

Safety Data



1. Identification of Substance:

Product Name: GreenTuff AR B-Side Product Use: Polyurea Amine Component Field of Application: Building and Metal Industry Identified uses: Industrial/Professional use .	Company Details: Green Shield Products Address: 40 Cypress Creek Parkway #338 Houston, Texas 77090 Telephone: 877-476-7453 24-Hr. Emergency Phone Number: CHEMTREC (800) 424-9300
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2. Hazards Identification

GHS Ratings:

Classification	Category
Acute aquatic toxicity	2
Acute toxicity Dermal	4
Acute toxicity Oral	4
Carcinogenicity	2
Chronic aquatic toxicity	4
Serious Eye Damage	1
Skin Irritation	2
Specific Target Organ Toxicity - Repeated Exposure	2

Signal Word: Danger



GHS Hazards - Health

H312 - Harmful in contact with skin
 H302 - Harmful if swallowed
 H351 - Suspected of causing cancer.
 H318 - Causes serious eye damage
 H315 - Causes skin irritation
 H373 - May cause damage to organs through prolonged or repeated exposure.

GHS Precautions - Environmental

H411 - Toxic to aquatic life with long lasting effects



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GHS Precautions - General

- P101 - If medical advice is needed, have product container or label at hand.
 P102 - Keep out of reach of children.
 P103 - Read label before use.

GHS Precautions - Prevention

- P273 - Avoid release to the environment.
 P280 - Wear protective gloves/protective clothing/eye protection/face protection.
 P264 - Wash thoroughly after handling.
 P270 - Do not eat, drink or smoke when using this product.
 P201 - Obtain special instructions before use.
 P202 - Do not handle until all safety precautions have been read and understood.
 P260 - Do not breathe dust/fume/gas/mist/vapors/spray.

GHS Precautions - Response

- P302 + P352 - IF ON SKIN: Wash with plenty of water.
 P312 - Call a POISON CENTER/doctor if you feel unwell.
 P321 - Specific treatment (see section 4 on this SDS).
 P362 + P364 - Take off contaminated clothing. And wash it before reuse.
 P301 + P312 - IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
 P330 - Rinse mouth.
 P308 + P313 - IF exposed or concerned: Get medical advice/attention.
 P391 - Collect spillage.
 P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P310 - Immediately call a POISON CENTER or doctor.
 P332 + P313 - If skin irritation occurs: Get medical advice/attention.

Precautionary Statements - Storage

- P405 - Store locked up.
 Precautionary Statements - Disposal
 P501 - Dispose of contents/ container to an approved waste disposal plant.

3. Composition/information on ingredients:

Chemical Name	CAS number	Weight Concentration %
POLYURETHANEPREPOLYMER	0009046-10-0	42% - 75%
AROMATIC AMINE	0068479-98-1	12% - 22%
BENZENEAMINE, 4,4'-METHYLENEBIS[n-(1-METHYLPROPYL)-	0005285-60-9	10% - 20%
TITANIUM DIOXIDE	0013463-67-7	0% - 5%
CARBON BLACK	0001333-86-4	0% - 5%

Specific chemical identity and/or exact percentage (concentration) of the composition has been withheld to protect confidentiality.



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4. First Aid Measures:

Inhalation

Remove source of exposure or move person to fresh air and keep comfortable for breathing. If experiencing respiratory symptoms: Call a POISON CENTER/doctor. If breathing is difficult, trained personnel should administer emergency oxygen if advised to do so by the POISON CENTER/doctor.

If exposed/feel unwell/concerned: Call a POISON CENTER/doctor.

Skin Contact

Take off contaminated clothing, shoes and leather goods (e.g. watchbands, belts). Gently blot or brush away excess product. Wash with plenty of lukewarm, gently flowing water for a duration of 15-20 minutes. If skin irritation or rash occurs: Get medical advice/attention.

Wash contaminated clothing before re-use or discard.

IF exposed or concerned: Get medical advice/attention.

Eye Contact

Remove source of exposure or move person to fresh air. Rinse eyes cautiously with lukewarm, gently flowing water for several minutes, while holding the eyelids open. Remove contact lenses, if present and easy to do. Continue rinsing for a duration of 15-20 minutes. Take care not to rinse contaminated water into the unaffected eye or onto the face. If eye irritation persists: Get medical advice/attention.

Ingestion

IF exposed or concerned: Get medical advice/attention.

Immediately call a POISON CENTER/doctor. Do NOT induce vomiting. If vomiting occurs naturally, lie on your side, in the recovery position. Give 1 or 2 glasses of milk or water to drink and refer person to medical personnel. Do not give anything by mouth to an unconscious person.

5. Firefighting measures

Suitable Extinguishing Media

Dry chemical, foam, carbon dioxide water spray or fog is recommended. Water spray is recommended to cool or protect exposed materials or structures. Carbon dioxide can displace oxygen. Use caution when applying carbon dioxide in confined spaces. Simultaneous use of foam and water on the same surface is to be avoided as water destroys the foam. Sand or earth may be used for small fires only.

Specific Hazards in Case of Fire

Sudden reaction and fire may result when the product is exposed to oxidizing agents.

Fire-fighting Procedures

Isolate immediate hazard area and keep unauthorized personnel out. Stop spill/release if it can be done safely. Move undamaged containers from immediate hazard area if it can be done safely. Water spray may be useful in minimizing or dispersing vapors and to protect personnel. Water may be ineffective but can be used to cool containers exposed to heat or flame. Caution should be exercised when using water or foam as frothing may occur, especially if sprayed into containers of hot, burning liquid.

Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.



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Special Protective Actions

Wear NIOSH approved self-contained breathing apparatus in positive pressure mode with full-face piece. Boots, gloves (neoprene), goggles, and full protective clothing are also required. Care should always be exercised in dust/mist areas.

6. Accidental release measures

Emergency Procedure

Keep unnecessary people away; isolate hazard area and deny entry. Do not touch or walk through spilled material. Clean up immediately.

ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).

Recommended Equipment

Appropriate dust or face mask to eliminate breathing foam dust particulates.

Personal Precautions

Avoid breathing vapors. Avoid contact with skin, eyes or clothing. Do not touch damaged containers or spilled materials unless wearing appropriate protective clothing.

Environmental Precautions

Stop spill/release if it can be done safely. Prevent spilled material from entering sewers, storm drains, other unauthorized drainage systems and natural waterways by using sand, earth, or other appropriate barriers. Methods and Materials for Containment and Cleaning up Soak up material with absorbent and shovel into a chemical waste container. Cover container, but do not seal, and remove from work area. Residues from spill cleanup may continue to be regulated under provisions of RCRA and require storage and disposal as hazardous waste. For major spills, call CHEMTREC (Chemical Transportation Emergency Center) at 800-424-9300.

General

Wash hands after use.

Do not get in eyes, on skin or on clothing.

Do not breathe vapors or mists.

Use good personal hygiene practices.

Eating, drinking and smoking in work areas is prohibited.

Remove contaminated clothing and protective equipment before entering eating areas.

Ventilation Requirements

Use only with adequate ventilation to control air contaminants to their exposure limits. The use of local ventilation is recommended to control emissions near the source.



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Storage Room Requirements

Keep container(s) tightly closed and properly labeled. Store in cool, dry, well-ventilated areas away from heat, direct sunlight, strong oxidizers and any incompatibilities. Store in approved containers and protect against physical damage. Keep containers securely sealed when not in use. Indoor storage should meet OSHA standards and appropriate fire codes. Containers that have been opened must be carefully resealed to prevent leakage. Empty container retain residue and may be dangerous.

Use non-sparking ventilation systems, approved explosion-proof equipment and intrinsically safe electrical systems in areas where this product is used and stored.

Ground and bond containers and receiving equipment. Avoid static electricity by grounding.

Do not cut, drill, grind, weld, or perform similar operations on or near containers. Do not pressurize containers to empty them. Ground all structures, transfer containers and equipment to conform to the national electrical code. Use procedures that prevent static electrical sparks. Static electricity may accumulate and create a fire hazard.

8. Exposure Controls and Personal Protection:

Eye Protection

Wear eye protection with side shields or goggles. Wear indirect-vent, impact and splash resistant goggles when working with liquids. If additional protection is needed for entire face, use in combination with a face shield.

Skin Protection

Use of gloves approved to relevant standards made from the following materials may provide suitable chemical protection: PVC, neoprene or nitrile rubber gloves. Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material, glove thickness, dexterity. Always seek advice from glove suppliers. Contaminated gloves should be replaced. Use of an apron and over-boots of chemically impervious materials such as neoprene or nitrile rubber is recommended to avoid skin sensitization. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace. Launder soiled clothes or properly disposed of contaminated material, which cannot be decontaminated.

Respiratory Protection

If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker, a respiratory protection program that meets or is equivalent to OSHA 29 CFR 1910.134 and ANSI Z88.2 should be followed. Check with respiratory protective equipment suppliers.

When airborne concentrations exceed or are expected to exceed the TLV, use MSHA/NIOSH approved positive pressure supplied air respirator with a full-face piece or an air supplied hood. For emergencies, use a positive pressure self-container breathing apparatus.

Appropriate Engineering Controls

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value.



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Chemical Name / CAS No.	TWA (mg/m3)	Tables (Z1, Z2, Z3)	TWA (mg/m3)	NIOSH Carcinogen	ACGIH TWA (ppm)	NIOSH TWA (ppm)
CARBON BLACK	3.5	0.2 ceiling	3.5a	1	3 (I)	
TITANIUM DIOXIDE	15	1		1	10	B

(I) - Inhalable fraction

9. Physical and Chemical Properties:

Physical properties listed where known.

Density 8.29 lb/gal Specific Gravity 0.99 VOC Regulatory 0.00 lb/gal VOC Part A & B Combined N.A. Appearance Amber Liquid Odor Threshold N.A. Odor Description Mild Ammonia-like pH N.A. Water Solubility N.A. Flammability N/A Flash Point Symbol N.A. Flash Point 212 °F Viscosity 300-400 cps	Lower Explosion Level N.A. Upper Explosion Level N.A. Vapor Pressure N.A. Vapor Density Heavier than air Freezing Point N.A. Melting Point N.A. Low Boiling Point 586 °F High Boiling Point N.A. Auto Ignition Temp N.A. Decomposition Pt N.A. Evaporation Rate Slower than ether Coefficient Water/Oil N.A.
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10. Stability and Reactivity:

Stability

Material is stable at standard temperature and pressure.

Conditions to Avoid

Heat, high temperature, open flame, and moisture. Avoid contact with incompatible materials

Hazardous Reactions/Polymerization

Will not occur.

Incompatible Materials

This product will react with any material containing isocyanate. Some reactions can be violent.

Hazardous Decomposition Products

Combustion products: organic vapors and thermal decomposition fragments.

11. Toxicological Information:

Skin Corrosion/Irritation

Product may be absorbed through skin and cause nausea, headache, and general discomfort.
Causes skin irritation

Serious Eye Damage/Irritation

Vapors can irritate the eyes. Chemical burns may result due to overexposure. Effects of exposure may be delayed.
Causes serious eye damage

Respiratory/Skin Sensitization

Inhalation : Severe overexposure may induce respiratory sensitization with asthma like symptoms. These symptoms may be immediate or delayed up to several hours after exposure. Chronic exposures may result in permanent decreases in lung function.
Skin sensitization may develop after repeated and/or prolonged contact.
No data available.

Carcinogenicity

Suspected of causing cancer.

Germ Cell Mutagenicity

No data available

Reproductive Toxicity

No data available

Specific Target Organ Toxicity - Single Exposure

May cause respiratory irritation



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Specific Target Organ Toxicity - Repeated Exposure

May cause damage to organs through prolonged or repeated exposure.

Aspiration Hazard

No data available

Acute Toxicity

If ingested : In humans, irritation or chemical burns of the mouth, pharynx, esophagus and stomach can develop following ingestion, and injury may be severe and cause death. Repeated and prolonged exposure at low levels may result in adverse skin and eye effects, liver and kidney disorders.

Harmful in contact with skin

Harmful if swallowed

Likely Routes of Exposure

Inhalation, Ingestion, Skin contact, Eye contact

Chronic Exposure

0001333-86-4 CARBON BLACK

CARCINOGENIC EFFECTS: In 1996, the IARC reevaluated Carbon Black as a Group 2B carcinogen. This evaluation is given to carbon black for which there is inadequate human evidence, but sufficient animal evidence.

Prolonged inhalation of Carbon black can result in lung disease. Symptoms include coughing, shortness of breath, wheezing and reduced pulmonary function.

Potential Health Effects - Miscellaneous

0001333-86-4 CARBON BLACK

Is an IARC, NTP or OSHA carcinogen. Has shown carcinogenic activity in laboratory animals at high doses. Significance to man is unknown. The following medical conditions may be aggravated by exposure: asthma, respiratory disease. **WARNING:** This chemical is known to the State of California to cause cancer.

0013463-67-7 TITANIUM DIOXIDE

Is an IARC, NTP or OSHA carcinogen. In a lifetime inhalation test, lung cancers were found in some rats exposed to 250 mg/m³ respirable titanium dust. Analysis of the titanium dioxide concentrations in the rat's lungs showed that the lung clearance mechanism was overwhelmed and that the results at the massive 250 mg/m³ level are not relevant to the workplace. Results of a DuPont epidemiology study showed that employees who had been exposed to Titanium Dioxide were at no greater risk of developing lung cancer than were employees who had not been exposed to Titanium dioxide. No pulmonary fibrosis was found in any of the employees and no association was observed between Titanium dioxide exposure and chronic respiratory disease or x-ray abnormalities. Based on the results of this study DuPont concludes that titanium dioxide will not cause lung cancer or chronic respiratory disease in humans at concentrations experienced in the workplace.

0001333-86-4 CARBON BLACK

LC50 (rat): 6750 mg/m³ (4-hour exposure); cited as 27000 mg/m³ (27 mg/L) (1-hour exposure) (3)

0009046-10-0 POLYOXYPROPYLENEDIAMINE

LD50 (dermal, rabbit): 2090 mg/kg (based on raw material SDS)

LD50 (oral, rat): 480 mg/kg (based on raw material SDS)



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12. Ecological Information:

Toxicity

Toxic to aquatic life

Toxic to aquatic life with long lasting effects

Mobility in Soil

No data available.

Other Adverse Effects

No data available.

Bio-accumulative Potential

No data available.

Persistence and Degradability

0001333-86-4 CARBON BLACK

Carbon Black's insolubility in water results in it not being biodegradable in any medium or by biota. It is considered persistent in the natural environment.

13. Disposal Considerations

Waste Disposal

Under RCRA, it is the responsibility of the user of the product, to determine at the time of disposal whether the product meets RCRA criteria for hazardous waste. Waste management should be in full compliance with federal, state, and local laws.

Empty containers retain product residue which may exhibit hazards of material, therefore do not pressurize, cut, glaze, weld or use for any other purposes. Return drums to reclamation centers for proper cleaning and reuse.

14. Transport Information

U.S. DOT Information

Not regulated

IMDG Information

UN/NA #: 3082

UN Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (CONTAINS AROMATIC AMINE)

Class: 9

Packing group: III

Marine Pollutant : Yes

IATA Information

UN/NA #: 3082

UN Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (CONTAINS AROMATIC AMINE)

Class: 9

Packing group: III

Placard: Class 9



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15. Regulatory Information:

CAS	Chemical Name	% By Weight	Regulation List
0009046-10-0	POLYOXYPROPYLENEDIAMINE	42% - 75%	DSL,SARA312,TSCA
0068479-98-1	AROMATIC AMINE	12% - 22%	DSL,SARA312,VOC,TSCA
0005285-60-9	BENZENEAMINE, 4,4'-METHYLENEBIS[n-(1-METHYLPROPYL)-	10% - 20%	DSL,SARA312,TSCA
0013463-67-7	TITANIUM DIOXIDE	0% - 5%	DSL,SARA312,TSCA,CA_Prop65 - California Proposition 65
0001333-86-4	CARBON BLACK	0% - 5%	DSL,SARA312,TSCA,CA_Prop65 - California Proposition 65

16. Other Information:

OTHER INFORMATION

Note: As per GHS, category 1 is the greatest level of hazard within each class.

GLOSSARY

ACGIH- American Conference of Governmental Industrial Hygienists; ANSI- American National Standards Institute; CA Prop65- California Proposition 65; Canadian TDG- Canadian Transportation of Dangerous Goods; CAS- Chemical Abstract Service; Chemtrec- Chemical Transportation Emergency Center (US); CHIP- Chemical Hazard Information and Packaging; DSL- Domestic Substances List; EC Equivalent Concentration; EH40 (UK)- HSE Guidance Note EH40 Occupational Exposure Limits; EPCRA- Emergency Planning and Community Right-To-Know Act; ESL- Effects screening levels; HMIS- Hazardous Material Information Service; LC- Lethal Concentration; LD- Lethal Dose; NFPA- National Fire Protection Association; OEL- Occupational Exposure Limits; OSHA- Occupational Safety and Health Administration, US Department of Labor; PEL- Permissible Exposure Limit; SARA (Title III)- Superfund Amendments and Reauthorization Act; SARA 313- Superfund Amendments and Reauthorization Act, Section 313; SCBA- Self-Contained Breathing Apparatus; STEL- Short Term Exposure Limit; TCEQ- Texas Commission on Environmental Quality; TLV- Threshold Limit Value; TSCA Toxic Substances Control Act Public Law 94-469; TWA- Time Weighted Value; US DOT- US Department of Transportation; WHMIS Workplace

Hazardous Materials Information System.

Safety Data Sheet issued by Product Safety Department

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Reviewer Revision 0

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