

MATERIAL SAFETY DATA SHEET



BaySystems NorthAmerica

Baysystems North America
Product Safety & Regulatory Affairs
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NON-TRANSPORTATION
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Bayer Information Phone: (800) 662-2927

1. Product and Company Identification

Product Name: BAYBLOCK II GRAY
Material Number: 81159085
Chemical Family: Water-based Acrylic Coating

2. Hazards Identification

Emergency Overview

WARNING! Color: Gray **Form:** liquid **Odor:** Amine.
May cause eye, skin, and respiratory tract irritation. Use cold water spray to cool fire-exposed containers to minimize the risk of rupture. Contains material which can cause cancer.

Potential Health Effects

Primary Routes of Entry: Skin Contact, Eye Contact, Ingestion, Inhalation

Medical Conditions Aggravated by Exposure: Skin disorders, Respiratory disorders, Eye disorders

HUMAN EFFECTS AND SYMPTOMS OF OVEREXPOSURE

Inhalation

Acute Inhalation

For Component: Limestone

Causes respiratory tract irritation with symptoms of coughing, sore throat and runny nose. May cause mechanical irritation.

For Component: Titanium dioxide (Rutile)

May cause mechanical irritation.

For Component: 1,3-Benzenedicarbonitrile, 2,4,5,6-tetrachloro-

Expected to be highly toxic by inhalation.

For Component: Crystalline Quartz Silica

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May be harmful by inhalation. May cause mechanical irritation.

Skin

Acute Skin

For Component: Limestone

Causes irritation with symptoms of reddening, itching, and swelling. May cause mechanical irritation.

For Component: Titanium dioxide (Rutile)

Not expected to be irritating.

For Component: Crystalline Quartz Silica

May cause mechanical irritation.

Eye

Acute Eye

For Component: Limestone

Causes irritation with symptoms of reddening, tearing, stinging, and swelling. May cause mechanical irritation.

For Component: Titanium dioxide (Rutile)

Not expected to be irritating.

For Component: Crystalline Quartz Silica

May cause mechanical irritation.

Ingestion

Acute Ingestion

For Component: Limestone

Slightly toxic by ingestion.

For Component: Titanium dioxide (Rutile)

Not expected to be harmful if swallowed.

For Component: Crystalline Quartz Silica

Not expected to be harmful if swallowed.

General Effects of Exposure

Acute Effects of Exposure

For Component: Crystalline Quartz Silica

Exposure to Silica, Quartz can cause a very serious lung disease called Silicosis with cough, shortness of breath, and changes in chest x-ray. The earliest symptoms of silicosis may include: Shortness of breath, coughing, wheezing, fatigue, chest pain, loss of appetite and fever.

Chronic Effects of Exposure

For Component: Crystalline Quartz Silica

Excessive exposure to airborne crystalline silica can cause fibrotic lung damage, with scarring of the lungs with cough and shortness of breath. This is called "Silicosis". This is generally a slowly developing fibrotic disease as symptoms are usually delayed for 10 years or more. Symptoms are dyspnea, chest pain, breathlessness, and cough. The chronic lung scarring developed from the silica dust causes a progressive massive fibrosis. This may lead to increased susceptibility to tuberculosis.

Carcinogenicity:

Titanium dioxide (Rutile) **IARC** - Overall evaluation: 2B Possible carcinogen.

1,3-Benzenedicarbonitrile,
2,4,5,6-tetrachloro-

Crystalline Quartz Silica **NTP** - Hazard Designation: Known carcinogen.

IARC - Overall evaluation: 1 Human carcinogen.

3. Composition/Information on Ingredients

Hazardous Components

<u>Weight %</u>	<u>Components</u>	<u>CAS-No.</u>
20 - 30%	Limestone	1317-65-3
5 - 10%	Titanium dioxide (Rutile)	13463-67-7
0.1 - 1%	1,3-Benzenedicarbonitrile, 2,4,5,6-tetrachloro-	1897-45-6
0.1 - 1%	Crystalline Quartz Silica	14808-60-7

4. First Aid Measures

Eye Contact

In case of contact, flush eyes with plenty of lukewarm water. Get medical attention if irritation develops.

Skin Contact

In case of skin contact, wash affected areas with soap and water. Immediately remove contaminated clothing and shoes. Get medical attention if irritation develops and persists.

Inhalation

If inhaled, remove to fresh air. Get medical attention if irritation develops.

Ingestion

If ingested, do not induce vomiting unless directed to do so by medical personnel. Get medical attention.

5. Fire-Fighting Measures

Suitable Extinguishing Media: All extinguishing media are suitable.

Special Fire Fighting Procedures

Firefighters should be equipped with self-contained breathing apparatus to protect against potentially toxic and irritating fumes. Use cold water spray to cool fire-exposed containers to minimize the risk of rupture.

Unusual Fire/Explosion Hazards

Toxic and irritating gases/fumes may be given off during burning or thermal decomposition.

6. Accidental release measures

Spill and Leak Procedures

Cleanup personnel must use appropriate personal protective equipment. Cover spill with inert material (e. g., dry sand or earth) and collect for proper disposal.

7. Handling and Storage

Storage Temperature:

minimum: 1 °C (33.8 °F)
maximum: 49 °C (120.2 °F)

Storage Period

12 Months

Handling/Storage Precautions

Avoid breathing dust, vapor, or mist. Avoid contact with skin or clothing. Avoid contact with eyes. Use only with adequate ventilation/personal protection. Wash thoroughly after handling. Keep container closed when not in use. Protect from freezing.

Further Info on Storage Conditions

None known.

8. Exposure Controls / Personal Protection

Limestone (1317-65-3)

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)
PEL: 5 mg/m³ (Respirable fraction.)
US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)
PEL: 15 mg/m³ (Total dust.)

Titanium dioxide (Rutile) (13463-67-7)

US. ACGIH Threshold Limit Values
Time Weighted Average (TWA): 10 mg/m³
US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)
PEL: 15 mg/m³ (Total dust.)
US. ACGIH Threshold Limit Values
Hazard Designation: Group A4 Not classifiable as a human carcinogen.

Crystalline Quartz Silica (14808-60-7)

US. ACGIH Threshold Limit Values
Time Weighted Average (TWA): 0.025 mg/m³ (Respirable fraction.)
US. ACGIH Threshold Limit Values
Hazard Designation: Group A2 Suspected human carcinogen.

Industrial Hygiene/Ventilation Measures

General dilution and local exhaust as necessary to control airborne vapors, mists, dusts and thermal decomposition products below appropriate airborne concentration standards/guidelines.

Respiratory Protection

In case of insufficient ventilation wear suitable respiratory equipment.

Hand Protection

Permeation resistant gloves.

Eye Protection

splash proof goggles.

Skin and body protection

Wear cloth work clothing including long pants and long-sleeved shirts.

Additional Protective Measures

Employees should wash their hands and face before eating, drinking, or using tobacco products. Educate and train employees in the safe use and handling of this product. Emergency showers and eye wash stations should be available.

9. Physical and chemical properties

Form:	liquid
Color:	Gray
Odor:	Amine
pH:	Not Established
Freezing Point:	0 °C (32 °F) similar to water
Boiling Point/Range:	100 °C (212 °F) similar to water
Flash Point:	Not applicable (water based product), however, solid material will support combustion if water has been evaporated.
Lower Explosion Limit:	not applicable
Upper Explosion Limit:	not applicable
Vapor Pressure:	17 mmHg @ 20 °C (68 °F) similar to water
Specific Gravity:	1.50

10. Stability and Reactivity

Hazardous Reactions

Hazardous polymerization does not occur.

Stability

Stable

Materials to avoid

None known.

Hazardous decomposition products

By Thermal Decomposition: Acrylic monomers, other potentially toxic fumes

11. Toxicological Information

Toxicity Data for Limestone

Acute Oral Toxicity

LD50: 6,450 mg/kg (Rat)

Skin Irritation

rabbit, Draize, Exposure Time: 24 hrs, Moderately irritating

Eye Irritation

rabbit, Draize, Exposure Time: 24 hrs, Severely irritating

Toxicity Data for Aluminum hydroxide

Acute Oral Toxicity

LD50: > 5,000 mg/kg (Rat)

Skin Irritation

rabbit, OECD Test Guideline 404, Non-irritating

Eye Irritation

rabbit, OECD Test Guideline 405, No eye irritation

Repeated Dose Toxicity

28 Days, NOAEL: 14,470 ppm, (rat)

Developmental Toxicity/Teratogenicity

rat, female, oral, NOAEL (teratogenicity): 1,000 mg/kg,

No Teratogenic effects observed at doses tested. No fetotoxicity observed at doses tested.

Toxicity Data for Titanium dioxide (Rutile)

Acute Oral Toxicity

LD50: > 5,000 mg/kg (Rat)

Acute Inhalation Toxicity

LC0: > 6.82 mg/l, dust/particulate, 4 hrs (Rat)

Acute dermal toxicity

LD50: > 5,000 mg/kg (rabbit)

Skin Irritation

rabbit, Exposure Time: 24 hrs, Non-irritating

Eye Irritation

rabbit, Draize, Non-irritating

Sensitization

dermal: non-sensitizer (Guinea pig, Maximization Test)

dermal: non-sensitizer (Human, Patch Test)

Repeated Dose Toxicity

28 Days, inhalation: NOAEL: 35 mg/m³, (Rat)

Mutagenicity

Genetic Toxicity in Vitro:

Ames: negative (Salmonella typhimurium, Metabolic Activation: with/without)

Genetic Toxicity in Vivo:

Drosophila SLRL test: negative (Drosophila melanogaster)

Carcinogenicity

Rat, Male/Female, inhalation,

According to IARC, several rat inhalation and intratracheal installation studies using titanium dioxide have shown increases in benign and malignant lung tumors. Reviewed human exposure data did not suggest an association between occupational exposure to titanium dioxide and risk for cancer. Additionally, the IARC working group determined that, #No significant exposure to titanium dioxide is thought to occur during the use of products in which titanium dioxide is bound to other material, such as in paints."

Toxicity Data for Crystalline Quartz Silica

Mutagenicity

Genetic Toxicity in Vitro:

Ames: Negative results were reported in various in vitro studies. (Salmonella typhimurium, Metabolic Activation: with/without)

Genetic Toxicity in Vivo:

Sister Chromatid Exchange: ambiguous (hamster)

Carcinogenicity

rat, Male/Female, inhalation, 2 years, 6 hrs/day 5 days/week
positive

12. Ecological Information**Ecological Data for Limestone****Biodegradation**

Not readily biodegradable.

Acute and Prolonged Toxicity to Fish

LC50: 56,000 mg/l (Mosquitofish (*Gambusia affinis*), 48 hrs)

Ecological Data for Titanium dioxide (Rutile)**Acute and Prolonged Toxicity to Fish**

LC0: > 1,000 mg/l (Golden orfe (*Leuciscus idus*), 48 hrs)

Acute Toxicity to Aquatic Invertebrates

EC0: > 3 mg/l (Water flea (*Daphnia magna*))

Toxicity to Microorganisms

EC0: > 10,000 mg/l, (*Pseudomonas fluorescens*, 24 hrs)

EC0: > 5,000 mg/l, (*Escherichia coli*)

Ecological Data for 1,3-Benzenedicarbonitrile, 2,4,5,6-tetrachloro-**Acute and Prolonged Toxicity to Fish**

LC50: 0.049 mg/l (Other fish)

Acute Toxicity to Aquatic Invertebrates

EC50: 0.2 mg/l (Water flea (*Daphnia magna*))

13. Disposal considerations**Waste Disposal Method**

Waste disposal should be in accordance with existing federal, state and local environmental control laws.

Empty Container Precautions

Recondition or dispose of empty container in accordance with governmental regulations. Do not reuse empty container without proper cleaning.

14. Transportation information**Land transport (DOT)**

Non-Regulated

Sea transport (IMDG)

Non-Regulated

Air transport (ICAO/IATA)

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Non-Regulated

15. Regulatory Information

United States Federal Regulations

OSHA Hazcom Standard Rating: Hazardous

US. Toxic Substances Control Act: Listed on the TSCA Inventory.

US. EPA CERCLA Hazardous Substances (40 CFR 302):

Components

None

SARA Section 311/312 Hazard Categories:

Acute Health Hazard, Chronic Health Hazard

US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 302 Extremely Hazardous Substance (40 CFR 355, Appendix A):

Components

None

US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 313 Toxic Chemicals (40 CFR 372.65) - Supplier Notification Required:

Components

1,3-Benzenedicarbonitrile, 2,4,5,6-tetrachloro-

US. EPA Resource Conservation and Recovery Act (RCRA) Composite List of Hazardous Wastes and Appendix VIII Hazardous Constituents (40 CFR 261):

Under RCRA, it is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product, should be classified as a hazardous waste. (40 CFR 261.20-24)

State Right-To-Know Information

The following chemicals are specifically listed by individual states; other product specific health and safety data in other sections of the MSDS may also be applicable for state requirements. For details on your regulatory requirements you should contact the appropriate agency in your state.

Massachusetts, New Jersey or Pennsylvania Right to Know Substance Lists:

<u>Weight %</u>	<u>Components</u>	<u>CAS-No.</u>
>=1%	Water	7732-18-5
>=1%	Acrylic Polymer	
20 - 30%	Limestone	1317-65-3
>=1%	Aluminum hydroxide	21645-51-2
5 - 10%	Titanium dioxide (Rutile)	13463-67-7

New Jersey Environmental Hazardous Substances List and/or New Jersey RTK Special Hazardous Substances Lists:

<u>Weight %</u>	<u>Components</u>	<u>CAS-No.</u>
0.1 - 1%	Zinc Oxide	1314-13-2
0.1 - 1%	1,3-Benzenedicarbonitrile, 2,4,5,6-tetrachloro-	1897-45-6

0.1 - 1% Ammonium Hydroxide 1336-21-6

MA Right to Know Extraordinarily Hazardous Substance List:

<u>Weight %</u>	<u>Components</u>	<u>CAS-No.</u>
0.1 - 1%	1,3-Benzenedicarbonitrile, 2,4,5,6-tetrachloro-	1897-45-6
0.1 - 1%	Crystalline Quartz Silica	14808-60-7
<5 ppm	Cadmium	7440-43-9
<5 ppm	Ammonia	7664-41-7

California Prop. 65:

Warning! This product contains chemical(s) known to the State of California to be Carcinogenic. - Developmental toxin. - Female reproductive toxin. - Male reproductive toxin.

<u>Weight %</u>	<u>Components</u>	<u>CAS-No.</u>
0.1 - 1%	1,3-Benzenedicarbonitrile, 2,4,5,6-tetrachloro-	1897-45-6
0.1 - 1%	Crystalline Quartz Silica	14808-60-7
<0.1%	Carbon Black	1333-86-4
<10 ppb	Hexachlorobenzene	118-74-1
<5 ppm	Lead	7439-92-1
<5 ppm	Cadmium	7440-43-9

16. Other Information

NFPA 704M Rating

Health	1
Flammability	1
Reactivity	0
Other	

0=Insignificant 1=Slight 2=Moderate 3=High 4=Extreme

HMIS Rating

Health	1*
Flammability	1
Physical Hazard	0

0=Minimal 1=Slight 2=Moderate 3=Serious 4=Severe

* = Chronic Health Hazard

The method of hazard communication for Baysystems North America is comprised of Product Labels and Material Safety Data Sheets. HMIS and NFPA ratings are provided by Baysystems North America as a customer service.

Contact Person: Product Safety Department
Telephone: (412) 777-2835
MSDS Number: 000000009624
Version Date: 05/15/2008
Report Version: 1.1

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to the specific material designated herein. Baysystems North America assumes no legal responsibility for use of or reliance upon the information in this MSDS.