

# OPERATING INSTRUCTIONS

DUOTACK® SPF HFO ADHESIVE

FOR PROFESSIONAL USE ONLY



## INSTRUCTIONS FOR USE

When spraying the dispensing unit for the first time or when starting a new kit, it is recommended to trigger the gun only 1/2 to 3/4 open, until the desired output is achieved. This controllable metering ability is a major advantage of this dispensing unit. It allows the user complete control of the flow rate that best fits the application.

## PRODUCT USES

DUOTACK® SPF HFO Adhesive can be used to adhere PVC and KEE Fleece Back membranes to a variety of substrates including: polyisocyanurate (Poly-ISO) insulation boards, SOPRABOARD, DensDeck® and DensDeck Prime®, Securock®, structural concrete, smooth and granulated modified bitumen roof decks (recover).

## SAFETY PRECAUTIONS



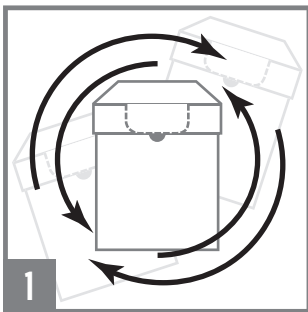
Wear protective glasses with side shields or goggles, nitrile gloves, and clothing that protects against dermal exposure. Recommend using in a well ventilated area with certified respiratory protection or a powered air purifying respirator (PAPR). See SDS (available at [www.soprema.us](http://www.soprema.us)).

## SETUP PROCEDURES

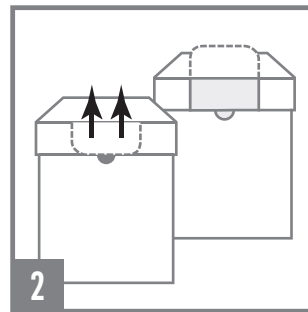
### Kit Type



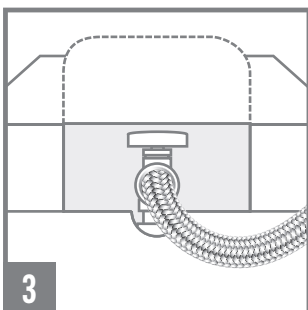
There are two cylinders per system. The system is comprised of an A cylinder and a B cylinder. These two cylinders must have matching fill dates to be used together. The cylinders can only be used in the upright position (Never open the valves unless the cylinders are upright). The lids on the boxes are designed to shield the cylinders from direct sunlight and keep the product from getting too hot. For this reason, the box lid should remain closed during use.



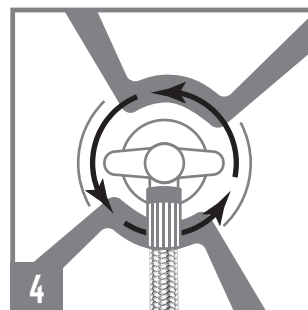
Shake each cylinder for one to two minutes. Turn the cylinders upside down at least twice to ensure complete agitation of the adhesive. Typically chemical should be between 70–85°F (21–29°C). See PDS for formula shaking and temperature recommendations.



Open kit. Remove nozzle packet and read operating instructions.



Thread the red coded hose to the A-component cylinder and the Black colored hose to the B-component. Tighten the connections with the supplied 9/16 in wrench.



Open cylinder valves completely by turning the valves COUNTER CLOCKWISE. Cylinder valves must be upright during use.

## COLORWISE® TEMPERATURE WARNING NOZZLES

Changes from clear to blue, indicating that the chemical has reached a cold temperature, below 60°F (16°C), and the adhesive should not be dispensed.

- The mixing chamber of the ColorWise® nozzle will change from clear to blue when cold chemical is sprayed through it. Stop spraying and ensure proper chemical temperature to avoid off-ratio adhesive.
- Stop spraying and warm the chemical to the recommended temperature. See PDS for product specific temperature recommendations.
- If proper chemical temperature is sprayed through a blue, cold nozzle, the mixing chamber of the nozzle will change back to clear, indicating that it is OK to spray. Notice that the top of the nozzle may remain blue.
- Helps keep adhesive on ratio and maximizes yield.

## ATTACHING THE COLORWISE® TEMPERATURE WARNING NOZZLE



1. Before attaching nozzle, use petroleum jelly on face of gun.



2. Insert bottom tab of nozzle into bottom slot of dispensing unit.



3. Attach top latch by pushing towards back of unit, until an audible "snap" is heard.

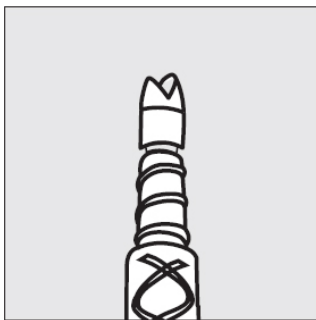


4. To remove used nozzle, push top latch up and forward to unsnap.

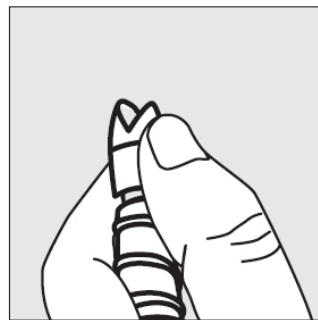
## NOZZLE CARE AND USAGE

- Apply a small amount of petroleum jelly, which is provided with each kit, to help keep the gun face clean from cured adhesive or contamination that could block one of the chemical ports.
- Nozzles are cleanable and solvent resistant. In a timely manner, the nozzles can be flushed of uncured adhesive with an approved multi-purpose cleaner.
- Change nozzles frequently! Adhesive will cure inside the nozzle in the same amount of time that adhesive becomes tack-free in the air.
- Cleaning gun nozzle more than twice is not recommended.

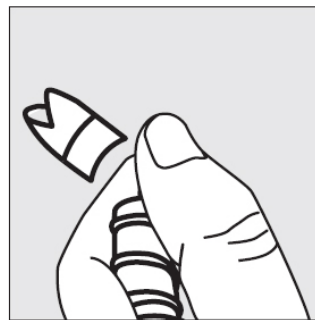
## SNAP-TIP NOZZLE



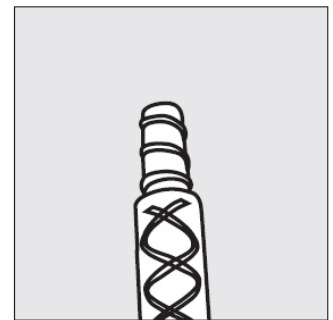
FAN SPRAY PATTERN



SNAP-TIP



CONE SPRAY PATTERN



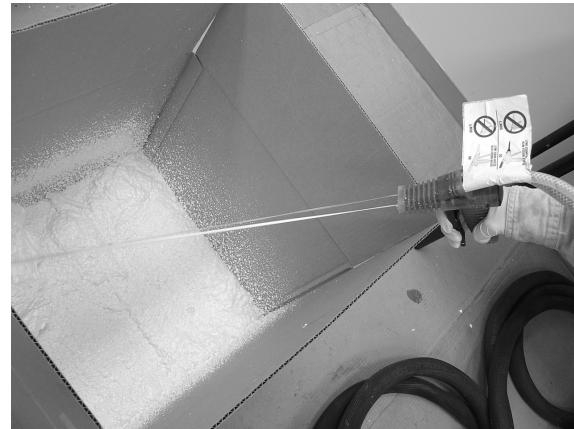
The ColorWise® nozzle is equipped with a snap-tip nozzle, which sprays a fan or spatter pattern, ideal for fleece-backed PVC and KEE membranes. In order to apply DUOTACK® SPF HFO Adhesive in a ribbon or cone pattern for use on rigid insulation or cover boards, simply snap off the tip of the nozzle as shown above.

## ADHESIVE TEST SPRAY

When spraying for the first time, or when starting a new kit, it is recommended to trigger the gun only 1/2 to 3/4 open, until the desired output and spray pattern is achieved. This controllable metering ability is a major advantage of the gun, allowing the user complete control of the flow rate and spray pattern that best fits the application. Spray several test shots into a receptacle to ensure equal parts A and B chemicals, double check adhesive is curing before beginning.

**EXTREMELY IMPORTANT - WHEN SPRAYING HAS STOPPED FOR MORE THAN 30 SECONDS, THE NOZZLE SHOULD BE REMOVED AND REPLACED WITH A NEW NOZZLE.**

The chemical in the nozzle will begin to cure and will clog the nozzle when spraying has stopped for more than a few minutes. If the trigger is pulled while a clogged nozzle is on the gun, the chemical from the cylinders (which is under pressure) will be blocked by the clogged nozzle and will cause a "back-up" of chemical into the hoses, which is called a crossover. The gun will no longer dispense chemicals in the right proportions and the adhesive will not function properly. This situation can be easily avoided by simply changing nozzle when spraying is stopped for more than 1 minute.



## APPLICATION TEMPERATURE

For best results, all surfaces to be bonded must be clean, dry and free from dirt, dust, oil, loose paint, wax or grease, etc. The temperature of the adhesive should be between 70-85°F (21-29°C). The surfaces being bonded should be at 40°F (5°C) and rising. Temperatures outside this range may affect bonding range, dispensability and performance of the product. For specific product information, see PDS (available at [www.soprema.us](http://www.soprema.us)).

## PREPARATION

All surfaces to be bonded must be clean, dry and free of any debris and smooth with no surface contamination. Broken, delaminated, wet or damaged insulation or cover boards must be removed and replaced prior to application of DUOTACK® SPF HFO Adhesive.

## SPRAYING ADHESIVES

1. Wear protective glasses with side shields or goggles, nitrile gloves, and clothing that protects against dermal exposure. Use only in a well ventilated area. See SDS (available at [www.soprema.us](http://www.soprema.us)).
2. For best results, use when adhesive chemical is between 70–85°F (21–29°C), see PDS for formula specific temperature recommendations. Clean grease, oil, dirt and water off surfaces to be foamed. Shake kit before use for at least 1 minute, depending on the product requirements (See PDS for more information). For large kits, thread hose to cylinder until hand tight then tighten with supplied 9/16 in wrench.
3. Fully open both cylinder (A & B) valves.
4. Attach nozzle to the dispensing unit; use of enclosed petroleum jelly on the face of the dispensing unit before attaching nozzle will help prevent contamination by cured foam or chemical and help keep the sealing ports clean. (Detailed instructions for attaching nozzle shown above.)
5. When spraying the dispensing unit for the first time and with each new kit, dispense foam by squeezing the trigger **only 1/4 to 1/3 open until desired output is achieved**. This controllable metering is a major advantage of the dispensing unit, allowing the user complete control of the flow rate that best suits the application.
6. Once the trigger is released it **MUST BE REACTIVATED WITHIN 30 SECONDS** or a new nozzle must be installed. Failure to do this could result in chemical leakage, spills or splashes which can ruin the dispensing unit and/or hoses.
7. **IMPORTANT:** After releasing trigger, activate the trigger safety to prevent accidental discharge.
8. All dispensing unit nozzles are easily cleanable and solvent resistant. To clean nozzles, liquid chemical must be dissolved prior to its complete chemical reaction by flushing the nozzle with an approved multi-purpose cleaner. Gun face can be kept clean with the use of petroleum jelly on the face or with a soft cloth to remove residue.
9. **Do not remove hoses from cylinders. Do not flush/clean hoses with air, water or solvent. Removing and/or cleaning hoses may compromise the foam.**



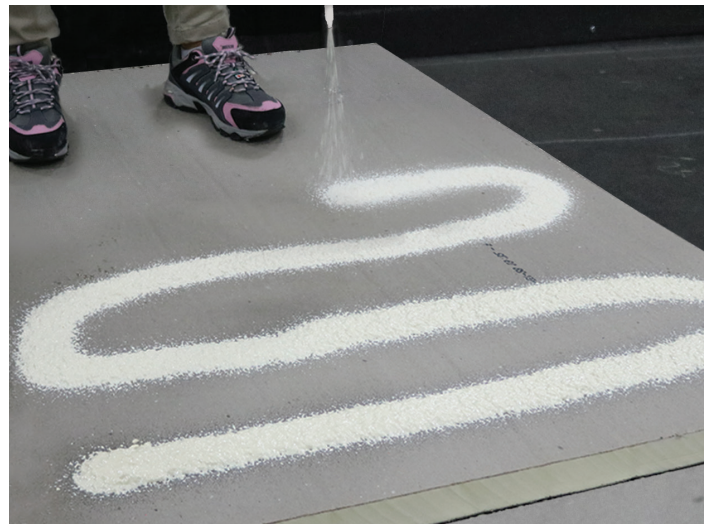
# INSULATION & COVERBOARD APPLICATION

To dispense adhesive, point the applicator's nozzle at the surface to be sprayed, holding it approximately 20 in (50.8 cm) from the surface. Squeeze the trigger and move hand at a speed which delivers the desired adhesive "serpentine" ribbon. DUOTACK® SPF HFO adhesive is applied in a serpentine ribbon placed at a maximum of 12 in (30.48 cm) on center.

Insulation boards are to be placed based on string and tack test (1-4 minutes based on ambient conditions) and "walked-in" immediately after placement.

**NOTE:** Boards that will not lay flat due to cupping, warping or crowning, or surface irregularities of the substrate, should have weights placed on the boards until the adhesive has achieved adequate adhesion to hold the boards in place. When spraying stops for breaks, lunch or overnight turn cylinder valves off and place used nozzle on front of gun. When spraying is to be restarted, replace nozzle with new, unused nozzle, turn cylinder valves on and perform string and tack test.

**NOTE:** Check periodically for correct board adhesion.



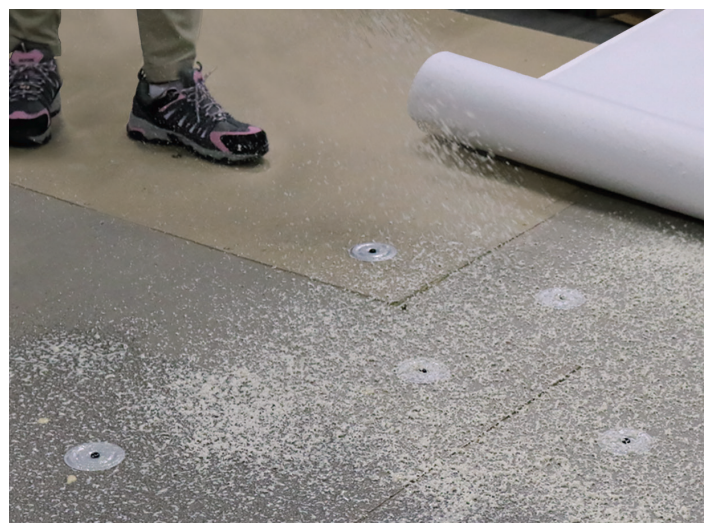
BEAD PATTERN APPLICATION EXAMPLE

# FLEECE-BACK MEMBRANE APPLICATION

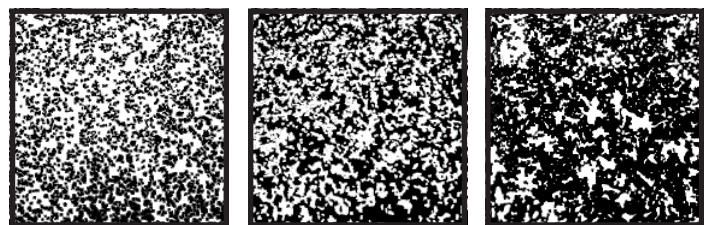
DUOTACK® SPF HFO is a single surface adhesive. It is spray applied in a "Spatter Pattern" onto the roof, insulation or cover board substrate by dispensing the adhesive in a spray pattern similar to the action required when hand watering a flower bed. The spatter pattern should yield a heavily textured, even coating of approximately ¼ in to ½ in nominal thickness height on the peaks of the spattered adhesive.

The seams of the membrane and the factory selvage edge must be protected from overspray of the DUOTACK® SPF HFO adhesive. If overspray does contaminate the seam area, immediately clean the seam area with seam cleaner while the adhesive is still wet. The bonding range of DUOTACK® SPF HFO adhesive is approximately 1 - 10 minutes from start of spraying and will vary according to ambient as well as substrate temperature. The amount of substrate area that the adhesive is applied to ahead of the membrane should be monitored to prevent dry laid membrane. Care must be taken, particularly in high temperature environments [90°F (32°C) and above], to ensure that the adhesive has not dried or skinned over prior to embedding the membrane.

**NOTE:** Membranes can be applied once the adhesive has achieved sufficient bond strength to the immediate substrate to which it is adhered. It is recommended that the contractor inspect the installed insulation for proper adhesion and re-adhere any boards and/or corners that are not adequately attached.



SPATTER PATTERN APPLICATION EXAMPLES



HEAVY

PREFERRED

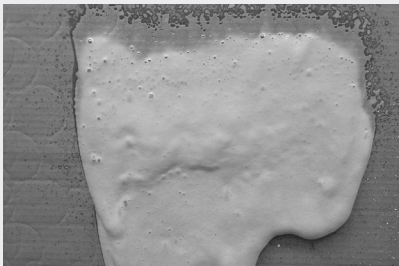
LIGHT

# TROUBLESHOOTING GUIDE

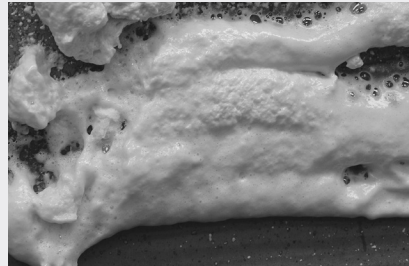
PROBLEM	POSSIBLE CAUSE	SOLUTION
<b>Poor chemical flow</b>	Cylinder valves not fully open	Turn cylinder valves counter-clockwise until they stop
	Cylinder valves in incorrect position	Place cylinder valves in upright position
	Damaged rubber gasket in nozzle	Replace nozzle
	Material is too cold	Chemical temperature must be between 70–85°F (21–29°C)
<b>Adhesive leaking from hose connections</b>	Hoses not tightened	Tighten all hose fittings
	Cross-threaded hose	Replace gun hose assembly
<b>Dark crunchy adhesive/ off-ratio (A-rich)</b>	Material is too cold	Chemical temperature must be between 70–85°F (21–29°C)
	Clogged nozzle	Replace nozzle
	Blockage of one chemical port	Clean gun face and apply petroleum jelly
	Gun crossover	Replace hose
<b>White spongy or shrinking adhesive/ off-ratio (B-rich)</b>	Material is too cold	Chemical temperature must be between 70–85°F (21–29°C)
	Clogged nozzle	Replace nozzle
	Blockage of one chemical port	Clean gun face and apply petroleum jelly
	Gun crossover	Replace hose
<b>Sputtering from nozzle</b>	Propellant off-ratio	Shake the kit for at least 1 minute.
	Cylinders are empty	Switch to new kit
	Clogged nozzle	Replace nozzle
	Hose blockage	Replace hose

\*If kit is still not fully operational, stop spraying and contact the distributor where purchased.

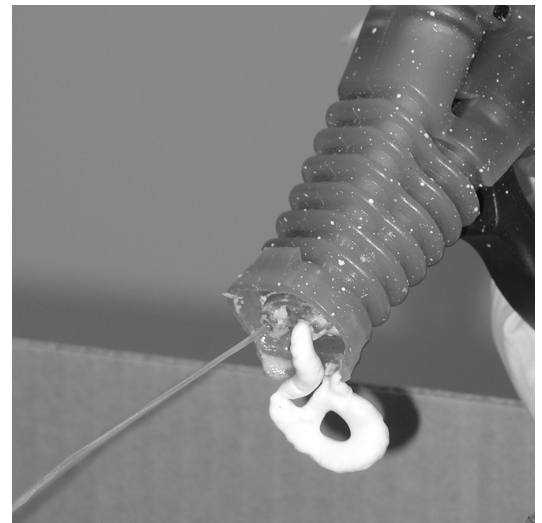
Equivalent flow of both A-component and B-component is required with all two-component polyurethane systems in order to obtain proper performance, curing and optimum yields. If a problem occurs, the cause is typically due to uneven chemical flow that is caused by a blockage of one of the chemicals.



**FIGURE 1: A-RICH ADHESIVE**  
Crunchy, friable, slow or non curing.  
Darker brown in color.



**FIGURE 2: B-RICH ADHESIVE**  
Softer, white colored adhesive, with shrinkage when cured.



**FIGURE 3: Clogged Nozzle**  
Partial or complete blockage of one chemical port will result in off-ratio adhesive.

## KIT STORAGE/REUSE

1. Close cylinder valves.
2. **Do not store cylinders above 90°F (32°C) or below 60°F (16°C). Kits stored below 70°F must be given sufficient time for the chemical to warm up to 70–85°F (21–29°C) (see PDS for formula specific temperature recommendations).**
3. The used nozzle should be left on the dispensing unit during storage in order to help keep the outlet ports of the dispensing unit clean and free from any dust, dirt or chemical that can affect the proper sealing of the nozzle. SAFETY: Always engage the trigger safety and close all supply valves during storage.
4. All dispensing unit nozzles are easily cleanable and solvent resistant. To clean nozzles, flush the nozzle with an approved multi-purpose cleaner before chemical reaction is complete. Gun face can be kept clean using petroleum jelly or a soft cloth to remove residue.
5. **DO NOT REMOVE HOSES FROM CYLINDERS.** Keep under pressure. Do not flush/clean hoses with air, water or solvent. Removing and/or cleaning hoses may compromise the adhesive.

### TO REUSE DISPENSING UNIT AFTER STORAGE:

1. Remove the used nozzle.
2. Check the face of the dispensing unit to make sure the outlet ports are clear and the face of the unit is free from dirt, chemical or other debris. If necessary, use a soft cloth or rag to remove any cured adhesive or chemical from the face of the dispensing unit. Use of enclosed petroleum jelly is recommended to cover the face of the unit in order to prevent further contamination or if chemical is accidentally leaked into this area.
3. Shake kit or cylinders for 1-2 minutes to ensure proper mixing. DUOTACK® SPF HFO Adhesive should be between 70-85°F (21-29°C). See PDS for formula specific shaking and temperature recommendations.
4. Fully open all cylinder valves.
5. Dispense into waste container to verify that both chemicals are being dispensed in approximately equal streams. The dispensing unit is a disposable unit not designed for prolonged storage or continuous re-use. To help extend the storage life, it is recommended to dispense a minimal amount of adhesive from unit at least once every three (3) days to ensure optimum flow of chemical through hoses. Use of contents within 30 days of initial use is recommended.

VERY IMPORTANT: As the hoses are exposed to the heat of the sun, especially in the summer months, the pressure in the hoses will build up. Purging the hoses for a few seconds prior to spraying relieves the excess pressure and allows the chemical to flow in the proper proportions.

## DISPOSAL PROCEDURES

**Always wear proper protective equipment as you would while spraying the two-component adhesive in a well-ventilated area.**

### Procedure for handling empty or partially used disposable cylinders (not returnable):

#### 1. DO NOT INCINERATE CYLINDERS.

2. Empty cylinders by dispensing the adhesive into a waste container like a cardboard box or plastic bag. Depressurize the used cylinders using the dispensing unit with a new nozzle attached. Spray the adhesive until one of the components/cylinders no longer sprays chemical.
3. Remove the nozzle and then continue to depressurize by dispensing the remaining chemical(s) into a waste container (a box lined with a plastic bag) that has adequate industrial liquid absorbing medium in the bottom. Dispense the residual chemicals until the pressure is down to a minimum or there are just large bubbles in the hose.
4. Close the cylinder valves completely, and then operate the dispensing unit again to empty and depressurize the hoses. Use a 9/16 in wrench and remove the hoses from the cylinders. Use caution in case there is some residual chemical and/or pressure in the hoses.
5. Invert the cylinder and point away from face. Slowly open the cylinder over the waste container to catch any residual spray.
6. Return the cylinder to an upright position. Shake the container; there should not be any sloshing of liquid. Make sure to leave valves OPEN; do not close. DO NOT PUNCTURE.
7. The user of this material has the responsibility to dispose of empty cylinders, unused material and residues in compliance to all applicable federal, state, international and local regulations regarding the treatment, storage, and disposal for hazardous and nonhazardous wastes. Check with your local waste disposal service for guidance.

**NOTE:** After dispensing, if one cylinder has chemical left in it, treat it as hazardous material.

**WARNINGS**

WARNING: DUOTACK® SPF HFO adhesive products are composed of a diisocyanate, blowing agent and polyol. Consult the product's SDS (available at [www.soprema.us](http://www.soprema.us)) for specific information. The urethane foam adhesive produced from these ingredients will support combustion and may present a fire hazard if exposed to a fire or excessive heat about 240°F (116°C). Wear protective glasses with side shields or goggles, nitrile gloves, and clothing that protects against dermal exposure. Recommend using in a well ventilated area with certified respiratory protection or a powered air purifying respirator (PAPR). For more information regarding a certified respiratory program please visit <http://www.cdc.gov/niosh/>. FOR PROFESSIONAL USE ONLY. WARNING: Non-Flammable Compressed Gas. Keep away from heat. Smoking and open flames, including hot work, should be prohibited in the vicinity of a foaming operation. Avoid contact with skin and eyes. May cause sensitization by inhalation and/or direct skin contact. Avoid prolonged or repeated breathing of vapor. KEEP OUT OF REACH OF CHILDREN. FIRST AID: In any first aid case CONSULT A PHYSICIAN. EYES: Flush with water for at least 15 minutes. SKIN: Remove contaminated clothing. Wash skin with plenty of soap and water. Cured adhesive must be removed manually. INHALATION: If breathing is difficult, give oxygen. If breathing has stopped, give artificial respiration. INGESTION: give large quantities of water. Do NOT induce vomiting. Contact a physician immediately in any first aid situation.

**IMPORTANT**

Always read all operating, application and safety instructions before using any products from SOPREMA. Use in conformance with all local, state and federal regulations and safety requirements. Failure to strictly adhere to any recommended procedures and reasonable safety precautions shall release SOPREMA of all liability with respect to the materials or the use thereof. For additional information and location of your nearest distributor, call SOPREMA 330-334-0066.

**NOTE:** Physical properties shown are typical and are to serve only as a guide for engineering design. Results are obtained from specimens under ideal conditions and may vary upon use, temperature and ambient conditions. Right to change physical properties as a result of technical progress is reserved. This information supersedes all previously published data. Yields shown are optimum and will vary slightly depending on ambient conditions and particular application. Read all product directions and safety information before use. This product is organic, and therefore, is combustible. Consult local building codes for specific requirements regarding the use of cellular plastics or urethane foam in construction.

