

SAFAS BOND™

ACRYLIC SEAMING ADHESIVE

- Safasbond is a quick-setting acrylic adhesive for bonding solid surface sheets and Safastone countertops.
- Safasbond is available in ten solid colors that are color coordinated with Safas' Granicoat® and Galaxy Granules™ designs.
- Safasbond is used with M/P DM-200 and CX VBM 200X MR dispensing guns.

Available in 250 ml cartridges:

Safasbond Name:	Safas Code:
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Bone	SB-BONE
Clay	SB-CLAY
Clear	SB-CLEA
Dusty Rose	SB-DROS
Kahki	SB-KAHK
Natural	SB-NATU
Pewter	SB-PEWT
Seafoam	SB-SEAF
Transparent Black	SB-TBLA
White Chocolate	SB-WCHO

A cross-reference chart for the Safasbond colors to use with Safas' granite designs is attached.



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www.safascorp.com

Rev 9/05

SAFASBOND™

Technical Data Sheet

Product Overview

- Safasbond is a premium grade adhesive for bonding solid surface sheet goods, Safastone composite countertops and molded products.
- Safasbond is designed to produce tough, fast curing, inconspicuous seams in acrylic, polyester and modified polyester solid surface materials. It will also provide a rigid thin line bond to many engineering polymers (styrenics, ABS, PVC, FRP, etc).
- The 10/1 mix ratio allows for packaging in many industry standard cartridges.
- Safasbond is available in a variety of colors (9 + clear) to match all Granicoat® and Galaxy Granules™ designs.
- Safasbond takes advantage of new technology to produce a hybrid polymer with the bond characteristics of epoxies plus the fast cure and UV stable clear appearance of acrylics.
- Standard grades cure in as little as 15 to 20 minutes

Physical Properties

	Adhesive	Activator
Color	Clear or tinted	Transparent
Specific Gravity	1.09	1.15
Mix ratio by volume	10/1	n/a
Viscosity (cps)	25-40,000	20-25,000
Working time (@75F)	10 -15 minutes	n/a
Handling strength (@ 75F)	20- 25 minutes	n/a
Bond Strength examples:	Granicoat	Safastone
Flexural strength (ASTM D-790)	5200	5000
Tensile Strength (ASTM D-638)	3250	3100
T-Peel (ASTM D-1876)	n/a	n/a
Mechanical Properties Cured:		
Impact Resistance (ISSFA 5.6)	PASS	PASS
Stain Resistance (ISSFA 5.3)	PASS	PASS
Water Resistance (ISSFA 5.8)	PASS	PASS
Heat Resistance (ISSFA 5.9)	PASS	PASS
Hardness-Barcol (ASTM D-2583)	35 – 45	35 - 45

Storage & Handling

Methacrylate adhesives and activators are flammable and can be dangerous if used improperly. Avoid skin and eye contact. In case of eye contact, flush with water for 15 minutes and get medical attention. Keep away from source of ignition. Before use or handling, consult the appropriate MSDS supplied at time of initial purchase and may be requested from the manufacturer or downloaded from the website at www.safascorp.com.

Store adhesive in a cool area away from direct sunlight. High temperatures will reduce the shelf life of the adhesive and activator. Refrigeration is an acceptable means to increase storage life, however, freezing should be prevented. Shelf life of Safasbond is **six months** from date of manufacture. If stored under ideal conditions, the product can remain usable for up to 1 year. Shelf life tests are based on constant temperature storage between 60 and 75 °F (16 – 24 °C).

Dispensing

Safasbond adhesives are supplied in kit form at the appropriate mix ratio. Always maintain this ratio when mixing. Excess activator will cause higher than normal exotherm temperatures. Avoid mixing large quantities or creating thick cross sections (over ½ inch) as high temperatures may cause damage, skin burns and create the release of volatile vapors.

Working Time

The working time for the adhesive is indicated in the technical data sheet. The time is provided as an estimate of the time between mixing and set-up of the adhesive. The working time is effected by the mixing ratio, air temperature, adhesive temperature or the substrate temperature as well as the shelf life condition of the adhesive. For best results, use the adhesive at temperatures between 60 – 85 °F (16-29 °C)

Disclaimer

The information provided, is based on laboratory testing under controlled conditions. It is the responsibility of the end user to test the adhesive on the intended substrates under the conditions which they will be used, and to determine the suitability of the adhesive for the intended purpose.

Safas Corporation makes no representations or warranties of any kind with respect to the data on this form or the suitability for any specific application.



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Seaming with Safasbond™

Safasbond™ is designed for the seaming of mirror cuts on countertops.

Instructions:

- A mirror cut should be done with a router for best results. A jigsaw or power saw can also be used. The most common way of doing a mirror cut is with a router using a straight or wavy bit. Using a guide for the router, cut the counter top from the front edge to back edge to prevent chipping on the front edge.
- Mount (with screws or glue) a plywood mending plate on the under side of the countertop on one of the sides to be seamed. For a 25" counter, the wood should be 16" x 8" to give the seam the proper support.
- Mark three lines on the topside of countertop, spaced evenly across the mirror cut. Then using a biscuit machine, make three biscuit cuts on the end of each countertop. This is to ensure that the counter parts stay level and line up with each other before you seam. On the topside of countertop place two-inch tape 1/8" away from the seam on both pieces to be seamed to protect countertop from any excess Safasbond.
- Use Safasbond to fill the biscuit cutouts and install the biscuits. Cover one edge of the countertop with Safasbond and slide the ends together by matching up the biscuits. Using seaming clamps tighten the seam as tight as possible.
- Screw the mending plate to the other side of the countertop; this holds the mirror cut in place. When the countertop is tight there will be extra Safasbond on the topside of the countertop; level off the Safasbond onto the tape and pull the tape off so you have very little sanding to do. *(If you are doing the mirror cut seam in the customer's home or business this is the time when the countertop is mounted to the cabinets by adhering all four corners of the countertop before Safasbond has cured).*
- Safasbond will set in about 15 – 20 minutes and will be ready to sand in about 30 minutes. Finish the seam area to the same level / degree as the rest of the countertop. The counter top will be ready for transportation in about 2 hours.



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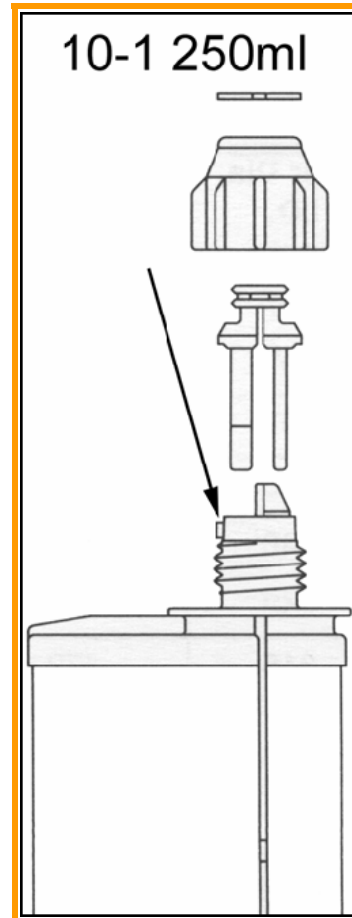
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Adapting MixPac Cartridge to SZ Mixing Tips

1. Snip off the orienting lug with a knife
2. No step 2 – take care to avoid injury

SZ Static mixers may be rotated in any direction and do not require orienting lugs. If the cartridge you are using is as pictured, snip off the lug (indicated by arrow). It is easier than notching the tip and will ensure a proper seal. SZ 7.5/24 static mixers have 24 mixing elements compared to many with only 18. This means the stream of adhesive and activator is divided and mixed much more.

24 element – 16,000,000
18 element - 262,000



Safasbond Color Chart

218	Oatmeal	Bone	515	Violet	Pewter
222	Sabrina	Bone	522	Storm	Pewter
226	White Russian	Bone	806	Madras	Pewter
327	Whisper	Bone	908	Black Sea	Pewter
328	Aria	Bone	216-1	Peacock Green	Pewter
329	Linen	Bone	510-1	China Blue	Pewter
509	Pink Panther	Bone	303	Moss	Seafoam
516	Satin	Bone	520	Pistachio	Seafoam
521	Cotton Seed	Bone	810	Tahoe	Seafoam
524	Ashley	Bone	109	Burgundy	Transparent Black
307	Terracotta	Clay	110	Raven	Transparent Black
335	Spicy	Clay	204	Dusk	Transparent Black
910	Honey Bee	Clay	209	Midnight	Transparent Black
911	Agate	Clay	211	Stone	Transparent Black
107	Escape	Clear	305	Sea Green	Transparent Black
304	Leaf	Clear	308	Coal	Transparent Black
322	Isabella	Clear	323	Starry Night	Transparent Black
334	Mars Red	Clear	501	Night Sky	Transparent Black
519	Emerald	Clear	505	Coco	Transparent Black
811	Coral	Clear	511	Bavaria	Transparent Black
903	Daffodil	Clear	517	Blackberry	Transparent Black
904	Irish Mist	Clear	802	Chippendale	Transparent Black
106	Rose Petal	Dusty Rose	803	Solar	Transparent Black
311	Gossamer	Dusty Rose	809	Hallmark	Transparent Black
315	Blush	Dusty Rose	812	Westminster	Transparent Black
805	Portulaca	Dusty Rose	905	Kiwi	Transparent Black
217	Mocha	Kahki	906	Amazon	Transparent Black
219	Cappuccino	Kahki	907	Sea Breeze	Transparent Black
330	English Brown	Kahki	909	Tulip	Transparent Black
333	Avocado	Kahki	912	Antique Copper	Transparent Black
518	Mink	Kahki	914	Charcoal	Transparent Black
525	Dune	Kahki	207-1	Denim	Transparent Black
102	Toffee	Natural	503-1	Tanzanite	Transparent Black
203	Bisque	Natural	101	Pristine	White Chocolate
301	Lace	Natural	103	Somerset	White Chocolate
302	Sand	Natural	105	Harbor Blue	White Chocolate
312	Tan	Natural	206	Winter	White Chocolate
504	Beach	Natural	210	Cloud	White Chocolate
512	Almond	Natural	220	Bride	White Chocolate
807	Suave	Natural	221	Bedrock	White Chocolate
808	Brunette	Natural	223	Jorgy	White Chocolate
104	Antique Topaz	Pewter	224	Sherwood	White Chocolate
108	Normandy	Pewter	225	Lemongrass	White Chocolate
202	Berry	Pewter	310	Fashion Grey	White Chocolate
205	Flagstone	Pewter	314	Ecu	White Chocolate
214	Granite	Pewter	321	Baby Blue	White Chocolate
215	Wine	Pewter	326	Vanilla	White Chocolate
309	Steel Grey	Pewter	331	French Cotton	White Chocolate
324	Baccarat	Pewter	332	Lynn Marie	White Chocolate
502	Pewter	Pewter	514	Icicle	White Chocolate
			523	Rabbit	W. Chocolate
			801	Calla	W. Chocolate
			804	Fine Calla	W. Chocolate
			814	Medina	W. Chocolate
			901	Pearl	W. Chocolate
			902	Moonlight	W. Chocolate



MATERIAL SAFETY DATA SHEET
Information Telephone Number (973) 772-5252

ALL CHEMICAL EMERGENCIES

1-800-424-9300 - USA
1-703-527-3887 - International

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SECTION I - PRODUCT IDENTIFICATION

Product Code: Natural, White Chocolate, Transparent Black, Pewter, Clay, Dusty Rose, Seafoam, Bone, Kahki, Clear

Trade Name: **SAFASBOND**

Product Class: Polyester Resin Kit

C.A.S. Number: Mixture

HMIS Rating: Health = 2 Fire = 3 Reactivity = 2

SECTION II - INGREDIENTS

<u>Ingredients</u>	<u>CAS#</u>	<u>Max. Content</u>	<u>Exposure Limits</u>
PART A			TLV-TWA 50, ppm TLV-STEL 100 ppm
Methyl Methacrylate Monomer	80-62-6	38-55	
PART B			
Benzoyl Peroxide	94-36-0	5 - 8	5 mg/m ³
Dibutyl Phthalate	84-74-2	2 - 4	5 mg/m ³ 10 mg/m ³
Reaction product of Epichlorohydrin & Bisphenol A	25085-99-8	80 -90	Not established

SECTION III - PHYSICAL DATA

PART A - ADHESIVE

Boiling Point: 200-215°F Vapor Density: Heavier than air

Specific Gravity: 1.09

Evaporation Rate: Not available

Appearance: Clear transparent liquid, may be tinted

PART B - ACTIVATOR

Boiling Point: Not established Vapor Density: Not applicable

Specific Gravity: 1.15

Evaporation Rate: Not available

Appearance: Paste

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

Flash Point: 48°F TCC (MMA)

LEL: 2.1% by volume UEL: 12.5% by volume

- EXTINGUISHING MEDIA: Alcohol foam, dry chemical and carbon dioxide.
- SPECIAL FIRE FIGHTING PROCEDURE: Vapor will flash and the liquid will burn. Keep away from all sources of ignition and avoid elevated temperatures. Vapors are heavier than air, and may collect in low-lying areas. Firefighters must wear self-contained breathing apparatus and full protective clothing.
- UNUSUAL FIRE & EXPLOSION HAZARDS: Burning may produce oxides of carbon.

SECTION V - HEALTH HAZARD DATA**- EFFECTS OF OVEREXPOSURE:**

SKIN: This product is mildly irritating to the skin, but exposure is considered major due to its ability to sensitize the skin.

EYES: Ingredients in Part B may cause severe eye irritation.

INHALATION: This product contains materials that are extremely volatile. Low concentrations probably irritating to the nose, throat and respiratory tract. Higher concentrations can probably cause symptoms of central nervous system depression, such as headache, nausea, dizziness, drowsiness and confusion. Extremely high concentrations can cause loss of consciousness and death. Due to its irritating nature, methyl methacrylate may cause fluid build up in lungs. Symptoms are shortness of breath, pain in chest and difficulty breathing. Symptoms may be delayed up to 24 hours.

INGESTION: May cause effects similar to those experienced under the heading "Inhalation."

- FIRST AID:

SKIN: Avoid direct contact. Wear chemical protective clothing. Wash with non-abrasive soap and water for at least 20 minutes or until chemical is removed. If the contact is severe and pain persists after long rinsing with water, rinse the contaminated area with lukewarm pasteurized milk. After pain has stopped, rinse thoroughly with water. Obtain medical attention immediately.

EYES: May cause eye irritation. Remove any contact lenses. Flush with copious amounts of water for 20 minutes. DO NOT INTERRUPT FLUSHING. Seek immediate medical aid.

INHALATION: This product is flammable. Take proper precautions. Remove victim to fresh air. Give artificial respiration if indicated. Get medical attention.

INGESTION: If patient is conscious, give three or four glasses of water. DO NOT INDUCE VOMITING (aspiration hazard). Do not give anything by mouth to a convulsing or unconscious person. Get medical attention.

- PRIMARY ROUTE(S) OF ENTRY: Part A: skin contact, eye contact; Part B: ingestion, inhalation

SECTION VI - REACTIVITY DATA

- STABILITY: Unstable Stable

- HAZARDOUS POLYMERIZATION: May occur May NOT occur

- INCOMPATIBILITY: Oxygen and oxidizing agents. Strong acids, alkali metal, Bylithium, halogens

- HAZARDOUS DECOMPOSITION PRODUCTS:

- Various oxides of carbon and unidentified compounds in smoke.

SECTION VII - SPILL OR LEAK PROCEDURES**-CLEAN-UP PROCEDURE:**

Toxic, flammable liquid, insoluble or very slightly soluble in water. Keep away from heat. Keep away from sources of ignition. Stop leak if without risk. Absorb with DRY earth, sand or other non-combustible material. Prevent entry into sewers, basements or confined areas. Dike if needed. Eliminate all sources of ignition. Check local regulation for details on disposal. For further information, contact your state or local waste agency or the Federal EPA RCRA hotline (800-424-9346 or 202-382-3000).

SECTION VIII - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION: Use a NIOSH approved organic vapor respirator if concentration below minimum IDLH of 500 ppm in the workplace. For vapor concentrations in excess of 500 ppm, use a positive pressure respirator.

- VENTILATION: General ventilation is required during normal use. Local ventilation may be required during certain operations to keep exposure levels below the TLV listed in Section II of this data sheet.

- PROTECTIVE GLOVES: Wear appropriate impervious gloves to prevent skin contact.

- EYE PROTECTION: Wear face shield or protective goggles.

- OTHER PROTECTIVE EQUIPMENT: Wear protective clothing to prevent skin contact. Eye wash station and safety shower should be available.

SECTION IX - SPECIAL PRECAUTIONS

- PRECAUTIONS TO BE TAKEN FOR HANDLING AND STORING: Keep away from heat and all sources of ignition. Ground all equipment containing material. Do not ingest. Do not breath gas, fumes, vapor, or spray. Follow safe work procedures and wear appropriate personal protective equipment. Store in a cool well-ventilated area out of direct sunlight and away from heat and ignition sources. Store away from oxidizers and corrosives and other incompatible materials such as sulfuric acid, peroxides, alkali metal, which increases the risk of fire and explosion.

SECTION X - SUPPLEMENTAL INFORMATION**IATA**

- DOT PROPER SHIPPING NAME:	Polyester Resin Kit
- UN NUMBER:	UN 3269
- DOT HAZARD CLASS:	Class 3
- PACKAGING GROUP:	II

IMO

- EmS No. 3-07; Stowage

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