



BG 2000 SYSTEM

ONE COAT BELOW GRADE WATERPROOFING





ABOUT MULTICOAT PRODUCTS

For almost 30 years, Multicoat has maintained its reputation for providing the highest caliber of products to the construction industry worldwide. Since our inception we have partnered with well known, and globally respected, raw material manufacturers and suppliers. They supply us with the quality ingredients we demand in order to offer our clients the best possible product. We offer products and systems for pool restoration, deck coatings, sealers and stains, waterproofing, concrete repair, stucco systems and more.

For more information and technical support, please contact us using any of the following methods.



WEST COAST

Toll Free: (877) 685-8426

23331 Antonio Parkway
Rancho Santa Margarita, CA 92688



EAST COAST

Toll Free: (800) 660-6729

1 Putnam Business Park Drive
Fraziers Bottom, WV 25082

info@multicoat.com • www.multicoat.com



NOTABLE CUSTOMERS



- Sea World Japan
- Hampton Inn
- City of Glendale, AZ
- YMCA
- Angel Stadium
- Mirage Casino
- Wipeout TV Set
- Sheraton
- Ikodomia Greece
- Great Wolfe Lodge
- CAMC Hospital Group
- Colorado Belle Casino
- USC
- Mission Viejo Company
- Disney
- US Embassy—Jamaica
- Lenar Homes
- Union Carbide

The drawings found within this publication are for general knowledge use and your project may require more steps than those shown. Therefore, prior to using any of our products, visit our website, www.multicoat.com and read all applicable installation instructions and specifications for the specific Multicoat system you are applying. You can also call our toll free numbers for technical assistance

BG 2000 SYSTEM

ONE COAT BELOW GRADE WATERPROOFING

Overview

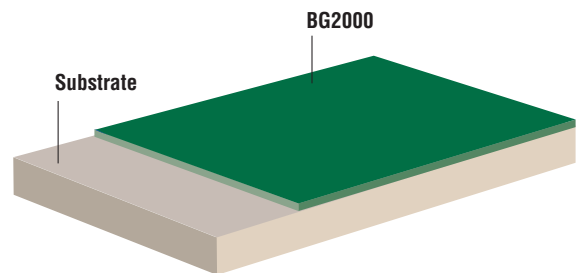
BG 2000 is a unique Acrylic Waterbased coating which forms an elastomeric waterproofing membrane with excellent bonding characteristics to most building materials. Specifically designed for BELOW GRADE AND UNDERLAYMENT applications.

Advantages:

- Low Cost – Minimum Down Time
- Ease of Application
- Superior Waterproofing
- Excellent Bond Strength
- High Tensile Strength and Elastomeric Properties
- Freeze-Thaw Resistant
- Waterbased – Environmentally Safe to Use and Apply



Below Grade



Application

Step 1: Spray one (1) heavy coat or roll two (2) coats of BG 2000 over area to be waterproofed at a coverage rate of 35-45 sq. ft. per gallon.

Step 2: Allow to dry, then backfill. Always use a drainage system at bottom of footing of retaining wall. MULTICOAT'S LASTO DRAIN or equivalent is recommended.

FOR BELOW GRADE AND UNDERLAYMENT WATERPROOFING USE ONLY



Instruction Video:
<https://youtu.be/JlbHPY-ggVo>

Surface Preparation



Substrate must be structurally sound and free from grease, oil, dirt, dust, sealers, water repellents and other foreign materials which may interfere with proper bonding. Shot blasting, sand blasting, or water sand blasting with minimum 3500 psi may be necessary over some surfaces to achieve proper bonding. On concrete block or slumpstone walls, all head and bed joints must be free of holes and finished flush with block substrate. For poured in place walls, a waterbase form release must be used. If an oil base release is used, it can be completely removed with trisodium phosphate (TSP), power washed and rinsed.

BG 2000 SYSTEM

Coverage

35-45 sq. ft. per gallon, one coat. (Coverage may vary due to application method and/or substrate condition.)

Limitations

- **DO NOT** apply if substrate temperature is below 40°F and falling, above 100°F and rising, or if precipitation is expected within a twenty four (24) hour period after each coat.
- **DO NOT** use if substrate is subject to negative side water or water vapor pressure.

Packaging And Storage

- Furnished in 5 gallon pails, 55 gallon drums, and 275 gallon totes.
- Store at 40-90°F.
- Shelf life is approximately 18 months in unopened containers.

Damage Limitation

Seller shall not be liable for any damages, injury, loss, direct or consequential, resulting from its products. The parties intend that the limitation of damages, including consequential damages, applies even if the exclusive remedy provided for herein fails of its essential purpose.

Exclusive Remedy

Seller's sole obligation, and buyer's exclusive remedy shall be to replace material if found to be defective.



Click On Links For Multicoat Products Website Videos:

BG2000 System (Below Grade):

<https://www.multicoat.com/system/below-grade-bg-2000-system/>

Customer Quoting Tool:

<https://configurator.multicoat.com/waterproofing-and-water-features/new>

Warranty Disclaimer

There are no warranties which extend beyond the description of the fact hereof. Seller expressly disclaims all other warranties regarding the use of its products, whether expressed or implied, including the implied warranties of merchantability and for fitness of a particular purpose. Since use of the product is beyond the Seller's control, the Buyer assumes all risk of use.

Warranty

Materials are guaranteed with respect to uniformity and quality within manufacturer's specifications.

Laboratory Test Data

TEST DATA - BG 2000 BELOW GRADE WATERPROOFING

| TEST | METHOD | BG 2000 RESULTS |
|-----------------------------------|------------------------|---------------------------|
| Tensile Bond Adhesion to Concrete | ASTM C-297 | 335 psi (coh/adh) |
| Tensile Strength | ASTM D-412 | 399 psi |
| Elongation | ASTM D-412 | 319.3% |
| Hydrostatic Head effect | 12" Water/Film @ 40mil | Pass 96 Hrs/no |
| Hydro. Pressure | ASTM C-1306 | Pass >45 psi ¹ |

**BG2000
Below Grade**



**Tremco -
Tremproof 250GC**



**Tremco -
Tremproof 250GC**



**Carlisle
MiraSEAL**



| | | | | |
|--|--|-------------------------------------|-----------------------|--|
| Coverage is approximately 40 sq feet per gallon @ 60 wet mils | ✓ 40 sq feet per gallon @ 60 wet mils | 25 sq feet per gallon @ 60 wet mils | 25 sq feet per gallon | Coverage is only 26 sq feet per gallon |
| Application is Easy, single pail product (one product for various projects) | ✓ | | | |
| Apply by spraying one coat or rolling two coats (single application product) | ✓ | | | |
| Available in 5, 55 & 275 gallon containers | ✓ 5, 55 & 275 gallon containers | 5 & 55 gallon containers | | |
| Soft backfill (sand) is acceptable, no need for protective covering | ✓ | | | |
| Shipping: Not Regulated | ✓ | | | |
| Water-based, Environmental and Fish Friendly | ✓ | | | |
| Tensile strenght = 399 psi | ✓ 399 psi | 200 psi | | 95 psi |
| Non-flammable, Conditions to avoid: None | ✓ | | | |
| Acute Toxicity: None | ✓ | | | |
| Low VOC, < 5 g/l | ✓ Low VOC, < 5 g/l | VOC < 179 g/l | High VOC, 190 g/l | High VOC, 36 g/l |
| Shelf Life 18 months | ✓ 18 months | 12 months | 6 months | 6 months |

Pricing

BG2000 ONE COAT WATERPROOFING CONSTRUCTION DISTRIBUTION CHANNEL

DISTRIBUTION CHANNEL UNIT SALES FIGURES 2020

| Item | | Name | AZ | CA | CA | UT | Amount |
|--------------|------------------|--------|----|------|----|----|----------------|
| Name: BG2000 | | | | | | | Subtotal: 3006 |
| | 275 Gallon Totes | BG2000 | | 19 | 1 | | 20 |
| | 55 Gallon Drums | BG2000 | 17 | 8 | 3 | | 28 |
| | 5 Gallon Buckets | BG2000 | | 2922 | | 36 | 2958 |

BG2000 PRICE TO STOCKING DISTRIBUTORS

| Item | | Name | AZ |
|--------|------------------|--------|-----------|
| BG2000 | | | |
| | 275 Gallon Totes | BG2000 | \$4125.00 |
| | 55 Gallon Drums | BG2000 | \$1025.00 |
| | 5 Gallon Buckets | BG2000 | \$99.00 |

BG2000 MSRP

| Item | | Name | AZ |
|--------|------------------|--------|-----------|
| BG2000 | | | |
| | 275 Gallon Totes | BG2000 | \$5892.85 |
| | 55 Gallon Drums | BG2000 | 1464.00 |
| | 5 Gallon Buckets | BG2000 | \$150.00 |

ISLE PLACEMENT

BG2000 BELOW GRADE WATERPROOFING MEMBRANE IS IDEALLY PLACED IN THE MASONRY SECTION OF A DISTRIBUTION LOCATION. THOUGH IT MAY ALSO BE USED ON WOOD AND METAL SURFACES, THE PRIMARY USE OF THIS PRODUCT IS FOR BLOCK AND POURED IN PLACE WALLS USED FOR SOIL RETENTION, PLANTERS, ETC.





The Specification Guide



SECTION 07 14 16

COLD-FLUID APPLIED WATERPROOFING

Multicoat BG 2000

This guide specification has been prepared by Multicoat Product Systems, in printed and electronic media, as an aid to specifiers in preparing written construction documents for a cold-fluid applied elastomeric waterproofing membrane. BG 2000 is a unique waterbased coating which forms an elastomeric waterproofing membrane with excellent bonding characteristics to most building materials. It is specifically designed for BELOW GRADE AND UNDERLAYMENT applications.

This guide specification intended use is for multiple applications. Delete the section and title not applicable. Edit entire master to suit project requirements. Modify or add items as necessary. Delete items which are not applicable. Words and sentences within brackets [_____] reflect a choice to be made regarding inclusion or exclusion of a particular item or statement. This section may include performance, proprietary and descriptive type specifications. Edit to avoid conflicting requirements. Editor notes to guide the specifier are included between lines of asterisks to assist in choices to be made. Remove these notes before final printing of specification.

This guide specification is written around the Construction Specifications Institute (CSI) Section Format standards.

For specification assistance on specific product applications, please contact our offices or any of our local product representatives throughout the country.

Multicoat Product Systems reserves the right to modify these guide specifications at any time. Updates for this guide specification will be posted on the manufacturer's web site and/or in printed matter as they occur. Manufacturer makes no expressed or implied warranties regarding content, errors, or omissions in the information presented.

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and other Contract Documents, listed in the agreement between the Owner and Contractor, apply to this Section.

1.2 SUMMARY

A. Section includes Acrylic Waterbased coating which forms an elastomeric waterproofing membrane for below grade or underlayment applications.

1.3 SUBMITTALS

A. Product Data:

1. Submit manufacturer's descriptive literature and product specifications for each product.
2. Submit laboratory tests or data that validate product compliance with the performance criteria specified.

1.4 QUALITY ASSURANCE

A. Installer Qualifications:

1. Acceptable to manufacturer with documented experience on at least 2 projects of similar nature in past 2 years and/or training provided by the product manufacturer.

B. Manufacturer Qualifications:

1. Company specializing in manufacturing Products specified in this Section with minimum [10] years documented experience.

1.5 DELIVERY AND STORAGE

A. Deliver, store off the ground and covered, handle and protect products from moisture in accordance with manufacturer's instructions.

B. Deliver materials in manufacturer's unopened containers, fully identified with brand, type, grade, class and all other qualifying information. Provide Material Safety Data Sheets for each product.

C. Take necessary precautions to keep products clean, dry and free of damage.

PART 1 - GENERAL (Continued)

1.6 WARRANTY

- A. Materials are guaranteed with respect to uniformity and quality within manufacturer's specifications.

1.7 PROJECT CONDITIONS

- A. Do not apply if substrate temperature is below 40°F or above 100°F, or if ambient temperature below 40°F above 100°F.
- B. Do not apply if precipitation is expected within a twenty four (24) hour period.

PART 2 - PRODUCTS

2.1 MANUFACTURER

- A. Multicoat Corporation 23331 Antonio Parkway, Rancho Santa Margarita, CA 92688, 877-685-8426, Email: info@multicoat.com, www.multicoat.com

2.2 MATERIALS

- A. Acrylic Waterbased coating which forms an elastomeric waterproofing membrane.
 - 1. Product: MULTICOAT BG 2000
 - 2. Tensile Bond Adhesion to Concrete: 335 psi (coh/adh) (ASTM C 297)
 - 3. Tensile Strength: 399 psi (ASTM D 412)
 - 4. Elongation: 319.3% (ASTM D 412)
 - 5. Hydrostatic Head: Pass 96 hrs./no effect (12" Water/Film @ 40mil)
 - 6. Hydro. Pressure: Pass > 45 psi¹

2.3 ACCESSORY MATERIALS

- A. Drainage System: MULTICOAT'S LASTO DRAIN or equivalent is recommended.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates and adjoining construction, and conditions under which Work is to be installed. Do not proceed with Work until unsatisfactory conditions are corrected.
- B. Verify the following substrate conditions before application of waterproof lining:
 - 1. That substrate condition is satisfactory and in accordance with manufacturer's instructions.
 - 2. That concrete surfaces are free of voids, spalled areas, loose aggregate and sharp protrusions, and with no coarse aggregate visible.

3.2 PREPARATION

- A. Substrate must be structurally sound and free from grease, oil, dirt, dust, sealers, water repellents and other foreign materials which may interfere with proper bonding.
- B. Cracks must be repaired and all holes, voids, bee hives, etc. must be filled with suitable mortar or grout. They should be allowed to cure and scraped even with surface prior to application of MULASTICOAT waterproof membrane.
- C. Surface should be dry to touch prior to MULASTICOAT.
- D. New concrete should be aged a minimum of 7 to 20 days after pouring and at least 2 days after form removal before commencing applications.
- E. The entire substrate, including surface, should be in accordance with all applicable building codes.

3.3 APPLICATION

- A. General: Comply with waterproofing manufacturer's written instructions for application and curing.
 - 1. Spray one (1) heavy coat or roll two (2) coats of MULASTICOAT® BG 2000 over area to be waterproofed at a coverage rate of 35-45 sq. ft. per gallon.
 - 2. Allow to dry, then backfill.
- B. Insert Drainage system. Always use a drainage system at bottom of footing of retaining wall. MULTICOAT'S LASTO DRAIN or equivalent is recommended.
- C. FOR BELOW GRADE AND UNDERLAYMENT WATERPROOFING USE ONLY.
- D. Do not use if substrate is subject to negative side water or water vapor pressure.

END OF SECTION 071614



Material Safety Data Sheet



MATERIAL SAFETY DATA SHEET

Manufacture's Name:



MULTICOAT CORPORATION
23331 ANTONIO PARKWAY
RANCHO STA. MARGARITA, CA 92688

Date prepared or revised:

March 1, 2013

Information Telephone No:
949-888-7100

SECTION I – PRODUCT IDENTIFICATION

BG 2000

Waterbase Membrane

| | | | | |
|-------|---|---|---|----|
| HMIS: | H | F | R | PP |
| | 0 | 0 | 0 | G |

SECTION II – HAZARDOUS INGREDIENTS

| <u>Ingredients</u> | <u>Cas Number</u> | <u>Content</u> | <u>Occupational Exposure Limits</u> |
|--------------------|-------------------|----------------|---|
|--------------------|-------------------|----------------|---|

None by WHMIS/OSHA criteria

SECTION III – PHYSICAL DATA

| | | | |
|-----------------------|--------------------------|-----------------------|----------------------------------|
| <u>Boiling Range:</u> | <u>Evaporation Rate:</u> | <u>Vapor Density:</u> | <u>Volatile Organic Content:</u> |
| 200-225 Deg. F | Slower than Ether | Heavier Than Air | 2 grams/liter |

SECTION IV – FIRE AND EXPLOSION HAZARD DATA

Flammability Classification:

Flash Point: >300F

Lel: N/A

Extinguishing Media:

Foam, Alcohol Foam, CO2, Dry Chemical, Water Fog.

Unusual Fire And Explosion Hazards:

Extinguishing media above is recommended on dried films of this material that is burning. This material is non-combustible, but dried films are capable of burning and supporting combustion when in contact with open flames.

Special Firefighting Procedures:

Observe recommended procedures in handling fire areas. Wear appropriate fire fighting equipment including a self contained breathing apparatus.

SECTION V – HEALTH HAZARD DATA

Effects of Overexposure:

Vapor odors may cause irritation in the upper and lower respiratory tracts, nausea, headache and dizziness. Eye Contact can cause irritation, redness, and tearing. Skin Contact can cause minor irritation. Ingestion can cause nausea, vomiting, diarrhea, and gastrointestinal irritation.

Medical Conditions Prone To Aggravation by Exposure:

Overexposure to vapors can produce headaches, dizziness and nausea.

Primary Route(s) of Entry: Inhalation, Ingestion.

Emergency and First Aid Procedures:

If affected by vapors, move person to fresh air. Apply artificial respiration to person who loses consciousness and call a doctor immediately. Treat eye and skin contact by thoroughly washing with clean water. If irritation persists see a doctor immediately. If material is ingested and the person is conscious give two glasses of water to drink and call a doctor immediately.

SECTION VI – REACTIVITY DATA

Stability: Stable

Hazardous Polymerization:

Will not occur.

Hazardous polymerization information is not established.

Conditions to Avoid:

Avoid temperatures below 40 degrees Fahrenheit. Avoid freezing conditions.

Incompatibility (Materials To Avoid):

Avoid materials that react with water, also strong acids and alkalis.

SECTION VII – SPILL OR LEAK PROCEDURES

Steps To Be Taken In Case Material Is Released Or Spilled:

Dike and absorb spilled material with inert absorbent material such as sand, earth, and sawdust. Use rags to clean up small amounts of spilled material.

Waste Disposal Method:

Collect material contaminated absorbent and rags into a disposable container and dispose of in accordance to local, state, and federal regulations. Consult with your local hazardous waste regulations regarding landfill dumping.

SECTION VIII – SAFE HANDLING AND USE INFORMATION

Respiratory Protection:

Wear approved organic vapor respirator unless ventilation equipment is adequate to keep airborne concentrations below the exposure standards.

Ventilation:

General mechanical ventilation may be sufficient to keep product vapor concentrations below specified TLV ranges. If inadequate, use local exhaust.

Protective Gloves:

Use impermeable solvent resistant gloves to protect from skin contact.

Eye Protection:

Use safety goggles, chemical safety glasses and or face shields to protect eyes.

Other Protective Equipment:

Impermeable aprons and protective clothing are advised when working with this product. The use of this product should be minimized whenever possible.

Hygienic Practices:

Eye washes and safety showers in the workplace are recommended.

SECTION IX – SPECIAL PRECAUTIONS

Precautions To Be Taken In Handling and Storing:

Keep container s closed when not in use. Do not store or handle near heat, flames and strong oxidants. Store in cool well ventilated area. Rotate stock by using older materials first. Inspect for leaks in all containers.

Other Precautions:

Do not store in freezing areas. Keep above 40 degrees Fahrenheit. Keep out of reach of children.

****Disclaimer – The information contained herein is based on data considered accurate. However, no warranty, whether expressed or implied is made.****



Safety Data Sheet



SAFETY DATA SHEET

Section 1. Identification

Product name BG2000

Product type : Liquid

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

Not applicable.

Manufacturer : MULTICOAT CORPORATION
23331 ANTONIO PARKWAY
RANCHO SANTA MARGARITA CA 92688

Emergency telephone number of the company : 1-877-685-8426

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : SKIN SENSITIZATION - Category 1
CARCINOGENICITY - Category 1A
Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 36.2%

GHS label elements

Hazard pictograms



Signal word

Hazard statements

: Danger
: May cause an allergic skin reaction.
May cause cancer.

Precautionary statements

General

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

Prevention

: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Wear protective gloves. Avoid breathing vapor. Contaminated work clothing should not be allowed out of the workplace.

Date of issue/Date of revision : 6/19/2015. Date of previous issue : 6/16/2015. Version : 1.03 1/11

Section 2. Hazards identification

| | |
|---|--|
| Response | : IF exposed or concerned: Get medical attention. IF ON SKIN: Wash with plenty of soap and water. Wash contaminated clothing before reuse. If skin irritation or rash occurs: Get medical attention. |
| Storage | : Store locked up. |
| Disposal | Dispose of contents and container in accordance with all local, regional, national and international regulations. |
| Supplemental label elements | WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. Adequate ventilation required when sanding or abrading the dried film. If Adequate ventilation cannot be provided wear an approved particulate respirator (NIOSH approved). Follow respirator manufacturer's directions for respirator use. DELAYED EFFECTS FROM LONG TERM OVEREXPOSURE. Abrading or sanding of the dry film may release Crystalline Silica which has been shown to cause lung damage and cancer under long term exposure. Please refer to the SDS for additional information. Do not transfer contents to other containers for storage. |
| Hazards not otherwise classified | : None known. |

Section 3. Composition/information on ingredients

| | |
|--------------------------------------|------------------|
| Substance/mixture | : Mixture |
| Other means of identification | : Not available. |

CAS number/other identifiers

| Ingredient name | % by weight | CAS number |
|------------------------------|--------------------|-------------------|
| Titanium Dioxide | 13.1 | 13463-67-7 |
| zinc oxide | 4.4 | 1314-13-2 |
| Cristobalite | 1.2 | 14464-46-1 |
| Pentamethyliperidyl Sebacate | 0.1 | 41556-26-7 |

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

| | |
|---------------------|--|
| Eye contact | : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention. |
| Inhalation | : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. 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. |
| Skin contact | : Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse. |

Section 4. First aid measures

- Ingestion** : Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. Never give anything by mouth to an unconscious person. 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.

Most important symptoms/effects, acute and delayed

Potential acute health effects

- Eye contact** : No known significant effects or critical hazards.
Inhalation : No known significant effects or critical hazards.
Skin contact : May cause an allergic skin reaction.
Ingestion : No known significant effects or critical hazards.

Over-exposure signs/symptoms

- Eye contact** : No specific data.
Inhalation : No specific data.
Skin contact : Adverse symptoms may include the following:
irritation
redness
Ingestion : No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Specific treatments : No specific treatment.
Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

- Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.
Unsuitable extinguishing media : None known.

- Specific hazards arising from the chemical** : In a fire or if heated, a pressure increase will occur and the container may burst.

- Hazardous thermal decomposition products** : Decomposition products may include the following materials:
metal oxide/oxides

- Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

| | | | | | | |
|---------------------------------------|--------------|-------------------------------|--------------|----------------|--------|------|
| <i>Date of issue/Date of revision</i> | : 6/19/2015. | <i>Date of previous issue</i> | : 6/16/2015. | <i>Version</i> | : 1.03 | 3/11 |
|---------------------------------------|--------------|-------------------------------|--------------|----------------|--------|------|

Section 5. Fire-fighting measures

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

- Small spill** : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
- Large spill** : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapor or mist. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

| Ingredient name | Exposure limits |
|------------------|--|
| Titanium Dioxide | ACGIH TLV (United States, 4/2014). |
| | TWA: 10 mg/m ³ 8 hours. |
| | OSHA PEL (United States, 2/2013). |
| zinc oxide | TWA: 15 mg/m ³ 8 hours. Form: Total dust |
| | NIOSH REL (United States, 10/2013). |
| | CELL: 15 mg/m ³ Form: Dust |
| | TWA: 5 mg/m ³ 10 hours. Form: Dust and fumes |
| | STEL: 10 mg/m ³ 15 minutes. Form: Fume |
| | OSHA PEL (United States, 2/2013). |
| | TWA: 5 mg/m ³ 8 hours. Form: Fume |
| | TWA: 5 mg/m ³ 8 hours. Form: Respirable fraction |
| | TWA: 15 mg/m ³ 8 hours. Form: Total dust |
| | ACGIH TLV (United States, 4/2014). |
| | TWA: 2 mg/m ³ 8 hours. Form: Respirable fraction |
| | STEL: 10 mg/m ³ 15 minutes. Form: Respirable fraction |
| Cristobalite | OSHA PEL Z3 (United States, 2/2013). |
| | TWA: 250 MPPCF / 2 x (%SiO ₂ +5) 8 hours. |
| | Form: Respirable |
| | TWA: 10 MG/M3 / 2 x (%SiO ₂ +2) 8 hours. |
| | Form: Respirable |
| | TWA: 30 MG/M3 / 2 x (%SiO ₂ +2) 8 hours. |
| | Form: Total dust |

Appropriate engineering controls

- : If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Environmental exposure controls

- : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures

- : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection

- : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

Skin protection

Section 8. Exposure controls/personal protection

| | |
|-------------------------------|--|
| Hand protection | : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated. |
| Body protection | : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. |
| Other skin protection | : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. |
| Respiratory protection | : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. |

Section 9. Physical and chemical properties

Appearance

| | |
|---|--|
| Physical state | : Liquid. |
| Color | : Not available. |
| Odor | : Not available. |
| Odor threshold | : Not available. |
| pH | : 9.5 |
| Melting point | : Not available. |
| Boiling point | : 100°C (212°F) |
| Flash point | : Closed cup: >93.3°C (>199.9°F) |
| Evaporation rate | : 0.09 (butyl acetate = 1) |
| Flammability (solid, gas) | : Not available. |
| Lower and upper explosive (flammable) limits | : Not available. |
| Vapor pressure | : 0.31 kPa (2.333 mm Hg) [at 20°C] |
| Vapor density | : 1 [Air = 1] |
| Relative density | : 1.37 |
| Solubility | : Not available. |
| Partition coefficient: n-octanol/water | : Not available. |
| Auto-ignition temperature | : Not available. |
| Decomposition temperature | : Not available. |
| Viscosity | : Kinematic (room temperature): >0.205 cm ² /s (>20.5 cSt) Kinematic (40°C (104°F)): >0.205 cm ² /s (>20.5 cSt) |

Aerosol product

| | |
|---------------------------|--------------------|
| Heat of combustion | : 0.000001365 kJ/g |
|---------------------------|--------------------|

Section 10. Stability and reactivity

| | |
|---|--|
| Reactivity | : No specific test data related to reactivity available for this product or its ingredients. |
| Chemical stability | : The product is stable. |
| Possibility of hazardous reactions | : Under normal conditions of storage and use, hazardous reactions will not occur. |
| Conditions to avoid | : No specific data. |
| Incompatible materials | : No specific data. |
| Hazardous decomposition products | : Under normal conditions of storage and use, hazardous decomposition products should not be produced. |

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Not available.

Irritation/Corrosion

| Product/ingredient name | Result | Species | Score | Exposure | Observation |
|-------------------------|----------------------|---------|-------|--------------------------------------|-------------|
| Titanium Dioxide | Skin - Mild irritant | Human | - | 72 hours 300 Micrograms Intermittent | - |
| zinc oxide | Eyes - Mild irritant | Rabbit | - | 24 hours 500 milligrams | - |
| | Skin - Mild irritant | Rabbit | - | 24 hours 500 milligrams | - |

Sensitization

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Classification

| Product/ingredient name | OSHA | IARC | NTP |
|-------------------------|------|------|---------------------------------|
| Titanium Dioxide | - | 2B | - |
| Cristobalite | - | 1 | Known to be a human carcinogen. |

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

SAFETY DATA SHEET

Section 1. Identification

Product name BG2000

Product type : Liquid

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

Not applicable.

Manufacturer : MULTICOAT CORPORATION
23331 ANTONIO PARKWAY
RANCHO SANTA MARGARITA CA 92688

Emergency telephone number of the company : 1-877-685-8426

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : SKIN SENSITIZATION - Category 1
CARCINOGENICITY - Category 1A
Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 36.2%

GHS label elements

Hazard pictograms



Signal word

Hazard statements

: Danger
: May cause an allergic skin reaction.
: May cause cancer.

Precautionary statements

General

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

Prevention

: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Wear protective gloves. Avoid breathing vapor. Contaminated work clothing should not be allowed out of the workplace.

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Section 11. Toxicological information

Aspiration hazard

Not available.

Information on the likely routes of exposure : Not available.

Potential acute health effects

Eye contact : No known significant effects or critical hazards.
Inhalation : No known significant effects or critical hazards.
Skin contact : May cause an allergic skin reaction.
Ingestion : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : No specific data.
Inhalation : No specific data.
Skin contact : Adverse symptoms may include the following:
irritation
redness
Ingestion : No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.
Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.
Potential delayed effects : Not available.

Potential chronic health effects

Not available.

General : Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.
Carcinogenicity : May cause cancer. Risk of cancer depends on duration and level of exposure.
Mutagenicity : No known significant effects or critical hazards.
Teratogenicity : No known significant effects or critical hazards.
Developmental effects : No known significant effects or critical hazards.
Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Not available.

Section 12. Ecological information

Toxicity

| Product/ingredient name | Result | Species | Exposure |
|--------------------------------|---------------------------------------|--|----------|
| Titanium Dioxide zinc oxide | Acute LC50 >1000000 µg/l Marine water | Fish - Fundulus heteroclitus | 96 hours |
| | Acute IC50 1.85 mg/l Marine water | Algae - Skeletonema costatum | 96 hours |
| | Acute IC50 46 µg/l Fresh water | Algae - Pseudokirchneriella subcapitata - Exponential growth phase | 72 hours |
| | Acute LC50 98 µg/l Fresh water | Daphnia - Daphnia magna - Neonate | 48 hours |
| | Acute LC50 1.1 ppm Fresh water | Fish - Oncorhynchus mykiss | 96 hours |

Persistence and degradability

Not available.

Bioaccumulative potential

| Product/ingredient name | LogP _{ow} | BCF | Potential |
|-------------------------|--------------------|-------|-----------|
| Titanium Dioxide | - | 352 | low |
| zinc oxide | - | 60960 | high |

Mobility in soil

Soil/water partition coefficient (K_{oc}) : Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

| | DOT Classification | TDG Classification | Mexico Classification | IATA | IMDG |
|----------------------------|-----------------------|-----------------------|--------------------------|----------------|----------------|
| UN number | Not regulated. | Not regulated. | Not regulated. | Not regulated. | Not regulated. |
| UN proper shipping name | - | - | - | - | - |
| Transport hazard class(es) | - | - | - | - | - |

Date of issue/Date of revision : 6/19/2015. Date of previous issue : 6/16/2015. Version : 1.03 9/11

Section 14. Transport information

| | | | | | |
|------------------------|---|---|---|---|--|
| Packing group | - | - | - | - | - |
| Environmental hazards | No. | No. | No. | No. | No. |
| Additional information | <u>Special provisions</u> Not Applicable | <u>Special provisions</u> Not Applicable | <u>Special provisions</u> Not Applicable | <u>Special provisions</u> Not Applicable | <u>Emergency schedules (EmS)</u> F-A, S-F |

Special precautions for user : Multi-modal shipping descriptions are provided for informational purposes and do not consider container sizes. The presence of a shipping description for a particular mode of transport (sea, air, etc.), does not indicate that the product is packaged suitably for that mode of transport. All packaging must be reviewed for suitability prior to shipment, and compliance with the applicable regulations is the sole responsibility of the person offering the product for transport. People loading and unloading dangerous goods must be trained on all of the risks deriving from the substances and on all actions in case of emergency situations.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code : Not available.

Section 15. Regulatory information

U.S. Federal regulations :

State regulations

California Prop. 65

WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

Section 16. Other information

Hazardous Material Information System (U.S.A.)

| | | |
|------------------|---|---|
| Health | * | 1 |
| Flammability | | 0 |
| Physical hazards | | 0 |
| | | |

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on SDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

Section 16. Other information

Notice to reader

It is recommended that each customer or recipient of this Safety Data Sheet (SDS) study it carefully and consult resources, as necessary or appropriate, to become aware of and understand the data contained in this SDS and any hazards associated with the product. This information is provided in good faith and believed to be accurate as of the effective date herein. However, no warranty, express or implied, is given. The information presented here applies only to the product as shipped. The addition of any material can change the composition, hazards and risks of the product. Regulatory requirements are subject to change and may differ between various locations and jurisdictions. The customer/buyer/user is responsible to ensure that his activities comply with all country, federal, state, provincial or local laws. The conditions for use of the product are not under the control of the manufacturer; the customer/buyer/user is responsible to determine the conditions necessary for the safe use of this product. The customer/buyer/user should not use the product for any purpose other than the purpose shown in the applicable section of this SDS without first referring to the supplier and obtaining written handling instructions. Due to the proliferation of sources for information such as manufacturer-specific SDS, the manufacturer cannot be responsible for SDSs obtained from any other source.



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