



Material Safety Data Sheet

An **RPM** Company

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

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 • 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 MSDS 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.

Section 1 - Chemical Product / Company Information

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

Product Name:	SmartBond Landscape Construction Adhesive	Revision Date:	09/03/2014
Product UPC Number:	070798000407, 070798000520	Supersedes:	02/18/2014
Product Use/Class:	Foam Sealant	MSDS Number:	00010129004
Manufactured for:	DAP Products Inc. 2400 Boston Street Suite 200 Baltimore, MD 21224-4723 888-327-8477 (non-emergency matters)		

Section 2 - Hazards Identification

Emergency Overview: A(n) tan thick liquid product with a solvent odor. Extremely flammable liquid and vapor. Vapors may cause flash fire or explosion. DANGER! Harmful or fatal if swallowed. Aspiration hazard if swallowed - can enter lungs and cause damage. Harmful if inhaled. May cause eye, skin, nose, throat and respiratory tract irritation. 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.

Refer to other MSDS sections for other detailed information.

Effects Of Overexposure - Eye Contact: Signs and symptoms may include: pain, tears, swelling, redness and blurred vision. Mist and vapors may cause eye irritation. Foam contact can cause physical damage due to adhesive character.

Effects Of Overexposure - Skin Contact: May cause skin irritation. Harmful: possible risk of irreversible effects in contact with skin. May cause sensitization by skin contact. 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. Prolonged and repeated skin contact may cause dermatitis, drying and defatting due to the solvent properties.

Effects Of Overexposure - Inhalation: Vapors may be irritating to eyes, nose, throat, and lungs. Inhalation of vapors is irritating to the respiratory system, may cause throat pain and cough. Product is irritating to the nose, throat, and respiratory tract. May cause central nervous system depression, headache, dizziness, cardiac arrhythmia, nausea, and vomiting. In extreme cases, drowsiness, loss of consciousness, and possibly death, may occur. Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal.

Effects Of Overexposure - Ingestion: Harmful or fatal if swallowed. If ingested, may cause depressed respiration. May be harmful if swallowed. May cause irritation of mucous membranes in the mouth and digestive tract. Aspiration of material into the lungs due to vomiting can cause chemical pneumonitis, which can be fatal. Ingestion of ethylene glycol can cause gastrointestinal irritation, nausea, vomiting, diarrhea and if ingested in sufficient quantities, death.

Effects Of Overexposure - Chronic Hazards: Prolonged or repeated inhalation of solvent vapors may cause irregular heartbeat. NOTICE: Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Symptoms include: loss of memory, loss of intellectual ability and loss of coordination. Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal. Prolonged, repeated, or high exposures may cause weakness and depression of the central nervous system.

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: Skin Contact, Inhalation, Ingestion, Eye Contact

Medical Conditions which May be Aggravated by Exposure: Asthma and asthma-like conditions may worsen from prolonged and repeated exposure.

Carcinogenicity:

None

Section 3 - Composition / Information On Ingredients		
Chemical Name	CASRN	Wt%
Polymeric diphenylmethane diisocyanate	Proprietary	30-60
Tris(2-chloro-1-methylethyl) phosphate	13674-84-5	10-30
Dimethyl ether	115-10-6	3-7
Isobutane	75-28-5	1-5
Propane	74-98-6	0.5-1.5
n-Butane	106-97-8	0.5-1.5
Ethylene glycol	107-21-1	0.5-1.5

Section 4 - First Aid Measures

First Aid - Eye Contact: Immediately flush eyes with large quantities of water for at least 15 minutes until irritation subsides. Get medical attention. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention immediately.

First Aid - Skin Contact: Remove and wash contaminated clothing. Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician. Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. 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 - Inhalation: If inhaled, remove to fresh air. If breathing is difficult, leave the area to obtain fresh air. If continued breathing difficulty is experienced, get medical attention immediately.

First Aid - Ingestion: If swallowed, DO NOT INDUCE VOMITING. Get medical attention immediately. If conscious, drink plenty of water. Never give anything by mouth to an unconscious person.

Note to Physician: Because of possible disturbances of cardiac rhythm, catecholamine drugs, such as epinephrine, should be used with special caution only in situations of emergency life support.

COMMENTS: If over-exposure occurs, call your poison control center at 1-800-222-1222.

Section 5 - Fire Fighting Measures

Extinguishing Media: Alcohol, Carbon Dioxide, Dry Chemical, Water Fog

Unusual Fire And Explosion Hazards: 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. Vapors are heavier than air and can cause suffocation by reducing oxygen available for breathing. Heating may cause an explosion. Eliminate sources of ignition: heat, electrical equipment, sparks and flames. Store away from caustics and oxidizers.

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. Cool containers and/or tanks with spray water.

Section 6 - Accidental Release Measures

Steps To Be Taken If Material Is Released Or Spilled: Wear proper protective equipment as specified in Section 8. Use personal protective equipment as necessary. Use absorbent material or scrape up dried material and place in container. 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.

Section 7 - Handling And Storage

Handling: KEEP OUT OF REACH OF CHILDREN! DO NOT TAKE INTERNALLY. Keep away from open flames, hot surfaces and sources of ignition. Use in well ventilated area. Avoid breathing vapor and contact with eyes, skin and clothing. Avoid contact with skin and eyes. Will burn if involved in a fire. Containers may explode in the heat of a fire. Highly flammable vapors are heavier than air and may accumulate in low areas. Flash back along vapor trail is possible. Wash thoroughly after handling. Intentional misuse by deliberately concentrating and inhaling vapors may be harmful or fatal. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors). Persons allergic to isocyanates, and particularly those suffering from asthma or other respiratory conditions, should not work with isocyanates. Make sure nozzle is directed away from yourself prior to discharge.

Storage: Keep away from heat and sources of ignition. Avoid excessive heat and freezing. 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 away from caustics and oxidizers.

Section 8 - Exposure Controls / Personal Protection

Chemical Name	CASRN	ACGIH TWA	ACGIH STEL	ACGIH CEIL	OSHA TWA	OSHA STEL	OSHA CEIL	Skin
Polymeric diphenylmethane diisocyanate	Proprietary	0.005 PPM	N.E.	N.E.	N.E.	N.E.	0.2 MGM3	No
Tris(2-chloro-1-methylethyl) phosphate	13674-84-5	N.E.	N.E.	N.E.	N.E.	N.E.	N.E.	No
Dimethyl ether	115-10-6	N.E.	N.E.	N.E.	N.E.	N.E.	N.E.	No
Isobutane	75-28-5	1000 PPM	N.E.	N.E.	N.E.	N.E.	N.E.	No
Propane	74-98-6	1000 PPM	N.E.	N.E.	1000 PPM	N.E.	N.E.	No
n-Butane	106-97-8	1000 PPM	N.E.	N.E.	N.E.	N.E.	N.E.	No
Ethylene glycol	107-21-1	N.E.	N.E.	100 MGM3	N.E.	N.E.	N.E.	No

Important: Listed Permissible Exposure Levels (PEL) are from the U.S. Dept. of Labor OSHA Final Rule Limits (CFR 29 1910.1000); these limits may vary between states.

Note: An employee's skin exposure to substances having a "YES" in the "SKIN" column in the table above shall be prevented or reduced to the extent necessary under the circumstances through the use of gloves, coveralls, goggles or other appropriate personal protective equipment, engineering controls or work practices.

Precautionary Measures: Please refer to other sections and subsections of this MSDS.

Engineering Controls: Local ventilation of emission sources may be necessary to maintain ambient concentrations below recommended exposure limits. Vapors are heavier than air and may spread along floors. Check all low areas for presence of vapor. Provide sufficient general and/or local exhaust ventilation to maintain exposure below recommended exposure limit. Highly flammable vapors are heavier than air and may accumulate in low areas. Ensure fresh air entry during application and drying. If you experience eye watering, headache or dizziness or if air monitoring demonstrates vapor/mist levels are above applicable limits, wear an appropriate, properly fitted respirator (NIOSH approved) during and after application. Follow respirator manufacturer's directions for respirator use. Refer to OSHA Standards 29 CFR 1910.94 and 29 CFR 1910.107.

Respiratory Protection: In case of insufficient ventilation, wear suitable respiratory equipment. 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. No personal respiratory protective equipment normally required. A NIOSH-approved air purifying respirator with an organic vapor cartridge or canister may be necessary under certain circumstances where airborne concentrations are expected to exceed exposure limits. If you experience eye watering, headache or dizziness or if air monitoring demonstrates vapor/mist levels are above applicable limits, wear and appropriate, properly fitted respirator (NIOSH approved) during and after application.

Skin Protection: Wear appropriate protective eyeglasses or chemical safety goggles. Wear appropriate protective clothing to prevent skin contact. Wear solvent impervious gloves.

Eye Protection: Goggles or safety glasses with side shields.

Other protective equipment: Not required under normal use.

Hygienic Practices: Remove and wash contaminated clothing before re-use.

Section 9 - Physical And Chemical Properties

Boiling Range:	Not Established	Vapor Density:	Heavier Than Air
Odor:	Solvent	Odor Threshold:	Not Established
Color:	Tan	Evaporation Rate:	Slower Than n-Butyl Acetate
Solubility in H₂O:	Not Established	Specific Gravity:	0.99 - 0.99
Freeze Point:	Not Established	pH:	Not Established
Vapor Pressure:	Not Established	Viscosity:	Not Established
Physical State:	Thick Liquid	Flammability:	Level II Aerosol
Flash Point, F:	Not Established	Method:	(Not Applicable)
Lower Explosive Limit, %:	Not Determined	Upper Explosive Limit, %:	Not Determined

When reported, vapor pressure of this product has been calculated theoretically based on its constituent makeup and has not been determined experimentally.

(See section 16 for abbreviation legend)

Section 10 - Stability And Reactivity

Conditions To Avoid: Avoid alcohols, strong bases or amines and metal compounds (such as small particle metal catalysts). Excessive heat and freezing.

Incompatibility: Alcohols, strong bases or amines and metal compounds (such as small particle metal catalysts).

Hazardous Decomposition Products: Normal decomposition products, i.e., CO_x, NO_x.

Hazardous Polymerization: Hazardous polymerization will not occur under normal conditions.

Stability: Stable under recommended storage conditions.

Section 11 - Toxicological Information

Product LD50: Not Established

Product LC50: Not Established

CASRN	Chemical Name	LD50	LC50
75-28-5	Isobutane	-----	Rat:57 pph/15M
107-21-1	Ethylene glycol	Rat:4700 mg/kg	Rat:10876 mg/kg

Significant Data with Possible Relevance to Humans: None.

Section 12 - Ecological Information

Ecological Information: Ecological injuries are not known or expected under normal use.

Section 13 - Disposal Information

Disposal Information: 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.

EPA Waste Code if Discarded (40 CFR Section 261): D001

Section 14 - Transportation Information

DOT Proper Shipping Name:	Aerosols, flammable	Packing Group:	N.A.
DOT Technical Name:	N.A.	Hazard Subclass:	N.A.
DOT Hazard Class:	2.1 Flammable gas	DOT UN/NA Number:	UN1950

Section 15 - Regulatory Information

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:

Immediate Health Hazard, Chronic Health Hazard, Fire Hazard, Reactive Hazard, Pressurized 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:

Chemical Name	CAS Number
Polymeric diphenylmethane diisocyanate	Proprietary
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:

None

New Jersey Right-to-Know:

The following materials are non-hazardous, but are among the top five components in this product:

Chemical Name	CAS Number
1,2,3-Propanetriol, methyloxirane polymer	Proprietary

Pennsylvania Right-to-Know:

The following non-hazardous ingredients are present in the product at greater than 3%:

Chemical Name	CAS Number
1,2,3-Propanetriol, methyloxirane polymer	Proprietary

California Proposition 65:

None.

Section 16 - Other Information

HMIS Ratings:

Health: 2 Flammability: 4 Reactivity: 3 Personal Protection: X

Volatile Organic Compounds (VOC), less water less exempts: g/L: 148 lb/gal: 1.2 wt:wt%: 15.0

Volatile Organic Compounds (VOC), less water less exempts, less LVP-VOCs: wt:wt%: 24.0

REASON FOR REVISION: Periodic Update

Legend:	N.A. – Not Applicable	ACGIH – American Conference of Governmental Industrial Hygienists
	N.E. – Not Established	SARA – Superfund Amendments and Reauthorization Act of 1986
	N.D. – Not Determined	NJRTK – New Jersey Right-to-Know Law
	VOC – Volatile Organic Compound	OSHA – Occupational Safety and Health Administration
	PEL – Permissible Exposure Limit	HMIS – Hazardous Materials Identification System
	TLV – Threshold Limit Value	NTP – National Toxicology Program
	CEIL – Ceiling Exposure Limit	STEL – Short Term Exposure Limit
	LD50 – Lethal Dose 50	LC50 – Lethal Concentration 50
	F – Degree Fahrenheit	MSDS – Material Safety Data Sheet
	C – Degree Celsius	CASRN – The Chemical Abstracts Service Registry Number

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.

<End of MSDS>