Safety Data Sheet

GREENFORCE(TM)
Revision Number 2

Revision Date 15-Feb-2019
Supersedes Date: 14-Dec-2018

1. Identification

1.1. Product Identifier

Product Name GREENFORCE(TM)

1.2. Relevant identified uses of the substance or mixture and uses advised against

Recommended use Adhesives and/or sealants.
Uses advised against No information available

1.3. Details of the supplier of the safety data sheet

Responsible Party
Bostik Inc.
11320 W. Watertown Plank Road
Wauwatosa, Wisconsin 53226 USA
Phone: +1 (800) 843-0844 (Domestic Toll Free)
Phone: +1 (414) 774-2250 (International)
Fax: +1 (414) 774-8075

E-mail msds@bostik.com

1.4. Emergency telephone number

Telephone: 1-800-227-0332
(Outside U.S.) 1-703-527-3887

Section 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

Skin sensitization	Category 1
Reproductive toxicity	Category 1B

2.2. Label Elements

EMERGENCY OVERVIEW

DANGER

Hazard statements
May cause an allergic skin reaction
May damage fertility or the unborn child

Appearance Paste **Physical State** Liquid **Odor** Fruity

Precautionary Statements - Prevention
Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Use personal protective equipment as required
Avoid breathing dust/fume/gas/mist/vapors/spray
Contaminated work clothing should not be allowed out of the workplace
Wear protective gloves

Precautionary Statements - Response
IF exposed or concerned: Get medical advice/attention
IF ON SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse.

Precautionary Statements - Storage
Store locked up

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant

Hazards Not Otherwise Classified (HNOC)
Not applicable

Unknown acute toxicity
5 % of the mixture consists of ingredient(s) of unknown toxicity

2.3. Other Information

Small amounts of methanol (CAS 67-56-1) are formed by hydrolysis and released upon curing.

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances
Mixture

3.2 Mixtures

Chemical Name	CAS No.	Weight-%
Limestone	1317-65-3	40 - 70
Carbonic acid, calcium salt (1:1)	471-34-1	3 - 7
Silane, ethenyltrimethoxy-	2768-02-7	1 - 5
N-[3-(Trimethyoxysilyl)propyl]-1,2-ethanediamine	1760-24-3	0.1 - 1
Quartz	14808-60-7	0.1 - 1
Tin, dibutylbis(2,4-pentanedionato-O,O')-, (OC-6-11)-	22673-19-4	0.1 - 1

**The exact percentage (concentration) of composition has been withheld as a trade secret.*

Section 4: FIRST AID MEASURES

4.1. Description of first aid measures

General advice Remove contaminated clothing and shoes. If medical advice is needed, have product container or label at hand.

Eye contact Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Hold eyelids apart and consult an physician.

Skin contact Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Wash contaminated clothing before reuse. May cause sensitization by

skin contact. In the case of skin irritation or allergic reactions see a physician.

Inhalation Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.

Ingestion If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label. If swallowed, rinse mouth with water (only if the person is conscious).

Self-protection of the first aider First aider: Pay attention to self-protection!.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms None known.

4.3. Indication of any immediate medical attention and special treatment needed

Note to physicians Small amounts of methanol (CAS 67-56-1) are formed by hydrolysis and released upon curing. May cause sensitization of susceptible persons. May cause sensitization by skin contact. Treat symptomatically.

4.4. Reference to Other Sections

Reference to other sections Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION
Section 11: TOXICOLOGY INFORMATION

Section 5: FIRE-FIGHTING MEASURES

5.1. Extinguishing media

Suitable extinguishing media
Carbon dioxide (CO2). Extinguishing powder. Water spray or fog. Alcohol resistant foam.

Unsuitable extinguishing media
Strong water jet.

5.2. Special hazards arising from the substance or mixture

Specific hazards arising from the chemical
Thermal decomposition can lead to release of toxic/corrosive gases and vapors. Carbon monoxide. Carbon dioxide (CO2). Halogenated hydrocarbons. Nitrogen oxides (NOx). Product is or contains a sensitizer. May cause sensitization by skin contact.

Hazardous Combustion Products Carbon monoxide. Carbon dioxide (CO2).

Explosion Data
Sensitivity to mechanical impact None.
Sensitivity to static discharge None.

5.3. Advice for firefighters

Protective equipment and precautions for firefighters
Do not allow run-off from fire-fighting to enter drains or water courses. As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

Section 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions Use personal protection equipment. Do not touch or walk through spilled material. Ensure

adequate ventilation, especially in confined areas. Avoid contact with skin, eyes or clothing.

6.2. Environmental precautions

Environmental precautions Prevent entry into waterways, sewers, basements or confined areas. Do not allow to enter into soil/subsoil. See Section 12 for additional Ecological Information.

6.3. Methods and material for containment and cleaning up

Methods for containment Contain and collect spillage with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see Section 13). Protect from moisture.

Methods for cleaning up Use personal protective equipment as required. Dam up. Soak up with inert absorbent material. Pick up and transfer to properly labeled containers. Clean contaminated surface thoroughly.

6.4. Reference to other sections

Reference to other sections Section 7: HANDLING AND STORAGE
Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION
Section 13: DISPOSAL CONSIDERATIONS

Section 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Advice on safe handling Use personal protective equipment as required. Handle in accordance with good industrial hygiene and safety practice. Do not eat, drink or smoke when using this product. Ensure adequate ventilation, especially in confined areas. Avoid contact with skin, eyes or clothing. After contact with skin, wash immediately with plenty of water and soap. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions Keep/store only in original container. Keep away from food, drink and animal feeding stuffs. Protect from sunlight. Store in a well-ventilated place. Keep at temperatures between 41 and 95 °F. Protect from direct contact with water or excessive moisture.

Incompatible materials Water.

7.3. Specific end use(s)

Specific Use(s)
Adhesives and/or sealants.

Other information No information available.

7.4. References to Other Sections

Reference to other sections Section 13: DISPOSAL CONSIDERATIONS
Section 10: STABILITY AND REACTIVITY

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Exposure Guidelines Small amounts of methanol (CAS 67-56-1) are formed by hydrolysis and released upon curing. This product contains substances which in their raw state are powder form, however

in this product they are in a non-respirable form. Inhalation of powder/dust particles is unlikely to occur from exposure to this product.

Chemical Name	ACGIH TLV	NIOSH IDLH	OSHA PEL	Mexico
Limestone 1317-65-3	-	TWA: 10 mg/m³ total dust TWA: 5 mg/m³ respirable dust	TWA: 15 mg/m³ total dust TWA: 5 mg/m³ respirable fraction	TWA: 10 mg/m³ STEL: 20 mg/m³
Carbonic acid, calcium salt (1:1) 471-34-1	-	TWA: 10 mg/m³ total dust TWA: 5 mg/m³ respirable dust	-	-
Quartz 14808-60-7	TWA: 0.025 mg/m³ respirable particulate matter	IDLH: 50 mg/m³ respirable dust TWA: 0.05 mg/m³ respirable dust	TWA: 50 µg/m³ TWA: 50 µg/m³ excludes construction work, agricultural operations, and exposures that result from the processing of sorptive clays : (250)/(%SiO2 + 5) mppcf TWA respirable fraction : (10)/(%SiO2 + 2) mg/m³ TWA respirable fraction	TWA: 0.1 mg/m³
Tin, dibutylbis(2,4-pentanedionato-O,O')-, (OC-6-11)- 22673-19-4	STEL: 0.2 mg/m³ Sn TWA: 0.1 mg/m³ Sn S*	IDLH: 25 mg/m³ Sn TWA: 0.1 mg/m³ except Cyhexatin Sn	TWA: 0.1 mg/m³ Sn	TWA: 0.1 mg/m³ STEL: 0.2 mg/m³

Chemical Name	Argentina	Brazil	Chile	Venezuela
Limestone 1317-65-3	TWA: 10 mg/m³	-	TWA: 7 mg/m³	-
Carbonic acid, calcium salt (1:1) 471-34-1	-	-	-	TWA: 10 mg/m³
Quartz 14808-60-7	TWA: 0.05 mg/m³	-	TWA: 0.08 mg/m³	TWA: 0.025 mg/m³
Tin, dibutylbis(2,4-pentanedionato-O,O')-, (OC-6-11)- 22673-19-4	TWA: 0.1 mg/m³ Skin STEL: 0.2 mg/m³	-	TWA: 0.09 mg/m³ Skin	Skin STEL: 0.2 mg/m³ TWA: 0.1 mg/m³

Chemical Name	ACGIH TLV	NIOSH IDLH	OSHA PEL	Mexico
Methyl alcohol 67-56-1	STEL: 250 ppm TWA: 200 ppm S*	IDLH: 6000 ppm TWA: 200 ppm TWA: 260 mg/m³ STEL: 250 ppm STEL: 325 mg/m³	TWA: 200 ppm TWA: 260 mg/m³	TWA: 200 ppm TWA: 260 mg/m³ STEL: 250 ppm STEL: 310 mg/m³

Chemical Name	Argentina	Brazil	Chile	Venezuela
Methyl alcohol 67-56-1	TWA: 200 ppm Skin STEL: 250 ppm	TWA: 156 ppm TWA: 200 mg/m³ Skin	TWA: 175 ppm TWA: 229 mg/m³ Skin	Skin STEL: 250 ppm TWA: 200 ppm

8.2. Exposure controls

OTHER INFORMATION Small amounts of methanol (CAS 67-56-1) are formed by hydrolysis and released upon curing.

Engineering controls Showers
Eyewash stations
Ventilation systems.

Personal protective equipment [PPE]

Eye/face protection Wear safety glasses with side shields (or goggles).

Skin and body protection Wear suitable chemical resistant gloves. The selection of suitable gloves does not only

	depend on the material, but also on further marks of quality and various manufacturers.
Respiratory protection	If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.
General hygiene considerations	Use personal protective equipment as required. Handle in accordance with good industrial hygiene and safety practice. Do not eat, drink or smoke when using this product. Avoid contact with skin, eyes or clothing. Wash hands thoroughly after handling. Take off contaminated clothing and wash before reuse. Regular cleaning of equipment, work area and clothing is recommended.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Physical State	Liquid
Appearance	Paste
Color	Cream
Odor	Fruity
Odor Threshold	No information available

Property	**Values**	**Remarks • Method**
pH	No information available	
Melting point / freezing point	No data available	
Boiling point / boiling range	No data available	
Flash Point	> 110 °C / > 230 °F	ASTM D3278
Evaporation Rate	No information available	
Flammability (solid, gas)	No information available	
Flammability Limit in Air		
Upper flammability or explosive limits	No information available	
Lower flammability or explosive limits	No information available	
Vapor Pressure	No information available	
Vapor Density	No information available	
Relative Density	No information available	
Water Solubility	No information available	
Solubility in Other Solvents		
Partition coefficient	No information available	
Autoignition Temperature	No information available	
Decomposition Temperature	No information available	
Kinematic Viscosity	No information available	
Dynamic Viscosity	No information available	
Explosive properties	No information available	
Oxidizing properties	No information available	

9.2. Other information

Softening Point	No information available
Molecular Weight	No information available
Solvent content (%)	No information available
Solid content (%)	96.8
Density	1.710 g/cm³
VOC (volatile organic compound)	0 g/L /

Section 10: STABILITY AND REACTIVITY

10.1. Reactivity

Product cures with moisture.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

None known.

10.4. Conditions to avoid

Extremes of temperature and direct sunlight. Keep from freezing. Protect from moisture. Product cures with moisture.

10.5. Incompatible materials

Water.

10.6. Hazardous decomposition products

Carbon oxides.

Section 11: TOXICOLOGY INFORMATION

11.1. Information on toxicological effects

Product information No data available
Inhalation No data available.
Eye contact No data available.
Skin contact May cause sensitization by skin contact.
Ingestion No data available.

Component Information

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Limestone 1317-65-3	>5000 mg/kg (rat)	-	-
Carbonic acid, calcium salt (1:1) 471-34-1	LD50 > 2000 mg/kg (Rat) OECD 420	LD50 >2000 mg/kg (Rat) OECD 402	LC50 (4h) >3mg/ml (Rat)
Silane, ethenyltrimethoxy- 2768-02-7	LD 50 = 7120 -7236 mg/kg (Rat) OECD 401	= 3360 µL/kg (Rabbit)	LC50 (4hr) 16.8 mg/l (rat) OECD TG 403
N-[3-(Trimethyoxysilyl)propyl]-1,2-ethanediamine 1760-24-3	= 2295 mg/kg (Rat)	>2000 mg/Kg (Rat)	LC50 4H (Aerosol)1.5 - 2.44 mg/L air
Quartz 14808-60-7	>20000 mg/kg	-	-
Tin, dibutylbis(2,4-pentanedionato-O,O')-, (OC-6-11)- 22673-19-4	LD50 = 1864 mg/kg (Rat) OECD 401	LD50 > 2000 mg/kg (Rat) OECD 402	-

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Symptoms No information available.
Skin corrosion/irritation No information available.
Serious eye damage/eye irritation No information available.
Irritation No information available.
Corrosivity No information available.
Sensitization No information available.
Germ Cell Mutagenicity No information available.

Reproductive Toxicity	Product is or contains a chemical which is a known or suspected reproductive hazard.
Developmental Toxicity	No information available.
Teratogenicity	No information available.
STOT - single exposure	No information available.
STOT - repeated exposure	No information available.
Chronic Toxicity	No information available.
Target Organ Effects	Eyes, Respiratory system, Skin.
Aspiration hazard	Not applicable.
Carcinogenicity	The table below indicates whether each agency has listed any ingredient as a carcinogen. As Quartz (14808-60-7) is inextricably bound in the polymer matrix, it is not expected to be available as an airborne hazard (dust, mist, or spray) under normal condition of uses.

Chemical Name	ACGIH	IARC	NTP	OSHA
Quartz 14808-60-7	A2	Group 1	Known	X

ACGIH (American Conference of Governmental Industrial Hygienists)
A2 - Suspected Human Carcinogen
IARC (International Agency for Research on Cancer)
Group 1 - Carcinogenic to Humans
NTP (National Toxicology Program)
Known - Known Carcinogen
OSHA (Occupational Safety and Health Administration of the US Department of Labor)
X - Present

Section 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Chemical Name	Algae/aquatic plants	Fish	Toxicity to Microorganisms	Crustacea
Limestone 1317-65-3	CE50 (72h) >200mg/L Algae (Desmondesmus subspicatus)	CL50 (96h)>10000mg/L Fish (Oncorhynchus mykiss)		CE50 (48h) >1000 mg/L Daphnia Magna
Carbonic acid, calcium salt (1:1) 471-34-1	IC50 72H Algae >1000 mg/l	CL50 96H Fish >1000 mg/l		EC50 48H Daphnia >1000 mg/l
Silane, ethenyltrimethoxy- 2768-02-7	EC 50 (72h) > 957 mg/l (Desmodesmus subspicatus) EU Method C.3	LC50 (96h) = 191 mg/l (Oncorhynchus mykiss)		EC50(48hr) 168.7mg/l (Daphnia magna)
N-[3-(Trimethyoxysilyl)propyl]-1,2-ethanediamine 1760-24-3		LC50 (96H) =597 mg/L Fish (Danio rerio)Semi-static		EC50 (48h) =81mg/L Daphnia magna Static
Tin, dibutylbis(2,4-pentanedionato-O,O')-, (OC-6-11)- 22673-19-4	>2.0 mg/l	>2.0 mg/l		EC50 0.0036 mg/l 48Hr (Daphnia magna)

12.2. Persistence and degradability

No information available.

12.3. Bioaccumulative potential

No information available.

12.4. Mobility in soil

No information available.

Other adverse effects

No information available

Section 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Disposal of Wastes It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations

Contaminated packaging Dispose of in accordance with federal, state and local regulations

Section 14: TRANSPORT INFORMATION

DOT Not regulated

IATA Not regulated

IMDG Not regulated

Section 15: REGULATORY INFORMATION

Global Inventories

TSCA	Listed
DSL	Listed

Legend:
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL - Canadian Domestic Substances List
Listed - The components of this product are either listed or exempt from listing on inventory.
Not Listed - One or more components of this product are not listed on inventory.

United States of America

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

SARA 311/312 Hazard Categories

Acute Health Hazard	Yes
Chronic Health Hazard	Yes
Fire hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

Europe

Restrictions of Use of Hazardous Substances (RoHS) Directive 2011/65/EU

This product does not contain Lead (7439-92-1), Cadmium (7440-43-9), Mercury (7439-97-6), Hexavalent chromium (7440-47-3), Polybrominated biphenyls (PBB), and Polybrominated diphenyl ethers (PBDE) above the regulated limit mentioned in this regulation

EU-REACH (1907/2006) - Candidate List of Substances of Very High Concern (SVHC) for Authorization in accordance with Article 59
This product does not contain candidate substances of very high concern at a concentration >=0.1% (Regulation (EC) No. 1907/2006 (REACH), Article 59)

Section 16: OTHER INFORMATION

Key or legend to abbreviations and acronyms used in the safety data sheet
No information available

Key Literature References and Sources for Data
No information available

Prepared By	Product Safety & Regulatory Affairs
Revision Date	15-Feb-2019
Revision note	SDS sections updated, 2, 7, 8, 11.
Training Advice	When working with hazardous materials, regular training of operators is required by law
Further information	No information available

Disclaimer
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet