SAFETY DATA SHEET

1. Identification

Product identifier **Safe Clean Crystals.**

Other means of identification None.

Recommended use Will remove cured grout and mortar haze and mineral deposits including efflorescence.

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Supplier

Company name Southern Grouts and Mortars, Inc.

Address 1502 SW 2nd Place
Pompano Beach, Florida 33069

Telephone number (954) 943-2288

Fax (954) 943-2402

Contact name Technical Manager

Website WWW.SGM.CC

Emergency telephone number (954) 943-2288

2. Hazard(s) identification

Physical hazards Not classified.

Health hazards Skin corrosion/irritation Category 2
Serious eye damage/eye irritation Category 1
Sensitization, skin Category 1
Carcinogenicity Category 1A
Specific target organ toxicity, single exposure Category 3 respiratory tract irritation
Specific target organ toxicity, repeated exposure Category 2 (Lung)

OSHA defined hazards Not classified.

Label elements

Signal word Danger

Hazard statement STRICT HYGIENE! PREVENT DISPERSION OF MISTS OR DUST!
Causes severe skin burns. Causes serious eye damage. Causes eye irritation. Harmful if swallowed. Harmful in contact with skin. Harmful if inhaled. May cause an allergic skin reaction. May cause cancer. May cause respiratory irritation. May cause damage to organs (Lung) through prolonged or repeated exposure.

Precautionary statement

Prevention Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe dust. Use only outdoors or in a well-ventilated area. Wear protective gloves/protective clothing/eye protection/face protection. Wash thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace.

Response If on skin: Rinse immediately contaminated clothing & skin with plenty of water before removing clothes. Get medical advice/attention. Take off contaminated clothing and wash before reuse. Get medical attention/advice. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center/doctor. This material must be handled as a hazardous waste.

Storage Store in a well-ventilated place. Keep container tightly closed. Store locked up

Disposal Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard(s) not otherwise classified (HNOC) None known.

Supplemental information

3. Composition/information on ingredients

Mixtures

Chemical name	CAS number	%
Sulfamic Acid	5329-14-6	100

Composition comments All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

Inhalation After high vapor exposure, remove to fresh air. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. Keep person warm and at rest. breathing is difficult, give oxygen. If breathing has stopped, trained personnel should immediately begin artificial respiration. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. If the heart has stopped, trained personnel should immediately begin cardiopulmonary resuscitation (CPR). Seek immediate medical attention. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Skin contact If the product contaminates the skin, immediately begin decontamination with running water. Minimum flushing is for 15 minutes. Remove contaminated clothing, taking care not to contaminate eyes. If skin becomes irritated and irritation persists, medical attention may be necessary. Wash contaminated clothing before reuse, discard contaminated shoes.

Eye contact If this product enters the eyes, open eyes while under gently running water. Use sufficient force to open eyelids. "Roll" eyes to expose more surface. Minimum flushing is for 15 minutes. Seek immediate medical attention.

Ingestion If swallowed, CALL PHYSICIAN OR POISON CONTROL CENTER FOR MOST CURRENT INFORMATION. If professional advice is not available, give two glasses of water to drink. DO NOT INDUCE VOMITING. Never induce vomiting or give liquids to someone who is unconscious, having convulsions, or unable to swallow. Seek immediate medical attention.

Most important symptoms/effects, acute and delayed Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. Dusts may irritate the respiratory tract, skin and eyes. Coughing. Discomfort in the chest. Shortness of breath. Skin irritation. May cause redness and pain. May cause an allergic skin reaction. Dermatitis. Rash. Prolonged exposure may cause chronic effects.

Indication of immediate medical attention and special treatment needed Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.

Notes to Physician There is no specific antidote. Treatment of overexposure should be directed at the control of symptoms and the clinical condition of the patient. Any material aspirated during vomiting may cause lung injury. Therefore, emesis should not be induced mechanically or pharmacologically. If it is considered necessary to evacuate the stomach contents, this should be done by means least likely to cause aspiration (such as: Gastric lavage after endotracheal intubation). Victims of chemical exposure must be taken for medical attention. Rescuers should be taken for medical attention, if necessary. Take a copy of label and SDS to physician or health professional with victim.

General information If exposed or concerned: Get medical advice/attention. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. First Aid responders should use the recommended protective clothing (chemical resistant gloves, splash protection). Wash contaminated clothing before reuse.

5. Fire Fighting Measures

Suitable extinguishing media	Use dry chemical, foam, carbon dioxide, or water fog extinguishing media. Use water to cool fire-exposed containers and to protect personnel.
Unsuitable extinguishing media	None know.
Specific hazards arising from the chemical	During fire, hazardous combustion products are released that may include: Carbon oxides (COx).
Special protective equipment and precautions for firefighters	Water spray may be ineffective on fire but can protect fire-fighters & cool closed containers. Use fog nozzles if water is used. Do not enter confined fire-space without full bunker gear. (Helmet with face shield, bunker coats, gloves & rubber boots). Use NIOSH approved positive-pressure self-contained breathing apparatus.
Fire fighting Equipment/instructions	Isolate from extreme heat and open flame, move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other materials.
General fire hazards	Non-combustible. Reacts with most metals producing hydrogen which is extremely flammable & may explode. Applying to hot surfaces requires special precautions. Closed containers may explode if exposed to extreme heat.

6. Accidental Release Measures

Personal precautions, Protective equipment and emergency procedures	Uncontrolled releases should be responded to by trained personnel using pre -planned procedures. Proper protective equipment should be used. In case of a spill, clear the affected area, protect people, and respond with trained personnel. The proper personal protective equipment for incidental releases (such as: 1 Liter of the product released in a well-ventilated area), use impermeable gloves (triple-gloves (rubber gloves and nitrile gloves, over latex gloves), goggles, face shield, and appropriate body protection. In the event of a large release, use impermeable gloves, specific for the material handled, chemically resistant suit and boots, and hard hat. Self-Contained Breathing Apparatus or respirator may be required where engineering controls are not adequate or conditions for potential exposure exist. When respirators are required, select NIOSH/MSHA approved based on actual or potential airborne concentrations in accordance with latest OSHA and/or ANSI recommendations.
Methods and materials for containment and cleaning up Environmental precautions	Stop spill at source. Construct temporary dikes of dirt, sand, or any appropriate readily available material to prevent spreading of the material. Close or cap valves and/or block or plug hole in leaking container and transfer to another container. Keep from entering storm sewers and ditches which lead to waterways, and if necessary, call the local fire or police department for immediate emergency assistance. Absorb spilled liquid with polypads or other suitable absorbent materials. If necessary, neutralize using suitable buffering material, with soda ash. Cautiously neutralize spilled liquid with sodium carbonate solution only under the responsibility of an expert. Clean up with non-combustible absorbent (such as: sand, soil, and so on). Shovel up and place all spill residue in suitable containers. Dispose of at an appropriate waste disposal facility according to current applicable laws and regulations and product characteristics at time of disposal (see Section 13 - Disposal Considerations).

7. Handling and Storage

Precautions for safe handling	Use only with adequate ventilation. Do not get in eyes, on skin or clothing. Wear OSHA Standard full face shield. Consult Safety Equipment Supplier. Wear goggles, face shield, gloves, apron & footwear impervious to material. Wash clothing before reuse.
Storage	Keep separated from strong bases, food & feedstuffs. Keep dry. Do not store above 49 C/120 F. Keep container tightly closed & upright when not in use to prevent leakage. Reacts with most metals producing hydrogen which is extremely flammable & may explode. Wear full face shield, gloves & full protective clothing when opening or handling. When empty, drain completely, replace bungs securely.
Non bulk containers	Store containers in a cool, dry location, away from direct sunlight, sources of intense heat, or where freezing is possible. Material should be stored in secondary containers or in a diked area, as appropriate. Store containers away from incompatible chemicals (see Section 10, Stability and Reactivity). Post warning and "NO SMOKING" signs in storage and use areas, as appropriate. Empty containers should be handled with care. Never store food, feed, or drinking water in containers which held this product.

Bulk containers	All tanks and pipelines which contain this material must be labeled. Perform routine maintenance on tanks or pipelines which contain this product. Report all leaks immediately to the proper personnel.
Tank Car Shipments	Tank cars carrying this product should be loaded and unloaded in strict accordance with tank-car manufacturer's recommendation and all established on-site safety procedures. Appropriate personal protective equipment must be used (see Section 8, Engineering Controls and Personal Protective Equipment.). All loading and unloading equipment must be inspected, prior to each use. Loading and unloading operations must be attended, at all times. Tank cars must be level, brakes must be set or wheels must be locked or blocked prior to loading or unloading. Tank car (for loading) or storage tanks (for unloading) must be verified to be correct for receiving this product and be properly prepared, prior to starting the transfer operations. Hoses must be verified to be in the correct positions, before starting transfer operations. A sample (if required) must be taken and verified (if required) prior to starting transfer operations. All lines must be blown-down and purged before disconnecting them from the tank car or vessel.
Protective practices maintenance or during contaminated equipment	Follow practices indicated in Section 6 (Accidental Release Measures). Make certain application equipment is locked and tagged-out safely. Always use this product in areas where adequate ventilation is provided. Collect all rinsates and dispose of according to applicable Federal, State, Provincial, or local procedures.

8. Exposure controls/personal protection

Material	CAS#	IECS#	TWA (OSHA)	TLV (ACGIH)
Sulfamic Acid	5329-14-6	-	None Known	None Known

This product contains no EPA Hazardous Air Pollutants (HAP) in amounts >0.1.

Respiratory exposure control	Seek professional advice prior to respirator selection and use. Maintain airborne contaminant concentrations below exposure limits given above. If respiratory protection is needed, use only protection authorized in 29 CFR 1910.134, European Standard EN 149, or applicable State regulations. If adequate ventilation is not available or there is potential for airborne exposure above the exposure limits, a respirator may be worn up to the respirator exposure limitations, check with with respirator equipment manufacturer's recommendations/limitations. For a higher level of protection, use positive pressure supplied air respiration protection or Self-Contained Breathing Apparatus or if oxygen levels are below 19.5% or are unknown.
Emergency or planned entry into unknown concentrations or IDLH conditions	Positive pressure, full-face piece Self- Contained Breathing Apparatus; or positive pressure, full-face piece Self-Contained Breathing Apparatus with an auxiliary positive pressure Self-Contained Breathing Apparatus.
Ventilation	**LOCAL EXHAUST:** Necessary **MECHANICAL (GENERAL):** Necessary **SPECIAL:** None **OTHER:** None Please refer to ACGIH document, "Industrial Ventilation, A Manual of Recommended Practices", most recent edition, for details.
Eye protection	Splash goggles or safety glasses. Face-shields are recommended when the operation can generate splashes, sprays or mists.
Hand protection	Wear appropriate impervious gloves for routine industrial use. Use impervious gloves for spill response, as stated in Section 6 of this SDS (Accidental Release Measures). **NOTICE:** The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.
Body protection	Use body protection appropriate for task. Cover-all, rubber aprons, or chemical protective clothing made from impervious materials are generally acceptable, depending on the task.
Work & hygienic practices	Provide readily accessible eye wash stations & safety showers. Wash at end of each shift & before eating, smoking or using the toilet. Remove clothing that becomes contaminated. Destroy contaminated leather articles. Launder or discard contaminated clothing.

9. Physical and chemical properties

Appearance	
Physical state	Solid.
Form	Powder. Coarse Textured Powder.
Color	White.
Odor	Odorless.

Odor threshold	Not available.
pH (Neutrality)	1.1 (1% solution @ 20°C / 68°F).
Melting point/freezing point	205°C / 401°F.
Initial boiling point and boiling range (IBP, 50%, Dry Point)	Decomposes at 209°C / 408°F.
Flash point (Test Method)	Not applicable.
Evaporation rate (n-Butyl, Acetate 1)	Not applicable.
Flammability Classification	Non-Combustible.
Upper/lower flammability or explosive limits	
Flammability limit – lower (% by volume)	9.3.
Flammability limit – upper (% by volume)	9.3.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure (mm of Hg)@20°C	0.0
Vapor density (air=1)	Not applicable.
Gravity@ 68/68°F / 20/20°C	
Specific Gravity (Water=1)	2.130
Pounds/Gallon	17.744
Water Solubility	14.7@0°C/ 32°F
Partition Coefficient (n-Octane/Water)	Not available.
Auto Ignition Temperature	Not applicable.
Decomposition Temperature	209°C / 408°F

10. Stability and reactivity

Stability	Stable but slowly Stable but slowly hydrolyzes in solution. Sulfamic Acid begins to decompose at 209°C (408°F). At room temperature, dilute solutions are stable for many months. At higher temperatures and especially in stronger solutions, hydrolysis of the acid and its ammonium salt occurs, forming ammonium hydrogen sulfate and ammonium sulfate. This reaction occurs much more rapidly as the pH lowers (concentration of acid increases). Reacts with most metals producing hydrogen which is extremely flammable & may explode.
Conditions to avoid	Isolate from alkalis. Avoid dispersion of Sulfamic Acid particulates into air and contact with heat. Avoid the use of non-vented containers if concentrated solutions of the acid are made and heated, as a runaway hydrolysis reaction will occur, generating sufficient steam in the container to cause an explosion.
Materials to avoid	The substance is a strong acid, reacts violently with bases and is corrosive. On combustion forms irritating and toxic gases including nitrogen oxides, sulfur oxides, Reacts violently with causing fire & explosion hazard. Reacts with amines, chlorine, fuming nitric acid, cyanides, sulfides, nitrites, nitrates, carbonates, metal oxides, strong oxidizing agents, and strong bases. Sulfamic acid reacts slowly with water forming ammonium bisulfate. Chlorination of Sulfamic Acid with acidic ammonium chloride solutions gives the powerfully explosive oil, nitrogen trichloride. Heating mixtures of barium, potassium, or sodium amidosulfates or Sulfamic Acid, with sodium or potassium nitrates or nitrites, leads to reactions which may be explosive. Mixing Sulfamic Acid with fuming nitric acid results in violent release of nitrous oxide.
Hazardous Decomposition products	Nitrogen oxides, carbon oxides, sulfur oxides, and ammonia gas. Concentrated solutions, when heated, will release sulfur dioxide, and sulfur trioxide. Aqueous solutions of Sulfamic Acid slowly hydrolyze to form ammonium sulfate and ammonium bisulfate.
Hazardous Polymerization	Will not occur.

11. Toxicological information

ACUTE HAZARDS

Eye & Skin Contact	Severe burns to skin, defatting, dermatitis. Severe burns to eyes, redness, tearing, blurred vision. Solid can cause severe skin & eye burns. Wash thoroughly after handling.
Inhalation	Vapor harmful. Sulfamic Acid is a respiratory tract irritant, and inhalation may cause nose irritation, sore throat, coughing, and chest tightness and possibly, ulceration and perforation of the nasal septum. Inhalation exposure to high levels cause pulmonary edema (buildup of fluid in the lungs) which could result in death.
Swallowing	Harmful or fatal if swallowed. Ingestion can result in severe gastric distress with possible circulatory collapse, kidney failure and liver and heart damage.

SUBCHRONIC HAZARDS/ CONDITIONS AGGREVATED

Conditions aggravated	None Known.

CHRONIC HAZARDS

Cancer, reproductive & Other chronic hazards	This product has no carcinogens listed by IARC, NTP, NIOSH, OSHA or ACGIH, as of this date, greater or equal to 0.1%.
Irritancy of product	This product is irritating to contaminated tissue.
Sensitization to the product	No component of this product known to be a sensitizer.
Mutagenicity	This product is not reported to produce mutagenic effects
Embryotoxicity	This product is not reported to produce embryotoxic effects in humans.
Teratogenicity	This product is not reported to produce teratogenic effects in humans.
Reproductive Toxicity	This product is not reported to cause reproductive effects in humans.

A mutagen is a chemical which causes permanent changes to genetic material (DNA) such that the changes will propagate through generational lines. An embryotoxin is a chemical which causes damage to a developing embryo (such as: within the eight weeks of pregnancy in humans), but the damage does not propagate across generational lines. A teratogen is a chemical which causes damage to a developing fetus, but the damage does not propagate across generational lines. A reproductive toxin is any substance which interferes in any way with the reproductive process

Mammalian Toxicity Information	Mild irritation effects (skin-rabbit)	500mg/24hrs (adult)
	Severe irritation effects (skin-rabbit)	20mg (adult)
	LD50 (Oral)	3160 mg/kg (rat)
	LD50 (Oral)	1312 mg/kg (mouse)
	LD50 (Oral)	1050 mg/kg (guinea pig)

12. Ecological information

All work practices must be aimed at eliminating environmental contamination.

Effect of material on plants and animals	The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.
Effect of material on aquatic life	LC50 (Pimephales promelas (fathead minnow)): 58.8 - 84 mg L (96 hours, fresh water, 22 C)

Mobility in soil	Mobility of this material has not been determined.
Degradability	This product is completely biodegradable.
Accumulation	Bioaccumulation of this product has not been determined.

13. Disposal considerations

Processing, use or contamination may change the waste management options. Recycle / dispose of observing national, regional, state, provincial and local health, safety & pollution laws. If in doubt, contact appropriate agencies. Solution of this product may be considered D002, corrosivity waste under RCRA. Wastes should be tested to determine applicability.

14. Transport information

DOT/TDG ship name	UN2967, Sulfamic acid, 8, PG-III
DRUM LABEL	(CORROSIVE)
IATA/ICAO	Un2967, Sulfamic acid, 8, PG-III
IMO/IMDG	Un2967, Sulfamic acid, 8, PG-III
EMERGENCY RESPONSE GUIDEBOOK NUMBER	154

15. Regulatory information

EPA REGULATION:
SARA SECTION 311/312 HAZARDS

Acute Health, Chronic Health
All components of this product are on the TSCA list. This material contains no known products restricted under SARA Title III, Section 313 in amounts greater or equal to 1%.

STATE REGULATIONS:

CALIFORNIA SAFE DRINKING WATER & TOXIC ENFORCEMENT ACT (PROPOSITION 65): This product contains no chemicals known to the State of California to cause cancer or reproductive toxicity.

INTERNATIONAL REGULATIONS

The components of this product are listed on the chemical inventories of the following countries:

Australia (AICS), Canada (DSL or NDSL), China (IECSC), Europe (EINECS, ELINCS)G Japan (METI/CSCL, MHLW/ISHL), South Korea (KECI), New Zealand (NZIoC), Philippines (PICCS), Switzerland (SWISS), Taiwan (NECSI), USA (TSCA).

CANADA: WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM (WHMIS)

D2B: Irritating to skin / eyes.

E: Corrosive material

This product has been classified in accordance with hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all the information required by the CPR.

16. Other information, including date of preparation or last revision

Issue date	23-May-2016
Revision date	-
Version #	01
Hazard Rating	
HMIS® ratings	Health: 3* Flammability: 0 Physical hazard: 0

NFPA rating

(Personal Protection Rating to be supplied by user based on use conditions.) This information is intended solely for the use of individuals trained in the NFPA & HMIS hazard rating system.

Employee Training

See section 2 for Risk & Safety Statements. Employees should be made aware of all hazards of this material (as stated in this SDS) before handling it.

Disclaimer

Southern Grouts and Mortars cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.