SAFETY DATA SHEET
STANDARD DRY CHEMICAL

SECTION I. Chemical Product and Company Identification

Product Name:	Standard Dry Chemical Fire Extinguishant (Fire Extinguishing Agent, Non-pressurized and Pressurized)
Synonym:	Sodium Bicarbonate, STD
Manufacturer:	Shield Fire Protection PO Box 428 Kings Mountain, NC 28086
Telephone:	704.739.7415
Web Address:	www.shieldprotects.com
Email Address:	info@shieldprotects.com
Recommended Use:	Fire suppression, not for human or animal drug use.
Emergency:	CHEMTREC 1.800.424.9300

Revision Date: 04/2019

SECTION II. Hazard Identification

Note: This SDS covers both pressurized and non-pressurized containers of the product.

GHS – Classification (Pressurized):

Hazard Classification: Gas Under Pressure-Compressed Gas

GHS Label Elements:

Hazard Symbols: 

Signal Word: WARNING

Hazard Statements: Contents Under Pressure: may explode if heated

Precautionary Statements: P251 Pressurized container; do not pierce or burn, even after use.

GHS – Classification (Non-pressurized):

Eye Irritation: Class 2B
Skin Irritation: Class 3
Inhalation: Class 5

GHS Label Elements:

Hazard Symbols: 

Signal Word: WARNING

Hazard Statements:

H313	May be harmful in contact with skin.
H320	Causes eye irritation
H333	May be harmful if inhaled.

Precautionary Statements:

P101	If medical advice is needed, have product container or label at hand.
P102	Keep out of reach of children.
P234	Keep in original container.
P251	Pressurized container; do not pierce or burn, even after use
P261	Avoid breathing dust
P264	Wash hands and face thoroughly after handling
P270	Do not eat, drink, or smoke when using this product

P281	Use personal protective equipment as required
P285	In case of inadequate ventilation, wear respiratory protection
P301+322+331	If swallowed, drink 2-3 glasses of water and do not induce vomiting
P302+352	If on skin, wash with soap and water
P304+313+341	If inhaled, and if distress occurs, remove victim to fresh air and keep at rest in a position comfortable for breathing. Seek medical advice/attention.
P305+351+338	If in eyes, rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do, and continue to rinse.
P337+313	If eye irritation persists, get medical advice/attention.
P401+402+403	Store in original container in a dry, well ventilated place.

SECTION III. Composition/Information on Ingredients

This product is a mixture.

Chemical Name	Weight %*	CAS #
Sodium Bicarbonate	97	144-55-8
Amorphous Silica (non-crystalline)	< 3	112926-00-8 (7631-86-9)
Stannous ocetate	< 1	301-10-0
Silicone (Methylhydrogen siloxane)	< .1	63148-57-2
Note: Pressurized product uses nitrogen as the expellant		7727-37-9

* % is rounded to the nearest appropriate number. Values are not to be considered product specifications

SECTION IV. First Aid Measures

Eye Exposure- Flush eyes with water until pain-free. If irritation develops or persists, seek medical attention.

Skin Exposure- Wash with plenty of soap and water. If irritation develops or persists, seek medical attention.

Inhalation- Move victim to fresh air. If irritation develops or persists, seek medical attention.

Ingestion- If victim is conscious and alert, give 2-3 glasses of water to drink. Do not induce vomiting. If vomiting occurs and the victim is conscious, give additional water to further dilute the chemical. Prevent aspiration of swallowed product by laying victim on side with head lower than their waist. Seek medical attention. Do not leave victim unattended.

Medical Conditions Possibly Aggravated by Exposure- Inhalation of the product may aggravate existing chronic respiratory conditions such as asthma, emphysema, or bronchitis. Contact with the skin may aggravate an existing skin disease. Chronic overexposure may cause pneumoconiosis (“Dusty Lung” disease).

SECTION V. Firefighting Measures

Extinguishing Media: N/A. This product is an extinguishing agent. It is nonflammable and noncombustible.
Special Firefighting Procedures: N/A
Unusual Fire and Explosion Hazards: This product may decompose in fire and release carbon monoxide and carbon dioxide (Refer to Section X).
Sensitivity to Mechanical Impact or Static Discharge: None

SECTION VI. Accidental Release Measures

In case of accidental release, use the appropriate respiratory protection. Clean up the product using a vacuum or wet sweep and shovel to minimize the generation of dust. Bag or drum the product for disposal. If the product is used and/or contaminated, use personal protective equipment and containment means that are appropriate for the composition of the mixture. Product should be prevented from entering waterways.

SECTION VII. Handling and Storage

Avoid eye, respiratory, and skin exposure. Use the appropriate personal protective equipment when handling. Wash thoroughly after handling (Refer to Section VIII). Product should be stored in its original container or extinguisher. When the product is contained under pressure (e.g., an extinguisher), inspect the container for rust or damage that may compromise the container integrity. Do not store the product in high humidity and do not mix with other extinguishing agents.

SECTION VIII. Exposure Controls and Personal Protection

Exposure Guidelines:

	OSHA PEL	ACGIH TLV
Sodium Bicarbonate	Particulates Not Otherwise Classified Total Dust- 15 mg/m³ Respirable Fraction- 5 mg/m³	Particulates Not Otherwise Classified Total Dust- 10 mg/m³ Respirable Fraction- 3 mg/m³
Amorphous Silica	6 mg/m³	10 mg/m³
Stannous ocetate	.1 mg/m³	.1 mg/m³
Silicone	Not Regulated	Not Regulated

During the use of this product on fires, exhaust gases and products of incomplete combustion are the main respiratory hazards. In the manufacture of this product, employers and employees must use their collective judgment in determining the on-the-job settings where the use of a dust mask or respirator is prudent. The need for respiratory protection is not likely for short-term use in well-ventilated areas.

Respiratory Protection: Use an N-95 dust mask for limited exposures and use air-purifying respirators with high efficiency particulate air filters (HEPA filters) for prolonged exposures.

Eye Protection: Wear chemical goggles or full-face air-purifying respirator.

Skin Protection: Use nitrile, latex, or similar gloves and coveralls to minimize exposure. Good personal hygiene practices are essential. After handling the product, avoid food, tobacco products, or other means of transferring the product from hand to mouth until after thoroughly washing.

SECTION IX. Physical and Chemical Properties

Chemical Agent

Appearance and Odor: White fine powder that is odorless.
Apparent Density: 0.90
Solubility: The product is coated with water repellant silicone. Not immediately soluble in water.
pH: Approximately 8 - 9 for a 1% solution
Flash Point: N/A
Flammability: N/A
Vapor Pressure: N/A
Boiling Point: N/A
Explosive or Oxidizing Properties: None

Expellant- Nitrogen

Appearance and Odor: Colorless and odorless.
Specific Gravity: 0.075 lb/ft³@ 70°F as vapor
Solubility: N/A
pH: N/A
Flash Point: Nonflammable
Flammability: Nonflammable
Vapor Pressure: N/A
Boiling Point: -321°F
Explosive or Oxidizing Properties: None

SECTION X. Stability and Reactivity

Reactivity: Pressurized containers may rupture or explode if exposed to high heat
Stability: Stable
Incompatibles: Reacts with strong acids to form carbon dioxide, creating a possible asphyxiation hazard. Hazardous reaction may occur from contact with monoammonium phosphate or sodium potassium.
Decomposition Products: This product may decompose in fire and release carbon monoxide and carbon dioxide.
Hazardous Polymerization: Will not occur
Hazardous Reactions: None

SECTION XI. Toxicological Information

Acute Toxicity: Sodium bicarbonate LD50 (rat): 4220 mg/kg body weight.
TDLo (infant): 1260 mg/kg body weight, symptoms including pulmonary and kidney damage.
Target organs in humans: respiratory system and eyes. The product is a mild irritant to eyes and respiratory system. No indication that the product causes sensitization.

Chronic Toxicity: Pneumoconiosis, or "Dusty Lung" disease, may result from chronic exposure to any dust.

Reproductive Toxicity: The reproductive system was not found to be a target organ in humans. Intraperitoneal TDLo (mouse): 40mg/kg body weight, teratogen

Nitrogen: Simple asphyxiant. Exposure at high concentrations can cause suffocation by reducing the available oxygen.

SECTION XII. Ecological Information

Ecotoxicity: No known negative effects.
Degradability: Degrades rapidly in wet or humid environment.
Bioaccumulation: Little, extent unknown.
Mobility in Soil: Water-soluble. May leech in to groundwater.

SECTION XIII. Disposal Considerations

This product is not a RCRA characteristically hazardous or listed hazardous waste. Dispose of according to state or local laws, which may be more restrictive than federal regulations. Be aware that product used on a fire may be altered or contaminated and thereby require different disposal considerations.

SECTION XIV. Transportation Information

This product is not defined as a hazardous material under U.S. Department of Transportation 49 CFR 172, or by Transport Canada "Transportation of Dangerous Goods" regulations.

Please Note: Although this material is not considered hazardous, when contained in a stored pressure fire extinguisher pressurized with a nonflammable gas, the extinguisher itself is considered a hazardous material by the U.S. Department of Transportation (USDOT) and Transport Canada (TC). The proper shipping name shall be Fire Extinguisher and the UN Identification Number is UN 1044. The USDOT hazard class is Limited Quantity when pressurized to less than 241 psig and when shipped via highway or rail. For shipment by Air or Water consult the current IATA or IMDG Regulations respectively.

SECTION XV. Regulatory Information

International Inventory Status: Sodium bicarbonate is on the following inventories

Country	Agency
U.S.A.	TSCA
Canada	DSL
Europe	EINECS/ELINCS
Australia	AICS

Japan	MITI
South Korea	KECL

European Risk and Safety Phrases:

EU Classification- Harmful

R Phrases-	22	Harmful if swallowed
	36/37	Irritating to eyes and respiratory system
S Phrases-	26	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice

U.S. Federal Regulatory Information:

Non-pressurized; None of the chemicals in this product are under SARA reporting requirements or have SARA Threshold Planning Quantities or CERCLA Reportable Quantities, or are regulated under TSCA 8(d).

Pressurized: SARA Title III Section 311/312 Categorization is Pressure Hazard

State Regulatory Information:

Chemicals in this product are covered under the specific State regulations noted:

Alaska	Designated Toxic and Hazardous Substances- None
California	Permissible Exposure Limits for Chemical Contaminants- None
Florida	Substance list- Mica dust
Illinois	Toxic Substance List- None
Kansas	Section 302/303 List- None
Massachusetts	Substance list- Mica dust
Minnesota	List of Hazardous Substances- None
Missouri	Employer Information/Toxic Substance List- None
New Jersey	Right to Know Hazardous Substance List- None
North Dakota	List of Hazardous Chemicals, Reportable Quantities- None
Pennsylvania	Hazardous Substance List- None
Rhode Island	Hazardous Substance List- Mica dust
Texas	Hazardous Substance List- No
West Virginia	Hazardous Substance List- None
Wisconsin	Toxic and Hazardous Substances- None

California Proposition 65- No component is listed on the California Proposition 65 List

SECTION XVI. Other Information

This Safety Data Sheet prepared in accordance with OSHA's Hazard Communication Standard (29 CFR 1910.1200) and the Globally Harmonized System of Classification and Labelling of Chemicals (GHS).

HMIS RATINGS:

Health	1
Flammability	0
Reactivity	0

Personal Protective Equipment: use N-95 dust mask (See Section 8)

WHMIS (Canadian Workplace Hazardous Materials Identification)
None

The information contained herein is given in good faith as typical values and not as product specifications. No warranty, either expressed or implied, is hereby made.