fire departments) may be placed over the spill. Large quantities may be pumped into closed, but not sealed, container for disposal.

Containment: For large spills, dike far ahead of liquid spill for later disposal. Do not release into sewers or waterways.

Cleanup: Decontaminate floor with decontamination solution letting stand for at least 15 minutes.

Regulatory Requirements: Follow applicable OSHA regulations (29 CFR 1910.120).

Additional Spill Procedures and Neutralization:

Neutralization Solutions:

- (1) A mixture of 75% water, 20% non-ionic surfactant (e.g. Poly-Tergent SL-62, Tergitol TMN-10) and 5% n-propanol.
- (2) A mixture of 80% water, 20% non-ionic surfactant (e.g. Poly-Tergent SL-62, Tergitol TMN-10).
- (3) A mixture of 90% water, 8% ammonium hydroxide or concentrated ammonia, and 2% liquid detergent.
- (4) A mixture of 90% water, 8% sodium carbonate and 2% liquid detergent.

Section 7 - Handling and Storage

Handling Precautions: Do not breathe vapors, mists or dusts. Use adequate ventilation to keep airborne isocyanate levels below the exposure limits. Wear respiratory protection if material is heated, sprayed, used in a confined space or if the exposure limit may be exceeded. Warning properties (irritation of the eyes, nose and throat or odor) are not adequate to prevent overexposure from inhalation. This material can produce asthmatic sensitization upon either single inhalation exposure to a relatively high concentration or upon repeated inhalation exposure to lower concentrations. Individuals with lung or breathing problems or prior allergic reactions to isocyanates must not be exposed to vapor or spray mist. Avoid contact with skin and eyes. Wear appropriate eye and skin protection. Wash thoroughly after handling. Do not breathe smoke or gases created by overheating or burning this material. Decomposition products can be highly toxic and irritating.

Storage Requirements: Store in dry, well-ventilated area between 60-90°F (15-32°C), in tightly closed containers to prevent moisture contamination. Do not reseal if contamination is suspected. Do not breathe aerosols or vapors. Do not allow material to freeze (storage below 0°F for 3 days). Low temperature exposure does increase liquid viscosity, requiring the material to be restored to room temperature prior to use.

Section 8 - Exposure Controls / Personal Protection

Engineering Controls:

Ventilation: Local exhaust should be used to maintain levels below the TLV whenever MDI is processed, heat or spray applied. Standard reference sources regarding industrial ventilation (i.e., ACGIH Industrial Ventilation) should be consulted for guidance about adequate ventilation. Local exhaust ventilation is preferred because it prevents contaminant dispersion into the work area by controlling it at its source.

Administrative Controls:

Respiratory Protection: Seek professional advice prior to respirator selection and use. Follow OSHA respirator regulations (29 CFR 1910.134). Concentrations greater than the TLV or PEL can occur when MDI is sprayed, heated or used in a poorly ventilated area. **In such cases or whenever concentrations of MDI exceed the TLV or are not known, respiratory protection MUST be worn. Use NIOSH or MSHA approved respirator for organic vapors with a pre-filter or a supplied airline respirator (SAR).** For emergency, non-routine operations (cleaning spills, reactor vessels, or storage tanks), where levels are unknown or where concentrations are Immediately Dangerous to Life or Health (IDLH) select and use an appropriate positive pressure air supplying respirator (airline or self-contained breathing apparatus (SCBA). **Warning! Air purifying respirators do not protect workers in oxygen-deficient atmospheres.** When the atmospheric levels may exceed the occupational exposure limits (PEL or TLV) approved air-purifying respirators equipped with an organic vapor absorbent and particulate filter can be used as long as appropriate precautions and change out schedules are maintained. MDI has poor warning properties since the concentration at which MDI can be smelled is substantially higher than the maximum exposure limit. If respirators are used, OSHA requires a written respiratory protections program that includes at least: medical certification, training, fit testing, periodic environmental monitoring, maintenance, inspection, cleaning and convenient, sanitary storage areas.

Hazardous Ingredients:

4,4' - Diphenylmethane Diisocyanate	
ACGIH TLV	0.005 ppm (8 hr, 40 hr/week)
OSHA PEL CEILING	0.02 ppm
NIOSH TLV	0.005 ppm (10 hr, 40 hr/week)
NIOSH STEL	0.02 ppm (15 minute)

NOTE: The Occupational Exposure Limits listed for isocyanates do not apply to previously sensitized individuals.

Protective Clothing/Equipment:

Hand Protection: Permeation resistant gloves that meet ANSI/ISEA 105-2005 are required when handling the material directly or during its application.

Eye Protection: Wear protective eyeglasses or chemical safety goggles, per OSHA eye- and face-protection regulations (29 CFR 1910.133). Contact lenses are NOT eye protective devices. Vapor resistant goggles should be worn when contact lenses are in use. In a splash hazard environment, chemical goggles should be used in combination with a full face-shield.

Skin and Body Protection: Industrial shoes to protect feet from contact with product. Long sleeves, long trousers to protect skin from contact with product. Protective skin creams or emollients useful.

Safety Stations: Make emergency eyewash stations, safety/quick-drench showers, and washing facilities available in work area.

Contaminated Equipment: Separate contaminated work clothes from street clothes. Launder before reuse. Remove this material from your shoes and clean personal protective equipment.

Comments: Never eat, drink, or smoke in work areas. Practice good personal hygiene after using this material, especially before eating, drinking, smoking, using the toilet, or applying cosmetics.

Section 9 - Physical and Chemical Properties

Physical State: Liquid.

Appearance: Dark brown.

Odor: Slight musty odor or aromatic

Vapor Pressure: Less than 0.0001 mm Hg at 25 °C

Vapor Density (Air=1): 8.5 for MDI

Density: 10.3 lbs/gallon

Specific Gravity (H₂O=1, at 4 °C): 1.24 @ 25°C

Boiling Point (°C): 208°C(406°F) @ 5mm Hq for MDI

Freezing/Melting Point (°C): Below 0°C (32°F) for MDI

Viscosity: 200 cps @ 20°C

Flash Point: 198.9°C, Pensky-Martens closed cup
218°C (425°F), Open Cup

Burning Rate: Not Established

Autoignition Temperature: 240°C (464°F)

LEL: Not available.

UEL: Not available.

Water Solubility: Not soluble-reacts slowly with water to liberate CO₂ gas.

pH: Not applicable.

VOC (gpl): 0 g/L

Section 10 - Stability and Reactivity

Stability: Stable at room temperature in closed containers under normal storage and handling conditions.

Possibility of Hazardous Reactions: May occur. Contact with moisture, alkalines, tertiary amines, metal compounds or other products, which react with isocyanates, or temperatures above 160°C, may cause polymerization.

Chemical Incompatibilities: Water, amines, strong bases, alcohols. Will cause some corrosion to copper alloys and aluminum.

Conditions to Avoid: High temperatures above 160°C and freezing.

Hazardous Decomposition Products: By high heat and fire: Carbon monoxide, carbon dioxide, oxides of nitrogen, dense black smoke, isocyanate, isocyanic acid, traces of HCN, MDI vapors or aerosols.

Section 11- Toxicological Information

Toxicity Data:

Eye Effects: The aerosol, vapor or liquid will irritate human eyes following contact.

Skin Effects: Moderate irritant. Repeated and/or prolonged contact may cause skin sensitization. Animal studies have shown that respiratory sensitization can be induced by skin contact with known respiratory sensitizers including diisocyanates. These results emphasize the need for protective clothing including gloves to be worn at all times when handling these chemicals or in maintenance work.

Carcinogenicity: The ingredients of this product are not classified as carcinogenic by ACGIH or IARC, not regulated as carcinogens by OSHA, and not listed as carcinogens by NTP.

Mutagenicity: There is no substantial evidence of mutagenic potential.

Teratogenicity: There is no substantial evidence of teratogenic potential. Fetotoxicity seen only with maternal toxicity

Acute Inhalation Effects:

Rat, inhalation, TC_{Lo} : 490 mg/m³ per 4 hours (respirable aerosol)

Acute Oral Effects:

Rat, oral, LD50: >2000 mg/kg

Chronic Effects: A study where groups of rats were exposed for 6 hours/day, 5 days/week for a lifetime to atmospheres of respirable polymeric MDI aerosol. Overall, the tumor incidence, both benign and malignant, and the number of animals with tumors were not different from controls. Only at the top level (6 mg/m³), there was a significant incidence of a benign tumor of the lung (adenoma) and one malignant tumor (adenocarcinoma). There were no lung tumors at 1 mg/m³. The increased incidence of lung tumors is associated with prolonged respiratory irritation and concurrent accumulation of yellow material in the lung, which occurred throughout the study. In the absence of prolonged exposure to high concentrations leading to chronic irritation and lung damage, it is highly unlikely that tumor formation will occur.

Section 12 - Ecological Information

Ecotoxicity:

Acute and Prolonged Toxicity to Fish:

LC0: > 1,000 mg/L (Zebra fish (*Brachydanio rerio*), 96 hrs)

LC0: > 3,000 mg/L (Killifish (*Oryzias latipes*), 96 hrs)

Acute Toxicity to Aquatic Invertebrates:

EC50: > 1,000 mg/L (Water flea (*Daphnia magna*), 24 hrs)

Toxicity to Aquatic Plants:

NOEC: 1,640 mg/L, End Point: growth (Green algae (*Scenedesmus subspicatus*), 72 hrs)

Toxicity to Microorganisms:

EC50: > 100 mg/L, (Activated sludge microorganisms, 3 hrs)

Environmental Fate:

Biodegradation: 0%, Exposure time: 28 Days. Material is expected to degrade only very slowly. Fails to pass OECD modified MITI test: hydrolysis products degrade slowly.

Bioaccumulation: Rainbow trout, Exposure time 112 days, < 1 BCF. Does not bioaccumulate.

Soil Absorption/Mobility: Movement in the environment is expected to be limited by the formation of insoluble polymers.

Section 13 - Disposal Considerations

Disposal:

Disposal Regulatory Requirements: Waste must be disposed of in accordance with Federal, State, Provincial and local environmental control regulations. Incineration is the preferred method. Empty containers must be handled with care due to product residue.

Container Cleaning and Disposal: Decontaminate containers prior to disposal. Empty decontaminated containers should be crushed to prevent reuse. Do not heat or cut empty containers with electric or gas torch. Gases may be highly toxic.

Section 14 - Transport Information

DOT Transportation Data (49 CFR 172.101):

Shipping Name: Other regulated substance, liquid, n.o.s. (contains 4,4' Diphenylmethane Diisocyanate (MDI)) Shipping Symbols: D G Hazard Class: 9 ID No.: NA3082 Packing Group: III Label: Class 9 Special Provisions (172.102): IB3, T2, TP1	Packaging Authorizations a) Exceptions: 173.155 b) Non-bulk Packaging: 173.203 c) Bulk Packaging: 173.241 DOT Product Reportable Quantity: 5000 lbs (2270 kgs) *When in individual containers of less than the product RQ, this material ships as non-regulated	Quantity Limitations a) Passenger, Aircraft, or Railcar: No Limit b) Cargo Aircraft Only: No Limit Vessel Stowage Requirements a) Vessel Stowage: A b) Other:
--	---	--

Section 15 - Regulatory Information

EPA Regulations:

RCRA Hazardous Waste Number: Not listed (40 CFR 261.33)

RCRA Hazardous Waste Classification (40 CFR 261.11): MDI is not listed as a hazardous waste. However, under RCRA, it is the responsibility of the user of products to determine, at any time of disposal, whether a product meets any of the criteria for hazardous waste.

CERCLA Hazardous Substance (40 CFR 302.4) listed specific per RCRA, Sec. 3001; CWA, Sec. 311 (b)(4); CWA, Sec. 307(a), CAA, Sec. 112

CERCLA Reportable Quantity (RQ),

4,4' Diphenylmethane diisocyanate = 5,000 lbs

SARA 311/312 Codes:

Immediate Health Hazard, Delayed Health Hazard, Reactive Hazard, Acute Health Hazard, Chronic Health Hazard

SARA 313 Toxic Chemical (40 CFR 372.65):

Polymethylene polyphenyl isocyanate CAS Number: 9016-87-9 100%

Methylenebis (phenylisocyanate) (MDI) CAS Number: 101-68-8 ca 50%

SARA 302 EHS (Extremely Hazardous Substance) (40 CFR 355):

Not listed, Threshold Planning Quantity (TPQ)

TSCA Status

On the TSCA inventory

OSHA Regulations:

Air Contaminant (29 CFR 1910.1000, Table Z-1, Z-1-A): Not listed

OSHA This product is hazardous under the criteria of the Federal OSHA Communication Standard (29CFR 1910.1200)

State Regulations:

California Proposition 65:

This product contains the following chemical(s) known to the state of California to cause cancer, birth defects or other reproductive harm: None

Delaware Air Quality Management List

<u>Chemical Name</u>	<u>CAS Number</u>	<u>DRQ</u>
Methylenebis(phenylisocyanate)	101-68-8	5000

Note: Must be reported to the DRQ

Polymeric diphenylmethane diisocyanate	9016-87-9	100
--	-----------	-----

Note: Does not agree with the federal reportable quantity requirements to report

Massachusetts Hazardous Substance List

<u>Chemical Name</u>	<u>CAS Number</u>	<u>Code</u>
Methylene bisphenyl isocyanate	101-68-8	2, 4, F8, F9

Minnesota Hazardous Substance List

<u>Chemical Name</u>	<u>CAS Number</u>	<u>Codes</u>	<u>Hazards</u>	<u>Carcinogen</u>
Diphenylmethane diisocyanate	101-68-8	ANO	--	False
Methylene bisphenyl isocyanate	101-68-8	ANO	--	False

New York List of Hazardous Substances

<u>Chemical Name</u>	<u>CAS Number</u>	<u>RQ Air</u>	<u>RQ Land</u>	<u>Note</u>
Methylene bisphenyl isocyanate	101-68-8	1	1	--

Pennsylvania Hazardous Substances List

<u>Chemical Name</u>	<u>CAS Number</u>	<u>Code</u>
1,1'-methylenebis[4-isocyanato] benzene	101-68-8	Environmental Hazard

Washington Permissible Exposure Limits for Air Contaminants

Methylene bisphenyl isocyanate		
Ceiling	0.02 ppm	0.2 mg/m ³

Section 16 - Other Information

Prepared By: Research & Development

Revision Notes: GHS revisions.

Additional Hazard Rating Systems:

Disclaimer: The information contained in this document is based upon data that was supplied to Carlisle by other companies and organizations. No warranty of merchantability or fitness for a particular purpose is expressed or implied regarding the accuracy or completeness of the data and/or information in this material safety data sheet.

Material Safety Data Sheet

FAST Dual Cartridge Adhesive Part B

MSDS No. 310150B

Revision Date: 05/01/10

Revision: 001

Section 1 - Chemical Product and Company Identification

Product/Chemical Name: FAST Dual Cartridge Adhesive Part B
Chemical Formula: Polyol Blend
CAS Number: Blend
Manufacturer: Carlisle SynTec, 1285 Ritner Hwy, Carlisle, PA, 17013 Phone: 800-4SYNTEC
Emergency Phone Number: CHEMTREC (800) 424-9300

Section 2 - Hazards Identification

☆☆☆☆☆ **Emergency Overview** ☆☆☆☆☆

Warning – Combustible liquid
Warning – Causes mild skin irritation
Warning – Causes eye irritation

Potential Health Effects

Primary Entry Routes: Skin, Respiratory Tract
Acute Effects
Eye: Minor irritation and reddening
Skin: Irritation
Carcinogenicity: IARC, NTP, and OSHA do not list any components as a carcinogen

HMIS
H 2
F 1
R 1
PPE†
†Sec. 8

Section 3 - Composition / Information on Ingredients

Ingredient Name	CAS Number	% wt or % vol
Silicone Surfactant	mixture	1-5
Ingredient	OSHA PEL	ACGIH TLV
	TWA	STEL
Ingredient	TWA	STEL
Silicone Surfactant	none estab.	none estab.
	NIOSH REL	NIOSH
	TWA	IDLH
Silicone Surfactant	none estab.	none estab.

Section 4 - First Aid Measures

Inhalation: Remove to fresh air if effects occur. If not breathing, administer artificial respiration. If difficulty in breathing, assist with oxygen. Consult a physician.
Eye Contact: Irrigate with water for 15 minutes. Seek medical attention
Skin Contact: Wash with soap and water thoroughly.
Ingestion: Give 1 or 2 glasses of water or milk. Do not induce vomiting or give anything by mouth to an unconscious person. Call a physician for medical advice. Remove by gastric suction.
After first aid, get appropriate in-plant, paramedic, or community medical support.

Section 5 - Fire-Fighting Measures

Flash Point: >200°F (>93°C)
Flash Point Method: COC
LEL: Not Established
UEL: Not Established
Extinguishing Media: Use water, foam, CO₂, or dry chemical
Unusual Fire or Explosion Hazards: Under fire conditions, containers may build up pressure and possibly rupture.
Hazardous Decomposition Products: Carbon Monoxide, Carbon Dioxide, Hydrogen Halides, and Phosphorus oxides
Fire-Fighting Instructions: Under fire conditions, containers may build up pressure and possibly rupture.
Fire-Fighting Equipment: Because fire may produce toxic thermal decomposition products, wear a self-contained breathing apparatus (SCBA) with a full-face piece operated in pressure-demand or positive-pressure mode.

Section 6 - Accidental Release Measures

Spill /Leak Procedures:
Large Spills

Containment: For large spills, dike far ahead of liquid spill for later disposal. Do not release into sewers or waterways.

Regulatory Requirements: Follow applicable OSHA regulations (29 CFR 1910.120) and local, state, and federal regulations.

Section 7 - Handling and Storage

Storage Requirements: Store away from oxidizers, strong acids, strong bases and isocyanates.

Section 8 - Exposure Controls / Personal Protection

Ventilation: Provide general or local exhaust ventilation systems to maintain airborne concentrations below OSHA PELs (Sec. 2). Local exhaust ventilation is preferred because it prevents contaminant dispersion into the work area by controlling it at its source.

Respiratory Protection: Seek professional advice prior to respirator selection and use. Follow OSHA respirator regulations (29 CFR 1910.134) and, if necessary, wear a MSHA/NIOSH-approved respirator. Select respirator based on its suitability to provide adequate worker protection for given working conditions, level of airborne contamination, and presence of sufficient oxygen. For emergency or non-routine operations (cleaning spills, reactor vessels, or storage tanks), wear an SCBA. *Warning! Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.* If respirators are used, OSHA requires a written respiratory protection program that includes at least: medical certification, training, fit testing, periodic environmental monitoring, maintenance, inspection, cleaning, and convenient, sanitary storage areas.

Protective Clothing/Equipment: Wear chemically protective gloves, boots, aprons, and gauntlets to prevent prolonged or repeated skin contact. Wear protective eyeglasses or chemical safety goggles, per OSHA eye- and face-protection regulations (29 CFR 1910.133). Contact lenses are not eye protective devices. Appropriate eye protection must be worn instead of, or in conjunction with contact lenses.

Safety Stations: Make emergency eyewash stations, safety/quick-drench showers, and washing facilities available in work area.

Contaminated Equipment: Separate contaminated work clothes from street clothes. Launder before reuse. Remove this material from your shoes and clean personal protective equipment.

Comments: Never eat, drink, or smoke in work areas. Practice good personal hygiene after using this material, especially before eating, drinking, smoking, using the toilet, or applying cosmetics.

Section 9 - Physical and Chemical Properties

Physical State: Liquid

Appearance and Odor: Brownish color with a musty odor

Vapor Pressure: Not established

Vapor Density (Air=1): Not established

Formula Weight: Not established

Density: Not established

Specific Gravity (H₂O=1, at 21°C): Not Established

pH: Not established

Water Solubility: Miscible

Boiling Point: >300F

Freezing/Melting Point: Not established

Evaporation Rate: Not established

VOC (gpl): 0 g/L

Flash Point: >200°F (>93°C)

Flash Point Method: COC

LEL: Not Established

UEL: Not Established

Section 10 - Stability and Reactivity

Stability: Stable at room temperature in closed containers under normal storage and handling conditions.

Possibility of Hazardous Reactions: Hazardous polymerization will not occur under normal handling conditions.

Chemical Incompatibilities: Strong oxidants

Conditions to Avoid: Extreme heat

Hazardous Decomposition Products: Carbon Monoxide, Carbon Dioxide, Hydrogen Halides, and Phosphorous Oxides under fire conditions.

Section 11- Toxicological Information

Toxicity Data:

Eye Effects: Minor irritation and reddening

Acute Inhalation Effects: Minor Irritation

Skin Effects: Irritation

Acute Oral Effects: Not Established

Chronic Effects: Not Established

Carcinogenicity: Not Established

Section 12 – Ecological Information

Ecotoxicity: Not Available

Environment Fate

Environmental Transport: Not Available

Environmental Degradation: Not Available

Soil Absorption / Mobility: Not Available

Section 13 - Disposal Considerations

Disposal: Contact your supplier or a licensed contractor for detailed recommendations. Follow applicable Federal, state, and local regulations.

Disposal Regulatory Requirements: Dispose of by incinerating according to local, state, and federal regulations.

Section 14 – Transportation Information

Non-Regulated

Section 15 - Regulatory Information

EPA Regulations:

SARA Toxic Chemical (40 CFR 372.65): None

Section 16 - Other Information

Prepared By: Research and Development

Revision Notes: GHS Revisions.

Disclaimer: The information contained in this document is based upon data that was supplied to Carlisle by other companies and organizations. No warranty of merchantability or fitness for a particular purpose is expressed or implied regarding the accuracy or completeness of the data and/or information in this material safety data sheet.

Material Safety Data Sheet

Product Name: Sure-Seal HP 250 Primer

MSDS No. 302070

Date of Preparation: 6/10/11

Revision: 013

Section 1 - Chemical Product and Company Identification

Product/Chemical Name: Sure-Seal HP-250 Primer

Chemical Formula: Mixture

General Use: Primer for EPDM Membrane

Manufacturer: Carlisle SynTec 1285 Ritner Highway, Carlisle, PA 17013, Phone – 800-479-6832,
24-Hour Emergency Phone Number: CHEMTREC (USA): 800-424-9300

Section 2 - Hazards Identification

☆☆☆☆☆ Emergency Overview ☆☆☆☆☆

Danger – Highly flammable liquid and vapor

Warning – Causes skin irritation

Warning – Causes eye irritation

Warning – May be harmful if swallowed and enters airways

Danger – May damage fertility or the unborn child

Warning – May cause an allergic skin reaction

Warning – Suspected of causing genetic defects (skin)

Warning – May cause drowsiness and dizziness

Warning – May cause damage to organs (liver, kidney, ear) through prolonged or repeated exposure

Potential Health Effects

Primary Entry Routes: Eye contact, ingestion, inhalation, skin absorption, skin contact.

Target Organs: Kidney and liver.

Acute Effects

Inhalation: May cause nose and/or throat irritation on short-term exposure to vapor. Aspiration into lungs can cause chemical pneumonitis, which can be fatal. Overexposure may result in headache, dizziness, fatigue, nausea and loss of consciousness.

Eye: May cause eye irritation on short-term exposure to liquid or vapor.

Skin: May cause skin irritation on short-term exposure to liquid or vapor. Solvents may be absorbed through the skin in toxic amounts.

Ingestion: May cause irritation of gastrointestinal tract.

Carcinogenicity: IARC, NTP, and OSHA do not list this product as a carcinogen.

Medical Conditions Aggravated by Long-Term Exposure: May cause more significant skin irritation in people with pre-existing skin conditions. Respiratory symptoms associated with pre-existing lung disorders and pre-existing heart disorders may be aggravated by exposure to this material.

Chronic Effects: Chronic exposure may cause reversible kidney and liver injury. Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Repeated exposure to Toluene has been associated with high frequency hearing loss based on animal tests.

HMIS
H 1
F 4
R 0
PPE†
†Sec. 8

Section 3 – Ingredient Information

Hazardous Ingredients	CAS Number	% wt
Toluene	108-88-3	60-100
Heptane	64742-89-8	3-7
Hydrocarbon Tackifying Resin	68478-07-9	1-5
Additional Ingredients	CAS Number	% wt

Section 4 - First Aid Measures

Inhalation: Remove victim to fresh air and provide oxygen if breathing is difficult. Give artificial respiration if not breathing. Get medical attention immediately.

Eye Contact: Immediately flush eyes with running water for at least 15 minutes. Get medical attention.

Skin Contact: Immediately flush skin with running water and remove contaminated clothing. Wash exposed area with soap and water. Get medical attention.

Ingestion: DO NOT induce vomiting. Get medical attention immediately.

Note to Physicians: This material contains Toluene and Heptane.

Special Precautions/Procedures: Whenever possible, remove the worker from the source of contamination.

Section 5 - Fire-Fighting Measures

Flash Point: 4.40°C (40°F)

Flash Point Method: C.C

Autoignition Temperature: 536°C (997°F)

LEL: 1.3% v/v

UEL: 7.0% v/v

Flammability Classification: Ignition can occur when this product is exposed to heat, Division 2 sparks, or flame.

Extinguishing Media: In case of fire, use dry chemical, carbon dioxide, or foam. Water may not be effective as an extinguishing agent. Water fog or spray may be used to provide a smothering effect on fire and to cool fire-exposed containers and surrounding combustibles. Do not use a solid stream of water because it can scatter and spread the fire.

Unusual Fire or Explosion Hazards: Extremely flammable. Store and use away from all sources of heat, flame, or sparks. Do not smoke while applying. Vapors are heavier than air and may travel along ground or may be moved by ventilation and ignited by pilot lights, other flames, sparks, heaters, smoking, electrical motors, static discharge, or other ignition sources at locations distant from material handling point and flash back. All containers should be grounded when material is transferred.

Hazardous Combustion Products: Toxic gases or vapors, such as carbon monoxide or carbon dioxide, may be released in a fire.

Fire-Fighting Instructions: This product contains solvents that are dangerous fire and explosion hazards when exposed to heat or flame.

Fire-Fighting Equipment: Because fire may produce toxic thermal decomposition products, wear a self-contained breathing apparatus (SCBA) and full protective clothing along with a full face piece operated in pressure-demand or positive-pressure mode.



Section 6 - Accidental Release Measures

Personal Precautions: Use personal protection recommended in Section 8.

Spill /Leak Procedures: Remove all sources of ignition. Avoid breathing vapors. Use self-contained breathing apparatus in enclosed area. Ventilate area. Contain and remove with inert absorbent materials and non-sparking tools. For large spills, dike far ahead of liquid spill for later disposal. Do not release into sewers or waterways.

Regulatory Requirements: Follow applicable OSHA regulations (29 CFR 1910.120).

Section 7 - Handling and Storage

Handling Precautions: Use away from all sources of heat, flame, or sparks. Do not smoke while using. Handling equipment must be grounded to prevent sparking. Handle with non-sparking tools. Wash with soap and water before eating or drinking. Launder contaminated clothing. KEEP OUT OF REACH OF CHILDREN.

Storage Requirements: Keep containers cool, dry, and store away from all sources of heat, flame, and sparks. Keep containers tightly closed and store with adequate ventilation. Do not pressurize, cut, weld, or grind the containers or empty containers, which may contain residual product and solvent vapors that may ignite explosively.

Section 8 - Exposure Controls / Personal Protection

Hazardous Ingredients:

Ingredient	OSHA PEL		ACGIH TLV		NIOSH REL		NIOSH IDLH
	TWA	STEL	TWA	STEL	TWA	STEL	
Toluene	200 ppm	150 ppm	20 ppm	None estab.	100 ppm	150 ppm	500 ppm
Heptane	500 ppm	500 ppm	400 ppm	500 ppm	85 ppm	440 ppm	750 ppm

Engineering Controls: Do not use in enclosed areas without proper explosion-proof ventilation. General and local exhaust ventilation must be sufficient to control vapor concentrations and keep the vapor concentration below 100 ppm.

Ventilation: Provide general or local exhaust ventilation systems to maintain airborne concentrations below OSHA PELs. Local exhaust ventilation is preferred because it prevents contaminant dispersion into the work area by controlling it at its source.

Respiratory Protection: A NIOSH approved respirator must be used if vapor concentration is 100 ppm or above.

Protective Clothing/Equipment: Permeation resistant gloves (that meet ANSI/ISEA 105-2005) required. Protective glasses or goggles recommended. Industrial boots to protect feet from cleaner contact. Impervious clothing is recommended to protect skin from cleaner contact. Protective skin creams or emollients useful.

Safety Stations: Make emergency eyewash stations, safety/quick-drench showers, and washing facilities available in work area.

Contaminated Equipment: Separate contaminated work clothes from street clothes. Launder before reuse. Remove this material from your shoes and clean personal protective equipment.

Comments: Never eat, drink, or smoke in work areas. Practice good personal hygiene after using this material, especially before eating, drinking, smoking, using the toilet, or applying cosmetics.

Section 9 - Physical and Chemical Properties

Physical State: Liquid

Appearance and Odor: Thin olive green to dark grey liquid with hydrocarbon odor

Odor Threshold(ppm): Not available

Vapor Pressure: 36.7 mm Hg at 30°C (86°F)

Vapor Density (Air=1): 3.14

Specific Gravity (H₂O=1, at 4°C): 0.88

pH: Not available

Water Solubility: Negligible

Boiling Point(°C): 110.4°C (230.7°F)

Freezing/Melting Point -95.0°C (-139°F)

% Volatile by Weight: 80-90

Evaporation Rate: (nBuAc=1): 2.1

Voc: 727 g/l

Flash Point: 4.40°C (40°F)

Flash Point Method: C.C

Autoignition Temperature: 536°C (997°F)

LEL: 1.3% v/v

UEL: 7.0% v/v

Section 10 - Stability and Reactivity

Stability: Stable under normal conditions.

Possibility of Hazardous Reactions: Will not occur.

Chemical Incompatibilities: Strong oxidizing agents, acids, bases, amines.

Conditions to Avoid: Heat, sparks, and flames; ignition sources.

Hazardous Decomposition Products: Toxic gases or vapors such as carbon monoxide or carbon dioxide, may be released in a fire.

Section 11- Toxicological Information

Toxicity Data:

This product has not been tested. No data available.

Section 12 - Ecological Information

Ecotoxicity: No data available.

Environmental Fate: No data available.

Environmental Degradation: No data available.

Soil Absorption/Mobility: No data available.

Section 13 - Disposal Considerations

Waste Disposal: Dispose of in accordance with all local, state, and federal regulations.

Section 14 - Transport Information

DOT Transportation Data (49 CFR 172.101):

Shipping Name: Adhesives, 3

Shipping Symbols: Flammable

Hazard Class: 3

ID No.: UN 1133

Packing Group: II

Label: Red caution label required.

Special Provisions (172.102):

149, B52, IB2, T4, TP1, TP8

Packaging Authorizations

a) Exceptions: 173.150

b) Non-bulk Packaging: 173.173

c) Bulk Packaging: 173.242

Quantity Limitations

a) Passenger, Aircraft, or Railcar: 5 L

b) Cargo Aircraft Only: 60 L

Vessel Stowage Requirements

a) Vessel Stowage: B

b) Other: --

Section 15 - Regulatory Information

EPA Regulations:

RCRA Hazardous Waste Number (40 CFR 261.33): Toluene, CAS #108-88-3, RCRA Code U220

RCRA Hazardous Waste Classification (40 CFR 261.31): Not classified

TSCA (Toxic Substances Control Act) Status: TSCA (United States) The intentional ingredients of this product are listed.

CERCLA Hazardous Substance (40 CFR 302.4): Toluene, CAS #108-88-3, RQ 1000 lb

CERCLA Reportable Quantity (RQ): Materials with a "listed" RQ may be reportable as an "unlisted hazardous substance". See 40 CFR 302.5 (b).

SARA 313 Components (40 CFR 372.65): Toluene, CAS #108-88-3, 60-100%

SARA Toxic Release Chemicals: Toluene, CAS #108-88-3, Concentration: 1.0%, Reporting Threshold: Standard

OSHA Regulations:

Clean Water Act Hazardous Substances: Toluene, CAS #108-88-3, RQ 1000 lb

Clean Air Act SOCM Chemicals: Toluene, CAS #108-88-3

Clean Air Act Hazardous Air Pollutants: Toluene, CAS #108-88-3, HAP Code XOY

OSHA, IARC, NTP Carcinogens: None listed.

State Regulations:

California Proposition 65 Chemicals: Toluene, CAS #108-88-3, Code D

Delaware Air Quality Management List: Toluene, CAS #108-88-3, DRQ: 1000, State: Y

Massachusetts Hazardous Substances List:

Heptane, CAS# 64742-89-8, Codes: 2, 4, 5, 6

Toluene, CAS #108-88-3, Codes: 2, 4, 5, 6, F7, F8, F9

Michigan Critical Materials Register:

Toluene, CAS #108-88-3, Report Code: --, Class: --

Minnesota Hazardous Substances List:

Heptane, CAS# 64742-89-8, Codes: ANO, Hazards: -, Carcinogen: No

Toluene, CAS #108-88-3, Codes: ANO, Hazards: Skin, Carcinogen: No

New Jersey RTK Hazardous Substance List:

Toluene, CAS #108-88-3, Substance #: 1866, DOT #: 1294

New York List of Hazardous Substances:

Toluene, CAS #108-88-3, RQ-Air: 1000, RQ-Land: 1, Notes: None

Pennsylvania Hazardous Substances List:

Heptane, CAS# 64742-89-8, Code: - (Basic Hazard)

Toluene, CAS #108-88-3, Code: E (Environmental Hazard)

Washington Permissible Exposure Limits for Air Contaminants:

Chemical Name	CAS #	TWA (ppm)	TWA (mg)	STEL (ppm)	STEL (mg)	Ceiling (ppm)	Ceiling (mg)	Skin
Heptane	64742-89-8	400	1600	500	2000	--	--	--
Toluene	108-88-3	100	375	150	560	--	--	--

Section 16 - Other Information

Prepared By: Research & Development

Revision Notes: Section 15- Added TSCA statement

Additional Hazard Rating Systems:

Disclaimer: The information contained in this document is based upon data that was supplied to Carlisle by other companies and organizations. No warranty of merchantability or fitness for a particular purpose is expressed or implied regarding the accuracy or completeness of the data and/or information in this material safety data sheet.

Material Safety Data Sheet

SURE-SEAL LAP SEALANT

MSDS No. 302174

Date of Preparation: 09/8/2011

Revision: 018

Section 1 - Chemical Product and Company Identification

Product/Chemical Name: SURE-SEAL LAP SEALANT

Chemical Formula: Mixture

General Use: Lap Sealant

Manufacturer: Carlisle SynTec, 1285 Ritner Highway, Carlisle, PA, 17013, Phone: 800-479-6832

Emergency Phone Number: CHEMTREC(USA): 800-424-9300

Section 2 - Hazards Identification

☆☆☆☆☆ Emergency Overview ☆☆☆☆☆

Danger – Highly flammable liquid and vapor

Warning – Causes skin irritation

Warning – Causes serious eye irritation

Warning – May be harmful if swallowed and enters airways

Warning – May cause an allergic skin reaction

Warning – May cause drowsiness and dizziness

HMIS

H 1

F 4

R 0

PPE[†]

[†]Sec 8

Potential Health Effects

Primary Entry Routes: Skin contact, eye contact, inhalation, ingestion.

Target Organs:

Acute Effects

Inhalation: throat irritation on short term exposure to liquid or vapor. Aspiration into lungs can cause chemical pneumonitis which can be fatal.

Eye: irritation on short-term exposure to liquid or vapor.

Skin: irritation on short-term exposure to liquid or vapor.

Ingestion: ingestion can cause gastrointestinal irritation

Carcinogenicity: IARC, NTP, and OSHA do not list this product as a carcinogen.

Medical Conditions Aggravated by Long-Term Exposure: Respiratory symptoms associated with pre-existing lung disorders and pre-existing heart disorders may be aggravated by exposure to this material.

Chronic Effects: Overexposure may result in headache, dizziness, fatigue, nausea, and possible unconsciousness, even asphyxiation. Moderate irritation of skin, eyes and mucous membranes of upper respiratory tract on prolonged/repeated contact. Dermatitis and defatting of the skin. Chronic exposure may cause reversible liver and kidney injury.

Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage.

Section 3 – Ingredient Information

Hazardous Ingredients	CAS Number	% wt
Light Aliphatic Solvent Naphtha	64742-89-8	15-40
Amorphous Silica	7631-86-9	3-7
Additional Ingredients	CAS Number	% wt
Ethylene-Propylene Rubber	Proprietary	
Polybutene	Proprietary	
Calcium Carbonate	Proprietary	
Ground Coal	Proprietary	
Paraffinic Oil	Proprietary	
Treated Clay	Proprietary	

Section 4 - First Aid Measures

Inhalation: Remove victim to fresh air and provide oxygen if breathing is difficult. Give artificial respiration if not breathing. Get medical attention immediately.

Eye Contact: Immediately flush eyes with running water for at least 15 minutes. Get medical attention.

Skin Contact: Immediately flush skin with running water and remove contaminated clothing. Wash exposed area with soap and water. Get medical attention.

Ingestion: Do not induce vomiting. Get medical attention immediately.

Special Precautions/Procedures: Whenever possible, remove the worker from the source of contamination.

Section 5 - Fire-Fighting Measures

Flash Point: 4.4°C (40°F)

Flash Point Method: TCC

Autoignition Temperature: 249°C (480°F)

LEL: 0.9%v/v

UEL: 7.0%v/v



Flammability Classification: Division 2. Ignition can occur when this product is exposed to heat, sparks, or flame.

Extinguishing Media: In case of fire, use dry chemical, carbon dioxide, or foam. Water may not be effective as an extinguishing agent. Water fog or spray may be used to provide a smothering effect on fire and to cool fire-exposed containers and surrounding combustibles. Do not use a solid stream of water because it can scatter and spread the fire.

Unusual Fire or Explosion Hazards: Flammable. Store and use away from all sources of heat, flame, or sparks. Do not smoke while applying. Vapors are heavier than air and may travel along ground or may be moved by ventilation and ignited by pilot lights, other flames, sparks, heaters, smoking, electrical motors, static discharge, or other ignition sources at locations distant from material handling point and flash back. All containers should be grounded when material is transferred.

Hazardous Combustion Products: Toxic gases or vapors, such as carbon monoxide or carbon dioxide, may be released in a fire.

Fire-Fighting Instructions: This product contains solvents that are dangerous fire and explosion hazards when exposed to heat or flame. Fire fighters should wear self-contained breathing apparatus and full protective clothing with a full face piece operated in the positive pressure demand mode.

Fire-Fighting Equipment: Because fire may produce toxic thermal decomposition products, wear a self-contained breathing apparatus with a full face piece operated in pressure-demand or positive-pressure mode.

Section 6 - Accidental Release Measures

Spill/Leak Procedures: Remove all sources of ignition. Avoid breathing vapors. Use self-contained breathing apparatus in enclosed area. Ventilate area. Contain and remove with inert absorbent materials and non-sparking tools.

Large Spills:

Containment: For large spills, dike far ahead of liquid spill for later disposal. Do not release into sewers or waterways.

Cleanup: Clean-up spill as soon as possible. Collect any excess material with absorbent pads, sand or other inert non-combustible absorbent materials. Place into appropriate waste containers for later disposal. Comply with all laws and regulations.

Regulatory Requirements: Follow applicable OSHA regulations (29 CFR 1910.120).

Section 7 - Handling and Storage

Handling Precautions: Use away from all sources of heat, flame, or sparks. Do not smoke while using. Handling equipment must be grounded to prevent sparking. Handle with non-sparking tools. Wash with soap and water before eating or drinking. Launder contaminated clothing. KEEP OUT OF REACH OF CHILDREN.

Storage Requirements: Keep containers cool, dry, and store away from all sources of heat, flame, and sparks. Keep containers tightly closed and store with adequate ventilation. Do not pressurize, cut, weld, or grind the containers or empty containers which may contain residual product and solvent vapors that may ignite explosively.

Section 8 - Exposure Controls / Personal Protection

Hazardous Ingredients:	OSHA PEL		ACGIH TLV		NIOSH REL		NIOSH
	TWA	STEL	TWA	STEL	TWA	STEL	IDLH
Light Aliphatic Solvent Naphtha	300 ppm	400 ppm	300 ppm	None estab.	350 ppm	None estab.	None estab.
Amorphous Silica	80mg/m ³ / %SiO ₂ or 20 ppb	None estab.	10 mg/m ³	None estab.	6 mg/m ³	None estab.	3000 mg/m ³

Engineering Controls: Do not use in enclosed areas without proper explosion-proof ventilation. General and local exhaust ventilation must be sufficient to control vapor concentrations and keep the vapor concentration below 300 ppm.

Ventilation: Provide general or local exhaust ventilation systems to maintain airborne concentrations below OSHA PELs. Local exhaust ventilation is preferred because it prevents contaminant dispersion into the work area by controlling it at its source.

Administrative Controls:

Respiratory Protection: A NIOSH approved respirator must be used if vapor concentration is 300 ppm or above.

Protective Clothing/Equipment: Permeation resistant gloves (that meet ANSI/ISEA 105-2005) recommended. Glasses or goggles recommended. Industrial shoes to protect feet from sealant contact. Long sleeves, long trousers to protect skin from sealant contact. Protective skin creams or emollients useful.

Safety Stations: Make emergency eyewash stations, safety/quick-drench showers, and washing facilities available in work area.

Contaminated Equipment: Separate contaminated work clothes from street clothes. Launder before reuse. Remove this material from your shoes and clean personal protective equipment.

Comments: Never eat, drink, or smoke in work areas. Practice good personal hygiene after using this material, especially before eating, drinking, smoking, using the toilet, or applying cosmetics.

Section 9 - Physical and Chemical Properties

Physical State: Liquid	Water Solubility: Negligible
Appearance and Odor: Black, viscous paste with hydrocarbon solvent odor	Boiling Point: 113-142°C (235-288°F)
Odor Threshold: Not available	Freezing/Melting Point: <-18°C (<0°F)
Vapor Pressure: 45mm Hg at 25°C (77°F)	% Volatile: 36-38
Vapor Density (Air=1): 3.9	Evaporation Rate: 1.6
Specific Gravity (H₂O=1, at 4°C/39°F): 1.03-1.04	VOC: 390 – 400 gpl
pH: N/A	Flash Point: 4.4°C (40°F)
	Flash Point Method: TCC
	Autoignition Temperature: 249°C (480°F)
	LEL: 0.9%v/v
	UEL: 7.0%v/v

Section 10 - Stability and Reactivity

Stability: Stable.

Possibility of Hazardous Reactions: Will not occur.

Chemical Incompatibilities: Strong oxidizing agents, acids, bases.

Conditions to Avoid: Heat, sparks, and flames; ignition sources.

Hazardous Decomposition Products: Toxic gases or vapors, such as carbon monoxide, carbon dioxide, or oxides of nitrogen may be released in a fire.

Section 11- Toxicological Information

Eye Effects: Irritating	Toxicity Data:
Skin Effects: Product toxicity has not been determined. Following are component data: Light Aliphatic Solvent Naphtha: Rat, dermal, LD ₅₀ : > 4 mL/kg	Acute Inhalation Effects: Product toxicity has not been determined. Following are component data: Light Aliphatic Solvent Naphtha: Rat, inhalation, LC ₅₀ : 3400 ppm for four hours
	Acute Oral Effects: Product toxicity has not been determined. Following are component data: Light Aliphatic Solvent Naphtha: Rat, oral, LD ₅₀ : > 8 mL/kg
	Chronic Effects: May cause skin sensitization in some people
	Carcinogenicity: No evidence
	Mutagenicity: No evidence
	Teratogenicity: No evidence

Section 12 - Ecological Information

Ecotoxicity: Not known

Environmental Fate: Not known

Environmental Degradation: Not known

Soil Absorption/Mobility: Not known

Section 13 - Disposal Considerations

Disposal: Dispose of in accordance with all local, state, and federal regulations.

Section 14 - Transport Information**DOT Transportation Data (49 CFR 172.101):**

Shipping Name: Adhesives, 3, UN1133, II	Packaging Authorizations	Quantity Limitations
Shipping Symbols: Flammable	a) Exceptions: 173.150	a) Passenger, Aircraft, or Railcar: 5 L
Hazard Class: 3	b) Non-bulk Packaging: 173.173	b) Cargo Aircraft Only: 60 L
ID No.: UN1133	c) Bulk Packaging: 173.242	
Packing Group: II		Vessel Stowage Requirements
Label: red caution label required		a) Vessel Stowage: B
Special Provisions (172.102): 149, B52, 1B2, T4, TPI, TP8		b) Other: ---

Section 15 - Regulatory Information**EPA Regulations:**

RCRA Hazardous Waste Number (40 CFR 261.33): Not listed

RCRA Hazardous Waste Classification (40 CFR 261): Not classified

TSCA (Toxic Substances Control Act) Status:

TSCA (United States) – The intentional ingredients of this product are listed.

CERCLA Hazardous Substance RQ – 40 CFR 302.4 (a): Not listed

CERCLA RQ – 40 CFR 302.4 (b)

Materials with a "listed" RQ may be reportable as an "unlisted hazardous substance". See 40 CFR 302.5 (b).

SARA 311/312 Codes:

Immediate (X) Delayed (X) Fire (X) Reactive () Sudden Release of Pressure ()

SARA 313 Components (40 CFR 372.65): Not listed

SARA EHS (Extremely Hazardous Substance) (40 CFR 355): Not listed, Threshold Planning Quantity (TPQ)

OSHA Regulations:

Air Contaminant (29 CFR 1910.1000, Table Z-1, Z-1-A): Not listed

OSHA Specifically Regulated Substance (29 CFR 1910): None listed

EPA Accidental Release Prevention (40 CFR 68): None listed

State Regulations:**California Proposition 65:**

The following statement is made in order to comply with the California Safe Drinking Water and Toxic Enforcement Act of 1986: This product contains the following substance(s) known to the State of California to cause reproductive harm:
None

Delaware Air Quality Management List: None

Massachusetts Hazardous Substances List:

Chemical Name	CAS #	Codes
Amorphous Silica	7631-86-9	2, 4, 5, F5

Michigan Critical Materials Registry: None

Minnesota Hazardous Substance:

Chemical Name	Codes	Hazards	Carcinogen?
Silica	ANOR	--	*T*

New Jersey RTK Label Information: None

New York List of Hazardous Substances: None

Pennsylvania RTK Label Information

Chemical Name	CAS #	Code
Silica	7631-86-9	---

Washington Air Contaminant: None

Section 16 - Other Information

Prepared By: Research & Development

Revision Notes: General review

Disclaimer: The information contained in this document is based upon data that was supplied to Carlisle by other companies and organizations. No warranty of merchantability or fitness for a particular purpose is expressed or implied regarding the accuracy or completeness of the data and/or information in this material safety data sheet.

Material Safety Data Sheet

SURE-SEAL® 90-8-30A BONDING ADHESIVE

MSDS No. 302124

Date of Preparation: 8/23/11

Revision: 023

Section 1 - Chemical Product and Company Identification

Product/Chemical Name: SURE-SEAL 90-8-30A BONDING ADHESIVE

Chemical Formula: Mixture

General Use: Contact Bonding Adhesive

Manufacturer: Carlisle SynTec, 1285 Ritner Highway, Carlisle, PA 17013, Phone: 800-479-6832

Emergency Phone Number: CHEMTREC (USA) 800-424-9300

Section 2 - Hazards Identification

☆☆☆☆☆ Emergency Overview ☆☆☆☆☆

Danger – Highly flammable liquid and vapor

Warning – Causes skin irritation

Warning – Causes eye irritation

Warning – May be harmful if swallowed and enters airway

Danger – May damage fertility or the unborn child

Warning – May cause an allergic skin reaction

Warning – Suspected of causing genetic defects (skin)

Warning – May cause drowsiness and dizziness

Warning – May cause damage to organs (liver, kidney, ear) through prolonged or repeated exposure

HMIS	
H	1
F	4
R	0
PPE†	
†Sec 8	

Potential Health Effects

Primary Entry Routes: Skin contact, skin absorption, eye contact, inhalation, ingestion.

Target Organs:

Acute Effects

Inhalation: throat irritation on short-term exposure to liquid or vapor. Aspiration into lungs can cause chemical pneumonitis, which can be fatal.

Eye: irritation on short-term exposure to liquid or vapor.

Skin: irritation on short-term exposure to liquid or vapor.

Ingestion: ingestion can cause gastrointestinal irritation

Carcinogenicity: IARC, NTP, and OSHA do not list this product as a carcinogen.

Medical Conditions Aggravated by Long-Term Exposure: Respiratory symptoms associated with pre-existing lung disorders and pre-existing heart disorders may be aggravated by exposure to this material.

Chronic Effects: Overexposure may result in headache, dizziness, fatigue, nausea, and possible unconsciousness, even asphyxiation. Moderate irritation of skin, eyes and mucous membranes of upper respiratory tract on prolonged/repeated contact. Dermatitis and defatting of the skin. Chronic exposure may cause reversible liver and kidney injury.

Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Repeated exposure to Toluene has been associated with high frequency hearing loss based on animal tests.

Section 3 – Ingredient Information

Hazardous Ingredients	CAS Number	% wt
Acetone	67-64-1	5-10
Solvent Naptha(SN), Light Aliphatic(LA),(Heptane)	64742-89-8	15-40
Toluene	108-88-3	30-60
Xylene	1330-20-7	1-5
Magnesium Oxide	1309-48-4	0.5-1.5
Additional Ingredients	CAS Number	% wt
Polychloroprene	Proprietary	
Phenolic Resin	Proprietary	

Section 4 - First Aid Measures

Inhalation: Remove victim to fresh air and provide oxygen if breathing is difficult. Give artificial respiration if not breathing. Get medical attention immediately.

Eye Contact: Immediately flush eyes with running water for at least 15 minutes. Get medical attention.

Skin Contact: Immediately flush skin with running water and remove contaminated clothing. Wash exposed area with soap and water. Get medical attention.

Ingestion: Do not induce vomiting. Get medical attention immediately.

Note to Physicians: This product contains several organic solvents (Toluene, Heptane, Acetone and Xylene).

Special Precautions/Procedures: Whenever possible, remove the worker from the source of contamination.

Section 5 - Fire-Fighting Measures

Flash Point: -4°F (-20°C)

Flash Point Method: CC

Autoignition Temperature: 433.4°F (223°C)

LEL: 1.1% v/v

UEL: 12.8% v/v

Flammability Classification: Division 2

Extinguishing Media: In case of fire, use dry chemical, carbon dioxide, or foam. Water may not be effective as an extinguishing agent. Water fog or spray may be used to provide a smothering effect on fire and to cool fire-exposed containers and surrounding combustibles. Do not use a solid stream of water because it can scatter and spread the fire.

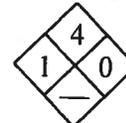
Unusual Fire or Explosion Hazards: Extremely flammable. Store and use away from all sources of heat, flame, or sparks. Do not smoke while applying. Vapors are heavier than air and may travel along ground or may be moved by ventilation and ignited by pilot lights, other flames, sparks, heaters, smoking, electrical motors, static discharge, or other ignition sources at location distant from material handling point and flashback. All containers should be grounded when material is transferred.

Hazardous Combustion Products: Toxic gases or vapors, such as carbon monoxide, carbon dioxide, hydrogen cyanide, or oxides of nitrogen may be released in a fire.

Fire-Fighting Instructions: This product contains solvents that are dangerous fire and explosion hazards when exposed to heat or flame. Fire fighters should wear self-contained breathing apparatus and full protective clothing with a full face piece operated in the positive pressure demand mode.

Fire-Fighting Equipment: Because fire may produce toxic thermal decomposition products, wear a self-contained breathing apparatus (SCBA) with a full face piece operated in pressure-demand or positive-pressure mode.

NFPA

**Section 6 - Accidental Release Measures**

Spill /Leak Procedures: Remove all sources of ignition. Avoid breathing vapors. Use self-contained breathing apparatus in enclosed area. Ventilate area. Contain and remove with inert absorbent materials and non-sparking tools.

Containment: For large spills, dike far ahead of liquid spill for later disposal. Do not release into sewers or waterways.

Cleanup: Clean-up spill as soon as possible. Collect any excess material with absorbent pads, sand or other inert non-combustible absorbent materials. Place into appropriate waste containers for later disposal. Comply with all laws and regulations.

Regulatory Requirements: Follow applicable OSHA regulations (29 CFR 1910.120).

Section 7 - Handling and Storage

Handling Precautions: Use away from all sources of heat, flame, or sparks. Do not smoke while using. Handling equipment must be grounded to prevent sparking. Handle with non-sparking tools. Wash with soap and water before eating or drinking. Launder contaminated clothing. **KEEP OUT OF REACH OF CHILDREN.**

Storage Requirements: Keep containers cool, dry, and store away from all sources of heat, flame, and sparks. Keep containers tightly closed and store with adequate ventilation. Do not pressurize, cut, weld, or grind the containers or empty containers which may contain residual product and solvent vapors that may ignite explosively.

Section 8 - Exposure Controls / Personal Protection**Hazardous Ingredients:**

Ingredient	OSHA PEL		ACGIH TLV		NIOSH REL		NIOSH IDLH
	TWA	STEL	TWA	STEL	TWA	STEL	
Acetone	1000 ppm	1000 ppm	500 ppm	750 ppm	250 ppm	None estab.	2500 ppm
SN-LA(Heptane)	500 ppm	500 ppm	400 ppm	500 ppm	85 ppm	440 ppm	750 ppm
Toluene	200 ppm	150 ppm	20 ppm (skin)	None estab.	100 ppm	150 ppm	500 ppm
Xylene	100 ppm	150 ppm	100 ppm	150 ppm	100 ppm	150 ppm	900 ppm
Magnesium Oxide (as dust)	10 mg/m ³	None estab.	10 mg/m ³	None estab.	10 mg/m ³	None estab.	750 mg/m ³

Engineering Controls: Do not use in enclosed areas without proper explosion-proof ventilation. General and local exhaust ventilation must be sufficient to control vapor concentrations and keep the PEL below 100 ppm.

Ventilation: Provide general or local exhaust ventilation systems to maintain airborne concentrations below OSHA PELs. Local exhaust ventilation is preferred because it prevents contaminant dispersion into the work area by controlling it at its source.

Administrative Controls:

Respiratory Protection: A NIOSH approved respirator must be used if vapor concentration is 100 ppm or above.

Protective Clothing/Equipment: Permeation resistant gloves (that meet ANSI/ISEA 105-2005) recommended. Glasses or goggles recommended. Industrial shoes to protect feet from adhesive contact. Long sleeves, long trousers to protect skin from adhesive contact. Protective skin creams or emollients useful.

Safety Stations: Make emergency eyewash stations, safety/quick-drench showers, and washing facilities available in work area.

Contaminated Equipment: Separate contaminated work clothes from street clothes. Launder before reuse. Remove this material from your shoes and clean personal protective equipment.

Comments: Never eat, drink, or smoke in work areas. Practice good personal hygiene after using this material, especially before eating, drinking, smoking, using the toilet, or applying cosmetics.

Section 9 - Physical and Chemical Properties

Physical State: Liquid

Appearance and Odor: Yellowish liquid with strong hydrocarbon odor.

Odor Threshold: Not available

Vapor Pressure: 6.7 mm Hg at 400 °F (204 °C)

Vapor Density (Air=1): 2.0-3.7

Specific Gravity (H₂O=1, at 4 °C/39°F): 0.84

PH: N/A

Water Solubility: Negligible

Boiling Point (°C): 56-139 (133-282°F)

Freezing/Melting Point(°C): -48 (-54°F)

% Volatile: 79-83

Evaporation Rate(nBuAc=1): 0.6-8.3

VOC: 656 gpl

Flash Point: -4°F (-20°C)

Flash Point Method: CC

Autoignition Temperature: 433.4°F (223°C)

LEL: 1.1% v/v

UEL: 12.8% v/v

Section 10 - Stability and Reactivity

Stability: Stable.

Possibility of Hazardous Reactions: Will not occur.

Chemical Incompatibilities: Strong oxidizing agents, acids, bases.

Conditions to Avoid: Heat, sparks, and flames; ignition sources.

Hazardous Decomposition Products: Toxic gases or vapors such as carbon monoxide, carbon dioxide, or oxides of nitrogen may be released in a fire.

Section 11 - Toxicological Information**Toxicity Data:****Eye Effects:** Irritating**Skin Effects:** Irritating**Acute Inhalation Effects:** Product toxicity has not been determined.
Following are the component data:**TC₅₀:**

Toluene: Rat > 26,700 ppm 1 hr; Mouse 400 ppm 24 hr

Acetone: Rat > 20,700 ppm 8 hr

Heptane: Human TCLo: 1000 ppm/6 minutes

Acute Oral Effects: Product toxicity has not been determined.
Following are component data:**LD₅₀:**

Toluene: Rat 5000 mg/kg

Acetone: Rate 5,800 mg/kg

Mouse 3,000 mg/kg

Rabbit 5,340 mg/kg

SN-LA(Heptane): Rat, ivn, 222 mg/kg

Chronic Effects: May cause skin sensitization in some people.**Carcinogenicity:** Not listed in IARC or NTP.**Mutagenicity:** Some evidence in animal exposure to Toluene**Teratogenicity:** Some evidence in animal exposure to Toluene**Section 12 - Ecological Information****Ecotoxicity:** Not known**Environmental Fate:** Not known**Environmental Degradation:** Not known**Soil Absorption/Mobility:** Not known**Section 13 - Disposal Considerations****Disposal:** Dispose of in accordance with all local, state, and federal regulations.**Section 14 - Transport Information****DOT Transportation Data (49 CFR 172.101):****Shipping Name:** Adhesives, 3,
UN1133, II**Shipping Symbols:** Flammable**Hazard Class:** 3**ID No.:** UN1133**Packing Group:** II**Label:** red Flammable Liquid
label required**Special Provisions (172.102):**
149, B52, IB2, T4, TP1, TP8**Packaging Authorizations**

a) Exceptions: 173.150

b) Non-bulk Packaging: 173.173

c) Bulk Packaging: 173.242

Quantity Limitations

a) Passenger, Aircraft, or Railcar: 5L

b) Cargo Aircraft Only: 60L

Vessel Stowage Requirements

a) Vessel Stowage: B

b) Other: ---

Section 15 - Regulatory Information**EPA Regulations:****RCRA Hazardous Waste Number (40 CFR 261.33):** Not listed**RCRA Hazardous Waste Classification (40 CFR 261):** Not classified**TSCA (Toxic Substances Control Act) Status:**

TSCA (United States) – The intentional ingredients of this product are listed.

CERCLA Hazardous Substance RQ – 40 CFR 302.4 (a)

Component	RQ (lbs)
Toluene	1000
Xylenes (O-, M-, P- Isomers)	100
Acetone	5000

CERCLA RQ – 40 CFR 302.4 (b)

Materials with a "listed" RQ may be reportable as an "unlisted hazardous substance". See 40 CFR 302.5 (b).

SARA 311/312 Codes:

Immediate (X) Delayed (X) Fire (X) Reactive () Sudden Release of Pressure ()

SARA 313 Components (40 CFR 372.65):

Section 313 Component(s)	CAS Number	%
Toluene	108-88-3	30 – 60
Xylene	1330-20-7	1 – 5

SARA EHS (Extremely Hazardous Substance) (40 CFR 355): Not listed, Threshold Planning Quantity (TPQ)

OSHA Regulations:

Air Contaminant (29 CFR 1910.1000, Table Z-1, Z-1-A): Not listed

OSHA Specifically Regulated Substance (29 CFR 1910): None listed

EPA Accidental Release Prevention (40 CFR 68): None listed

State Regulations:**California Proposition 65:**

The following statement is made in order to comply with the California Safe Drinking Water and Toxic Enforcement Act of 1986: This product contains the following substance(s) known to the State of California to cause reproductive harm:

Toluene

Delaware Air Quality Management List:

Chemical Name	DRQ:	State?
Toluene	1000	Must be reported to the DRQ
Xylene	100	N
Acetone	5000	Must be reported to the DRQ

Massachusetts Hazardous Substances List:

Chemical Name	CAS #	Codes
Toluene	108-88-3	2, 4, 5, 6, F7, F8
Xylene	1330-20-7	2, 4, F8, F9
Acetone	67-64-1	2, 4, 5, 6, F8, F9
SN-LA(Heptane)	64742-89-8	2, 4, 5, 6

Michigan Critical Materials Registry:

Chemical Name	CAS #	Report	Class
Toluene	108-88-3	--	--
Xylene	1330-20-7	--	--

Minnesota Hazardous Substance:

Chemical Name	Codes	Hazards	Carcinogen?
Toluene	ANO	skin	No
Xylene	ANO	--	No
Acetone	AON	--	No
SN-LA(Heptane)	ANO	--	No

New Jersey RTK Label Information:

Chemical Name	CAS #	Substance #	DOT #	TPQ	EHS
Toluene	108-88-3	1866	1294	--	--
Xylenes	1330-20-7	2014	1307	--	--

New York List of Hazardous Substances:

Chemical Name	RQ – Air	RQ – Land	Note
Toluene	1000	1	none
Xylene	1000	1	none
Acetone	5000	1	none

Pennsylvania RTK Label Information

Chemical Name	CAS #	Code
Benzene, Methyl	108-88-3	E
Benzene, Dimethyl	1330-20-7	E
2-Propanone	67-34-1	E
SN-LA(Heptane)	64742-89-8	--

Washington Air Contaminant:

TWA (ppm):	100 (Toluene)	750 (Acetone)
TWA (mg):	375 (Toluene)	1800 (Acetone)
STEL (ppm):	150 (Toluene)	1000 (Acetone)
STEL (mg):	560 (Toluene)	2400 (Acetone)
Ceiling (ppm):	None listed	
Ceiling (mg):	None listed	
Skin:	None listed	

Section 16 - Other Information

Prepared By: Research & Development

Revision Notes Updated CAS information .

Disclaimer: The information contained in this document is based upon data that was supplied to Carlisle by other companies and organizations. No warranty of merchantability or fitness for a particular purpose is expressed or implied regarding the accuracy or completeness of the data and/or information in this material safety data sheet.