



## Safety Data Sheet

**24 Hour Emergency Phone Numbers**  
**Medical/Poison Control:**  
**In U.S.: Call 1-800-222-1222**

**Outside U.S.: Call your local poison control center**

**Transportation/National Response Center:**

**1-800-535-5053**

**1-352-323-3500**

NOTE: The National Response Center emergency numbers to be used only in the event of chemical emergencies involving a spill, leak, fire, exposure or accident involving chemicals.

IMPORTANT: Provide this information to employees, customers, and users of this product. Read this SDS before handling or disposing of this product. This product is covered by the OSHA Hazard Communication Standard and this document has been prepared in accordance with requirements of this standard. All abbreviated terms used in this MSDS are further described in Section 16.

### 1. Identification

This Safety Data Sheet is available in American Spanish upon request.  
 Los Datos de Seguridad pueden obtenerse en Espanol si lo requiere.

|                            |   |                         |             |
|----------------------------|---|-------------------------|-------------|
| <b>Product Name:</b>       | SmartBond Landscape Adhesive Foam   | <b>Revision Date:</b>   | 6/19/2015   |
| <b>Product UPC Number:</b> | 00040, 00052  | <b>Supersedes Date:</b> | New SDS     |
| <b>Product Use/Class:</b>  | Foam Adhesive   | <b>SDS No:</b>          | 00010129004 |
| <b>Manufacturer:</b>       | DAP Products Inc.<br>2400 Boston Street Suite 200<br>Baltimore, MD 21224-4723<br>888-327-8477 (non - emergency matters) |                         |             |
| <b>Preparer:</b>           | Regulatory Department   |                         |             |

### 2. Hazards Identification

**EMERGENCY OVERVIEW:** DANGER! Extremely flammable liquid and vapor. Vapors may cause flash fire or explosion. Vapors can form an ignitable mixture with air. Vapors can flow along surfaces to a distant ignition source and flash back. Do not smoke. Extinguish all flames and pilot lights, and turn off stoves, heaters, electric motors and other sources of ignition during use and until all vapors are gone. Keep container closed and away from heat, sparks, and open flame. Store away from caustics and oxidizers. May cause nausea, headaches, and dizziness. May cause eye, skin, nose, throat and respiratory tract irritation. Use only with adequate ventilation. Prevent build-up of vapors by opening all windows and doors to achieve cross-ventilation. May cause sensitization by inhalation and skin contact. Contents under pressure. Do not puncture can. Exposure to temperatures above 120 °F may cause can to rupture. This product contains ethylene glycol. The primary adverse health effects of this product are related to the Polymeric Isocyanate (MDI) component. Therefore, adequate ventilation should be provided to avoid exceeding the exposure limits of these components (See Section 8). The likelihood of exceeding these limits are low due to the low concentration of vapor produced during normal use. However, if used indoors, mechanical ventilation or exhaust should be provided during use and until product is cured. This product has strong adhesive-like characteristics and will adhere aggressively to skin and other surfaces. If accidental contact occurs, follow the appropriate first-aid procedure described in Section 4 of this MSDS. MDI vapor can irritate the respiratory tract causing runny nose, sore throat, coughing and reduce lung function.

**GHS Classification**

Acute Tox. 4 Inhalation, Carc. 2, Comp. Gas, Fl Aer, 1, Flam. Gas 1, Resp. Sens. 1, Skin Sens. 1

**Symbol(s) of Product****Signal Word**

Danger

**Possible Hazards**

22% of the mixture consists of ingredients of unknown acute toxicity

**GHS HAZARD STATEMENTS**

|  |      |   |
|--|------|---|
| Flammable Gas, category 1              | H220 | Extremely flammable gas.  |
| Flammable Aerosol, category 1          | H222 | Extremely flammable aerosol.  |
| Compressed Gas                         | H280 | Contains gas under pressure; may explode if heated.   |
| Skin Sensitizer, category 1            | H317 | May cause an allergic skin reaction.  |
| Acute Toxicity, Inhalation, category 4 | H332 | Harmful if inhaled.   |
| Respiratory Sensitizer, category 1     | H334 | May cause allergy or asthma symptoms or breathing difficulties if inhaled.  |
| Carcinogenicity, category 2            | H351 | Suspected of causing cancer. Classified as Category 2 based on limited evidence on human and/or animal studies. Mixtures with concentrations of suspected carcinogens ingredients at concentration present between 0.1% and 1.0% labelling the SDS will be optional depending on authorities. If Category 2 carcinogenic present at a concentration of 1% or above labelling the SDS will be expected. Routes of exposure are dependant on ingredient form. |

**GHS LABEL PRECAUTIONARY STATEMENTS**

|           |   |
|-----------|---|
| P201      | Obtain special instructions before use.   |
| P210      | Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.                              |
| P211      | Do not spray on an open flame or other ignition source.   |
| P251      | Do not pierce or burn, even after use.  |
| P261      | Avoid breathing dust/fume/gas/mist/vapours/spray.   |
| P280      | Wear protective gloves/protective clothing/eye protection/face protection.  |
| P281      | Use personal protective equipment as required.  |
| P285      | In case of inadequate ventilation wear respiratory protection.  |
| P302+P352 | IF ON SKIN: Wash with plenty of soap and water.   |
| P304+P341 | IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. |
| P308+P313 | IF exposed or concerned: Get medical advice/attention.  |
| P312      | Call a POISON CENTER or doctor/physician if you feel unwell.  |
| P333+P313 | If skin irritation or rash occurs: Get medical advice/attention.  |
| P342+P311 | If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.   |
| P377      | If eye irritation persists:   |
| P381      | Eliminate all ignition sources if safe to do so.  |
| P410+P403 | Protect from sunlight. Store in a well-ventilated place.  |
| P410+P412 | Protect from sunlight. Do not expose to temperatures exceeding 50°C/ 122°F.   |

**GHS ADDITIONAL INFORMATION**

|      |   |
|------|---|
| H371 | Contains one or more Category 2 Specific Organ Toxicants at greater than 1.0%. A Safety Data Sheet shall be available for the mixture upon request. |
|------|---|

**GHS SDS PRECAUTIONARY STATEMENTS**

P363

Wash contaminated clothing before reuse.

### 3. Composition/Information on Ingredients

| <u>Chemical Name</u>                      | <u>CAS-No.</u> | <u>Wt. %</u> | <u>GHS Symbols</u> | <u>GHS Statements</u>                |
|---|----------------|--------------|--------------------|--------------------------------------|
| Tris(2-chloro-1-methylethyl) phosphate    | 13674-84-5     | 10-25        | GHS03-GHS06        | H270-302-312-331                     |
| 4,4'-Methylenediphenyl diisocyanate (MDI) | 101-68-8       | 2.5-10       | GHS03-GHS06-GHS08  | H270-315-317-319-330-334-335-351-373 |
| Isobutane                                 | 75-28-5        | 2.5-10       | GHS03-GHS07-GHS08  | H270-332-336-371                     |
| Dimethyl ether                            | 115-10-6       | 2.5-10       | GHS03              | H270                                 |
| Propane                                   | 74-98-6        | 1.0-2.5      | GHS03-GHS07        | H270-332-336                         |
| n-Butane                                  | 106-97-8       | 1.0-2.5      | GHS03-GHS07        | H270-332-336                         |
| Ethylene glycol                           | 107-21-1       | 1.0-2.5      | GHS03-GHS06        | H270-331                             |

The text for GHS Hazard Statements shown above (if any) is given in the "Other information" Section.

### 4. First-aid Measures

**FIRST AID - INHALATION:** If you experience difficulty in breathing, leave the area to obtain fresh air. If continued difficulty is experienced, get medical attention immediately.

**FIRST AID - SKIN CONTACT:** Wash skin with soap and water for 15 minutes. Get medical aid if symptoms persist. Use a rag to remove excess foam from skin and remove contaminated clothing. Use of a solvent, such as acetone (nail polish remover) or mineral spirits, may help in removing uncured foam residue from clothing or other surfaces (avoid eye contact). Cured foam may be physically removed by persistent washing with soap and water. If irritation develops, use mild skin cream. If irritation persists, obtain medical attention.

**FIRST AID - EYE CONTACT:** In case of contact, immediately flush eyes with large quantities of water for at least 15 minutes until irritation subsides. Get medical attention immediately.

**FIRST AID - INGESTION:** If swallowed, DO NOT INDUCE VOMITING. Get medical attention immediately.

### 5. Fire-fighting Measures

**UNUSUAL FIRE AND EXPLOSION HAZARDS:** Closed containers may burst if exposed to extreme heat or fire. Containers may explode if exposed to extreme heat. Empty containers retain product residue (liquid and/or vapor). Vapor can ignite potentially causing an explosion.

**SPECIAL FIREFIGHTING PROCEDURES:** Wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent) and full protective gear. Use water spray to cool exposed surfaces.

**EXTINGUISHING MEDIA:** Alcohol Foam, Carbon Dioxide, Dry Chemical, Water Fog

### 6. Accidental Release Measures

**ENVIRONMENTAL MEASURES:** No Information

**STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:** NOTE: Review fire hazards before proceeding with clean up. Immediately eliminate sources of ignition. Keep people away from and upwind of spill/leak. Contain spilled material and remove with inert absorbent. Dispose of contaminated absorbent, container and unused contents in accordance with local, state and federal regulations. Scrape up dried material and place into containers. Prevent product from entering drains. Soak up with inert absorbent material and dispose of as hazardous waste. Use personal protective equipment as necessary. Read all product instructions before using. Personal protective equipment should include impervious gloves, protective eye wear, and suitable work clothes. Uncured product is very sticky, so carefully remove the bulk of the foam by scraping it up and then immediately remove residue with a rag and solvent such as polyurethane cleaner, mineral spirits, acetone (nail polish remover), paint thinner, etc. Once the product has cured, it can only be removed physically by scraping, buffing, etc. Dispose as plastic waste (foam plastic) in accordance with all applicable guidelines and regulations.

### 7. Handling and Storage

**HANDLING:** KEEP OUT OF REACH OF CHILDREN! DO NOT TAKE INTERNALLY. Remove all sources of ignition. Make sure nozzle is directed away from yourself prior to discharge. Keep away from open flames, hot surfaces and sources of ignition. Provide

adequate ventilation. Avoid heat, sparks and open flames. Wear appropriate personal protection. Avoid breathing vapor and contact with eyes, skin and clothing. Use only with adequate ventilation. Ensure fresh air entry during application and drying. Empty containers retain product residue (liquid and/or vapor). Vapor can ignite potentially causing an explosion. Wash thoroughly after handling. Contains isocyanates. See information supplied by the manufacturer. Persons allergic to isocyanates, and particularly those suffering from asthma or other respiratory conditions, should not work with isocyanates.

**STORAGE:** Store away from sources of ignition and heat. Protect material from direct sunlight. Keep containers tightly closed in a dry, cool and well-ventilated place. Do not store at temperatures above 120 degrees F. Store containers away from excessive heat and freezing. Store away from caustics and oxidizers.

## 8. Exposure Controls/Personal Protection

### Ingredients with Occupational Exposure Limits

| <u>Chemical Name</u>                      | <u>ACGIH TLV-TWA</u>                     | <u>ACGIH-TLV STEL</u> | <u>OSHA PEL-TWA</u> | <u>OSHA PEL-CEILING</u>             |
|---|--|-----------------------|---------------------|-------------------------------------|
| Tris(2-chloro-1-methylethyl) phosphate    | N.E.                                     | N.E.                  | N.E.                | N.E.                                |
| 4,4'-Methylenediphenyl diisocyanate (MDI) | 0.005 ppm TWA                            | N.E.                  | N.E.                | 0.02 ppm Ceiling, 0.2 mg/m3 Ceiling |
| Dimethyl ether                            | N.E.                                     | N.E.                  | N.E.                | N.E.                                |
| Isobutane                                 | N.E.                                     | 1000 ppm STEL         | N.E.                | N.E.                                |
| n-Butane                                  | N.E.                                     | 1000 ppm STEL         | N.E.                | N.E.                                |
| Ethylene glycol                           | N.E.                                     | N.E.                  | N.E.                | N.E.                                |
| Propane                                   | 1000 ppm TWA                             | N.E.                  | 1000 ppm TWA,       | N.E.                                |
|   | Aliphatic hydrocarbon gases: Alkane C1-4 |                       | 1800 mg/m3 TWA      |                                     |

**Further Advice:** MEL = Maximum Exposure Limit OES = Occupational Exposure Standard SUP = Supplier's Recommendation  
Sk = Skin Sensitizer N.E. = Not Established

### Personal Protection



**RESPIRATORY PROTECTION:** No personal respiratory protective equipment normally required. If concentrations exceed the exposure limits specified, use of a NIOSH-approved supplied air respirator is recommended. Where the protection factor is exceeded, use of a Self Contained Breathing Apparatus (SCBA) may be necessary. A respiratory protection program that meets the OSHA 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use.



**SKIN PROTECTION:** Wear solvent impervious gloves.



**EYE PROTECTION:** Goggles or safety glasses with side shields.



**OTHER PROTECTIVE EQUIPMENT:** Provide eyewash and solvent impervious apron if body contact may occur.



**HYGIENIC PRACTICES:** Wash hands before breaks and at the end of workday. Remove and wash contaminated clothing before re-use.

## 9. Physical and Chemical Properties

|                                       |                             |   |                 |
|---------------------------------------|-----------------------------|---|-----------------|
| <b>Appearance:</b>                    | Tan                         | <b>Physical State:</b>                    | Foam            |
| <b>Odor:</b>                          | Slight                      | <b>Odor Threshold:</b>                    | Not Established |
| <b>Density, g/cm<sup>3</sup>:</b>     | 0.00 - 0.99                 | <b>pH:</b>                                | Not Applicable  |
| <b>Freeze Point, °C:</b>              | Not Established             | <b>Viscosity (mPa.s):</b>                 | Not Established |
| <b>Solubility in Water:</b>           | No Information              | <b>Partition Coeff., n-octanol/water:</b> | Not Established |
| <b>Decomposition Temperature, °C:</b> | Not Established             | <b>Explosive Limits, %:</b>               | N.I. - N.I.     |
| <b>Boiling Range, °C:</b>             | N.I. - N.I.                 | <b>Auto-Ignition Temperature, °C</b>      | Not Established |
| <b>Minimum Flash Point, °C:</b>       | No Information              | <b>Vapor Pressure, mmHg:</b>              | No Information  |
| <b>Evaporation Rate:</b>              | Slower Than n-Butyl Acetate | <b>Flash Method:</b>                      | Not Applicable  |
| <b>Vapor Density:</b>                 | Heavier Than Air            | <b>Flammability:</b>                      | No Information  |
| <b>Combustibility:</b>                | Does not support combustion |   |                 |

(See "Other information" Section for abbreviation legend)

(If product is an aerosol, the flash point stated above is that of the propellant.)

## 10. Stability and Reactivity

**STABILITY:** Stable under recommended storage conditions.

**CONDITIONS TO AVOID:** Excessive heat and freezing. Keep away from open flames, hot surfaces and sources of ignition. Keep away from oxidizing agents, strongly alkaline and strongly acid materials in order to avoid exothermic reactions.

**INCOMPATIBILITY:** Open flames, hot surfaces and sources of ignition. Incompatible with strong bases and oxidizing agents.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Normal decomposition products, i.e., CO<sub>x</sub>, NO<sub>x</sub>.

## 11. Toxicological Information

**EFFECT OF OVEREXPOSURE - INHALATION:** Vapors may be irritating to eyes, nose, throat, and lungs. Inhalation of high concentrations may cause headache, nausea, and dizziness.

**EFFECT OF OVEREXPOSURE - SKIN CONTACT:** May cause sensitization by skin contact. May cause localized irritation, reddening or swelling. Prolonged or repeated exposure may lead to sensitization and/or contact dermatitis. This product has strong adhesive-like characteristics and will adhere aggressively to skin and other surfaces. If accidental contact occurs, follow the appropriate first-aid procedure described in Section 4 of this MSDS.

**EFFECT OF OVEREXPOSURE - EYE CONTACT:** Direct eye contact may cause irritation. Mist and vapors may cause eye irritation. Foam contact can cause physical damage due to adhesive character.

**EFFECT OF OVEREXPOSURE - INGESTION:** Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

**CARCINOGENICITY:** No Information

**EFFECT OF OVEREXPOSURE - CHRONIC HAZARDS:** Ethylene Glycol may cause kidney and liver damage upon prolonged and repeated overexposures. Studies have shown that repeated inhalation of ethylene glycol has produced adverse cardiovascular changes in laboratory animals. Ethylene glycol has been shown to cause birth defects in laboratory animals.

**PRIMARY ROUTE(S) OF ENTRY:** Eye Contact, Ingestion, Inhalation, Skin Contact

### Acute Toxicity Values

The acute effects of this product have not been tested. Data on individual components are tabulated below

| <u>CAS-No.</u> | <u>Chemical Name</u>                      | <u>Oral LD50</u> | <u>Dermal LD50</u> | <u>Vapor LC50</u> |
|----------------|---|------------------|--------------------|-------------------|
| 13674-84-5     | Tris(2-chloro-1-methylethyl) phosphate    | 500 mg/kg Rat    | 1230 mg/kg Rabbit  | 5 mg/L Rat        |
| 101-68-8       | 4,4'-Methylenediphenyl diisocyanate (MDI) | 31600 mg/kg Rat  | 9400 mg/kg Rabbit  | N.I.              |
| 75-28-5        | Isobutane                                 | N.I.             | N.I.               | 658 mg/L Rat      |
| 115-10-6       | Dimethyl ether                            | >2000 mg/kg      | >2000 mg/kg        | 308.5 mg/L Rat    |

|          |                 |                       |                   |                |
|----------|-----------------|-----------------------|-------------------|----------------|
| 74-98-6  | Propane         | Not an exposure route | N.I.              | 658 mg/L Rat   |
| 106-97-8 | n-Butane        | Not an exposure route | N.I.              | 658 mg/L Rat   |
| 107-21-1 | Ethylene glycol | 4000 mg/kg Rat        | 9530 mg/kg Rabbit | > 2.5 mg/L Rat |

N.I. = No Information

## 12. Ecological Information

**ECOLOGICAL INFORMATION:** No Information

## 13. Disposal Information

**DISPOSAL INFORMATION:** Residues and spilled material are hazardous waste due to ignitability. Contents under pressure. Dispose of material in accordance with all federal, state and local regulations. State and Local regulations/restrictions are complex and may differ from Federal regulations. Responsibility for proper waste disposal is with the owner of the waste. Liquids cannot be disposed of in a landfill. Do not flush into surface water or sanitary sewer system. Do not empty into drains. Do not re-use empty containers. The container for this product can present explosion or fire hazards, even when emptied. To avoid risk of injury, do not cut, puncture, or weld on or near this container. Before disposing of containers, relieve container of any remaining product and pressure. Empty cylinders, once relieved of all pressure, can be disposed of as non-hazardous waste.

## 14. Transport Information

**SPECIAL TRANSPORT PRECAUTIONS:** No Information

|                           |                     |
|---------------------------|---------------------|
| DOT UN/NA Number:         | UN1950              |
| DOT Proper Shipping Name: | Aerosols, flammable |
| DOT Technical Name:       | N.A.                |
| DOT Hazard Class:         | 2.1                 |
| Hazard SubClass:          | N.A.                |
| Packing Group:            | N.A.                |

## 15. Regulatory Information

### U.S. Federal Regulations:

#### CERCLA - SARA Hazard Category

This product has been reviewed according to the EPA 'Hazard Categories' promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

Fire Hazard, Pressure Hazard, Acute Health Hazard, Chronic Health Hazard

#### SARA SECTION 313:

This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendment and Reauthorization Act of 1986 and 40 CFR part 372:

| <u>Chemical Name</u>                      | <u>CAS-No.</u> |
|---|----------------|
| Polymeric diphenylmethane diisocyanate    | 9016-87-9      |
| 4,4'-Methylenediphenyl diisocyanate (MDI) | 101-68-8       |
| Ethylene glycol                           | 107-21-1       |

#### TOXIC SUBSTANCES CONTROL ACT:

All ingredients in this product are either on TSCA inventory list, or otherwise exempt.

This product contains the following chemical substances subject to the reporting requirements of TSCA 12(B) if exported from the United States:

No TSCA 12(b) components exist in this product.

## CALIFORNIA PROPOSITION 65: No Information

## CANADIAN WHMIS:

|                    |                    |
|--------------------|--------------------|
| <b>WHMIS Class</b> | Consumer Commodity |
|--------------------|--------------------|

### HMIS Ratings:

|      |   |
|------|---|
| H270 | May cause or intensify fire; oxidiser.  |
| H302 | Harmful if swallowed.   |
| H312 | Harmful in contact with skin.   |
| H315 | Causes skin irritation.   |
| H317 | May cause an allergic skin reaction.  |
| H319 | Causes serious eye irritation.  |
| H330 | Fatal if inhaled.   |
| H331 | Toxic if inhaled.   |
| H332 | Harmful if inhaled.   |
| H334 | May cause allergy or asthma symptoms or breathing difficulties if inhaled.  |
| H335 | May cause respiratory irritation.   |
| H336 | May cause drowsiness or dizziness.  |
| H351 | Suspected of causing cancer. Classified as Category 2 based on limited evidence on human and/or animal studies. Mixtures with concentrations of suspected carcinogens ingredients at concentration present between 0.1% and 1.0% labelling the SDS will be optional depending on authorities. If Category 2 carcinogenic present at a concentration of 1% or above labelling the SDS will be expected. Routes of exposure are dependant on ingredient form. |
| H371 | May cause damage to organs. classified Category 2 evidence from animal studies suggest harmful . Cell death, adverse change in biochemistry, haematology or urinalysis parameters, Central or peripheral nervous system and effects senses. Multifocal or diffuse necrosis, fibrosis or granuloma formation in organs.  |
| H373 | May cause damage to organs through prolonged or repeated exposure.  |

**GHS03**



**GHS06****GHS07****GHS08**

Legend: N.A. - Not Applicable, N.E. - Not Established, N.D. - Not Determined

DAP believes the data and statements contained herein are accurate as of the date hereof. They are offered in good faith as typical values and not as a product specification. NO WARRANTY OF MERCHANTABILITY, WARRANTY OF FITNESS FOR ANY PARTICULAR PURPOSE OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED, IS MADE WITH REGARD TO THE INFORMATION HEREIN PROVIDED OR THE PRODUCT TO WHICH THE INFORMATION REFERS. Since this document is intended only as a guide to the appropriate use and precautionary handling of the referenced product by a properly trained person, it is therefore the responsibility of the user to (i) review the recommendations with due consideration for the specific context of the intended use and (ii) determine if they are appropriate.