SAFETY DATA SHEET

In accordance with OSHA 29 CFR 1910.1200

GREENFUSION(TM)
Revision Number 3

Revision Date: 22-Jul-2020
Supersedes Date: 16-Sep-2019

1. Identification

1.1. Product Identifier

Product Name GREENFUSION(TM)

Other means of identification
Other information Not applicable

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

Recommended use Adhesive
Restrictions on use 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

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

2. Hazard(s) identification

2.1. Classification of the substance or mixture

Respiratory sensitization	Category 1
Skin sensitization	Category 1
Reproductive toxicity	Category 1B

Hazards not otherwise classified (HNOC)
Not applicable

2.2. Label Elements

EMERGENCY OVERVIEW

Danger

Hazard statements
May cause allergy or asthma symptoms or breathing difficulties if inhaled
May cause an allergic skin reaction
May damage fertility or the unborn child

Appearance Paste **Physical state** Liquid **Odor** No information available

Precautionary Statements - Prevention
Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Wear protective gloves/protective clothing/eye protection/face protection
Avoid breathing dust/fume/gas/mist/vapors/spray
In case of inadequate ventilation wear respiratory protection
Contaminated work clothing should not be allowed out of the workplace

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
IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing
If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician

Precautionary Statements - Storage
Store locked up

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

35 % of the mixture consists of ingredient(s) of unknown toxicity

2.3. Other Information

No information available.

3. Composition/information on ingredients

3.1. Substances

Not applicable.

Mixture

Chemical name	CAS No	Weight-%
Limestone	1317-65-3	40 - 70
Benzene, 1,1'-methylenebis[isocyanato-	26447-40-5	0.1 - 1
Quartz	14808-60-7	0.1 - 1
Dibutyltin dilaurate	77-58-7	0.1 - 1
Benzenesulfonyl isocyanate, 4-methyl-	4083-64-1	0.1 - 1

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

4. First-aid measures

4.1. Description of first aid measures

General advice IF exposed or concerned: Get medical advice/attention. Show this safety data sheet to the doctor in attendance.

Inhalation Remove to fresh air. If breathing is difficult, (trained personnel should) give oxygen. If symptoms persist, call a physician. If breathing is irregular or stopped, administer artificial respiration. Get immediate medical advice/attention. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. May cause allergic respiratory reaction.

Eye contact Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Keep eye wide open while rinsing. If symptoms persist, call a 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.

Ingestion Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Call a physician or poison control center immediately. May produce an allergic reaction.

Self-protection of the first aider Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Use personal protective equipment as required. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Avoid contact with skin, eyes or clothing.

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

Symptoms May cause allergy or asthma symptoms or breathing difficulties if inhaled. Coughing and/ or wheezing. Itching. Rashes. Hives.

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

Note to physicians May cause sensitization in susceptible persons. May cause sensitization by inhalation and skin contact. Treat symptomatically.

5. Fire-fighting measures

5.1. Extinguishing media

Suitable Extinguishing Media Dry chemical, CO2, alcohol-resistant foam or water spray.
Large Fire CAUTION: Use of water spray when fighting fire may be inefficient.

Unsuitable extinguishing media Do not scatter spilled material with high pressure water streams.

5.2. Special hazards arising from the substance or mixture

Specific hazards arising from the chemical Product is or contains a sensitizer. May cause sensitization by inhalation and skin contact.

Hazardous combustion products Carbon dioxide (CO2). Oxides of sulfur.

Explosion data
Sensitivity to mechanical impact None.

Sensitivity to static discharge None.

5.3. Advice for firefighters

Special protective equipment for fire-fighters	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions	Use personal protective equipment as required. Keep people away from and upwind of spill/leak. Ensure adequate ventilation. Do not breathe dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling.
Other information	Refer to protective measures listed in Sections 7 and 8.

6.2. Environmental precautions

Environmental precautions	Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Do not flush into surface water or sanitary sewer system. See Section 12 for additional Ecological Information.

6.3. Methods and material for containment and cleaning up

Methods for containment	Keep from any possible contact with water. Prevent further leakage or spillage if safe to do so. 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).
Methods for cleaning up	Use personal protective equipment as required. Soak up with inert absorbent material. Take up mechanically, placing in appropriate containers for disposal. Clean contaminated surface thoroughly.

See section 8 for more information. See section 13 for more information.

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. Do not breathe dust/fume/gas/mist/vapors/spray. Ensure adequate ventilation. Provide extract ventilation to points where emissions occur. In case of insufficient ventilation, wear suitable respiratory equipment. Avoid contact with skin, eyes or clothing. Wash thoroughly after handling. Take off contaminated clothing and wash before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions	Keep out of the reach of children. Keep in properly labeled containers. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from water or moist air.

7.3 References to other sections

Reference to other sections	Section 10: STABILITY AND REACTIVITY

Section 13: DISPOSAL CONSIDERATIONS

8. Exposure controls/personal protection

8.1. Control parameters

Exposure Limits The following ingredients are the only ingredients of the product above the cut-off level (or level that contributes to the hazard classification of the mixture) which have an exposure limit applicable in the region for which this safety data sheet is intended or other recommended limit. At this time, the other relevant constituents have no known exposure limits from the sources listed here.

Chemical name	ACGIH TLV	OSHA PEL	NIOSH
Limestone 1317-65-3	-	TWA: 15 mg/m³ total dust TWA: 5 mg/m³ respirable fraction	TWA: 10 mg/m³ total dust TWA: 5 mg/m³ respirable dust
Benzene, 1,1'-methylenebis[isocyanato- 26447-40-5	-	Ceiling: 0.02 ppm Ceiling: 0.2 mg/m³	-
Quartz 14808-60-7	TWA: 0.025 mg/m³ respirable particulate matter	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/m ³ TWA respirable fraction	IDLH: 50 mg/m³ respirable dust TWA: 0.05 mg/m³ respirable dust
Dibutyltin dilaurate 77-58-7	STEL: 0.2 mg/m³ Sn TWA: 0.1 mg/m³ Sn S*	TWA: 0.1 mg/m³ Sn	IDLH: 25 mg/m³ Sn TWA: 0.1 mg/m³ except Cyhexatin Sn

Chemical name	Argentina	Brazil	Chile	Colombia
Limestone 1317-65-3	TWA: 10 mg/m³	-	TWA: 7 mg/m³	-
Benzene, 1,1'-methylenebis[isocyanato- 26447-40-5	TWA: 0.005 ppm	-	TWA: 0.004 ppm TWA: 0.045 mg/m³	-
Quartz 14808-60-7	TWA: 0.05 mg/m³	TWA: 0.025 mg/m³	TWA: 0.08 mg/m³	-
Dibutyltin dilaurate 77-58-7	TWA: 0.1 mg/m³ Skin STEL: 0.2 mg/m³	TWA: 0.1 mg/m³	TWA: 0.09 mg/m³ Skin	-

Chemical name	Costa Rica	Peru	Uruguay	Venezuela
Quartz 14808-60-7	-	-	-	TWA: 0.025 mg/m³
Dibutyltin dilaurate 77-58-7	-	-	-	Skin STEL: 0.2 mg/m³ TWA: 0.1 mg/m³

8.2. Exposure controls

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

curing.

Chemical name	ACGIH TLV	OSHA PEL	NIOSH
Methyl alcohol 67-56-1	STEL: 250 ppm TWA: 200 ppm S*	TWA: 200 ppm TWA: 260 mg/m^3	IDLH: 6000 ppm TWA: 200 ppm TWA: 260 mg/m^3 STEL: 250 ppm STEL: 325 mg/m^3

Chemical name	Argentina	Brazil	Chile	Colombia
Methyl alcohol 67-56-1	TWA: 200 ppm Skin STEL: 250 ppm	TWA: 156 ppm TWA: 200 mg/m^3 Skin	TWA: 175 ppm TWA: 229 mg/m^3 Skin	

Chemical name	Costa Rica	Peru	Uruguay	Venezuela
Methyl alcohol 67-56-1				Skin STEL: 250 ppm TWA: 200 ppm

Appropriate engineering controls

Engineering controls Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

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

Hand 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.

Skin and body protection Wear suitable protective clothing.

Respiratory protection No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

General hygiene considerations Wear suitable gloves and eye/face protection. Handle in accordance with good industrial hygiene and safety practice. Do not eat, drink or smoke when using this product. Keep away from food, drink and animal feeding stuffs. Avoid breathing dust/fume/gas/mist/vapors/spray. Avoid contact with skin, eyes or clothing. Wash hands before breaks and immediately after handling the product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Regular cleaning of equipment, work area and clothing is recommended.

9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state Liquid
Appearance Paste
Color Gray

Odor	No information available
Odor threshold	No information available

Property	**Values**	**Remarks • Method**
pH	No data available	None known
Melting point / freezing point	No data available	None known
Boiling point / boiling range	No data available	None known
Flash point	> 93.3 °C / 200 °F	
Evaporation rate	No data available	None known
Flammability (solid, gas)	Not applicable for liquids .	
Flammability Limit in Air		None known
Upper flammability or explosive limits	No data available	
Lower flammability or explosive limits	No data available	
Vapor pressure	No data available	None known
Vapor density	No data available	None known
Relative density	No data available	None known
Water solubility	No data available	None known
Solubility(ies)	No data available	None known
Partition coefficient	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature	No data available	None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known

9.2. Other information

Explosive properties	No information available
Oxidizing properties	No information available
Solvent content (%)	No information available
Solid content (%)	100.0
Softening Point	No information available
Molecular weight	No information available
VOC Content (%)	< .1 g/L
Density	1.72 g/cm³
Bulk density	No information available

10. Stability and reactivity

10.1. Reactivity

Reactivity No information available.

10.2. Chemical stability

Chemical stability Reacts with water.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions None under normal processing.

Hazardous polymerization Hazardous polymerization may occur.

10.4. Conditions to avoid

Conditions to avoid Extremes of temperature and direct sunlight. Exposure to air or moisture over prolonged periods. Exposure to water.

10.5. Incompatible materials

Incompatible materials Water. Alcohols. Strong bases. Strong oxidizing agents. Finely powdered metals.

10.6. Hazardous decomposition products

Hazardous decomposition products Carbon monoxide Carbon dioxide (CO2) Nitrogen oxides (NOx) Hydrogen cyanide Thermal decomposition can lead to release of irritating and toxic gases and vapors

11. Toxicological information

11.1. Information on toxicological effects

Product Information .

Inhalation May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause sensitization in susceptible persons.

Eye contact Based on available data, the classification criteria are not met.

Skin contact Repeated or prolonged skin contact may cause allergic reactions with susceptible persons. May cause sensitization by skin contact.

Ingestion May cause additional affects as listed under "Inhalation".

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain, or flushing. Coughing and/ or wheezing. Itching. Rashes. Hives.

Acute toxicity

Numerical measures of toxicity

The following values are calculated based on chapter 3.1 of the GHS document .

18 % of the mixture consists of ingredient(s) of unknown acute oral toxicity
18 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity
35 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)
35 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)
35 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Limestone 1317-65-3	>5000 mg/kg (Rattus)	-	-
Benzene, 1,1'-methylenebis[isocyanato- 26447-40-5	>10000 mg/kg (Rattus)	> 10000 mg/kg (Oryctolagus cuniculus)	=490 mg/m^3 (Rattus) 4 h
Quartz 14808-60-7	>20000 mg/kg	-	-
Dibutyltin dilaurate 77-58-7	=2071 mg/kg (Rattus) OECD 401	> 2000 mg/kg (Rattus)	-
Benzenesulfonyl isocyanate, 4-methyl- 4083-64-1	=2234 mg/kg (Rattus)	LD 50 (Rattus) > 2000 mg/kg OECD 402	>640 ppm (Rattus) 1 h

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

Skin corrosion/irritation Based on available data, the classification criteria are not met.

Serious eye damage/eye irritation Based on available data, the classification criteria are not met.

Respiratory or skin sensitization May cause sensitization by inhalation. May cause sensitization by skin contact.

Germ cell mutagenicity Based on available data, the classification criteria are not met.

Carcinogenicity 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.

The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical name	ACGIH	IARC	NTP	OSHA
Benzene, 1,1'-methylenebis[isocyanato- 26447-40-5	-	Group 3	-	-
Quartz 14808-60-7	A2	Group 1	Known	X

Legend
ACGIH (American Conference of Governmental Industrial Hygienists)
A2 - Suspected Human Carcinogen
IARC (International Agency for Research on Cancer)
Group 1 - Carcinogenic to Humans
Group 3 - Not Classifiable as to Carcinogenicity in Humans
NTP (National Toxicology Program)
Known - Known Carcinogen
OSHA (Occupational Safety and Health Administration of the US Department of Labor)
X - Present

Quartz (14808-60-7)

Method	Species	Results
IARC (International Agency for Research on Cancer)	Human evidence	Carcinogenic

Reproductive toxicity Classification based on data available for ingredients. Contains a known or suspected reproductive toxin.

STOT - single exposure Based on available data, the classification criteria are not met.

STOT - repeated exposure Based on available data, the classification criteria are not met.
Target organ effects Eyes, Skin, Reproductive System, Respiratory system.

Aspiration hazard Based on available data, the classification criteria are not met.

Other adverse effects No information available.

Interactive effects No information available.

12. Ecological information

12.1. Toxicity

Ecotoxicity .

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 (Oncorhynchus mykiss)	-	CE50 (48h) >1000 mg/L Daphnia Magna

Benzene, 1,1'-methylenebis[isocyanato- 26447-40-5	EC50: =3230mg/L (96h, Skeletonema costatum)	-	-	EC50: >1000mg/L (24h, Daphnia magna)
Dibutyltin dilaurate 77-58-7	EC50 1 (72h) mg/L (desmodesmus subspicatus)	LC50: =2mg/L (48h, Oryzias latipes)	-	0,463 (48h) mg/L (daphnia magma)

12.2. Persistence and degradability

Persistence and degradability No information available.

12.3. Bioaccumulative potential

Bioaccumulation There is no data for this product.

Component Information

Chemical name	Partition coefficient
Limestone 1317-65-3	0.9
Benzene, 1,1'-methylenebis[isocyanato- 26447-40-5	4.5
Dibutyltin dilaurate 77-58-7	4.44
Benzenesulfonyl isocyanate, 4-methyl- 4083-64-1	0.6

12.4. Mobility in soil

Mobility No information available.

Other adverse effects

Other adverse effects No information available.

13. Disposal considerations

13.1. Waste treatment methods

Waste from residues/unused products 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.

14. Transport information

DOT Not regulated

IATA Not regulated

IMDG Not regulated

15. Regulatory information

International 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.

US Federal Regulations

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.

Chemical name	CAS No	SARA 313 - Threshold Values %
Benzene, 1,1'-methylenebis[isocyanato-	26447-40-5	1.0

SARA 311/312 Hazard Categories
Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.

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

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

16. Other information

Key or legend to abbreviations and acronyms used in the safety data sheet

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation

Prepared By Product Safety & Regulatory Affairs.

Revision Date: 22-Jul-2020

Revision note SDS sections updated. 4. 5. 6. 7. 8. 9. 10. 11. 12. 15.

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