



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.

Product Name:	SmartBond Heavy Duty Construction Adhesive Foam	Revision Date:	6/19/2015
Product UPC Number:	00038	Supersedes Date:	New SDS
Product Use/Class:	Foam Adhesive	SDS No:	00010128004
Manufacturer:	DAP Products Inc. 2400 Boston Street Suite 200 Baltimore, MD 21224-4723 888-327-8477 (non - emergency matters)		
Preparer:	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.
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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:		1800 mg/m3 TWA	
	Alkane C1-4			

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

Appearance:	Tan	Physical State:	Foam
Odor:	Slight	Odor Threshold:	Not Established
Density, g/cm³:	0.99 - 0.99	pH:	Not Applicable
Freeze Point, °C:	Not Established	Viscosity (mPa.s):	Not Established
Solubility in Water:	No Information	Partition Coeff., n-octanol/water:	Not Established
Decomposition Temperature, °C:	Not Established	Explosive Limits, %:	N.I. - N.I.
Boiling Range, °C:	N.I. - N.I.	Auto-Ignition Temperature, °C	Not Established
Minimum Flash Point, °C:	No Information	Vapor Pressure, mmHg:	No Information
Evaporation Rate:	Slower Than n-Butyl Acetate	Flash Method:	Not Applicable
Vapor Density:	Heavier Than Air	Flammability:	No Information
Combustibility:	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_x, NO_x.

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:

WHMIS Class	Consumer Commodity
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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.