

MATERIAL SAFETY DATA SHEET



Bayer MaterialScience

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Product Safety & Regulatory Affairs
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USA

TRANSPORTATION EMERGENCY

CALL CHEMTREC: (800) 424-9300
INTERNATIONAL: (703) 527-3887

NON-TRANSPORTATION

Emergency Phone: Call Chemtrec
Information Phone: (800) 662-2927

1. Product and Company Identification

Product Name: BAYBLOCK PRIME NS BLK-SR
Material Number: 84185095
Chemical Family: Water-based Acrylic Coating

2. Hazards Identification

Emergency Overview

Caution: **Color:** Black **Form:** liquid **Odor:** Mild, Amine.
May cause eye, skin, and respiratory tract irritation. Use cold water spray to cool fire-exposed containers to minimize the risk of rupture. Toxic gases/fumes may be given off during burning or thermal decomposition. May be harmful if inhaled. May cause lung damage. Contains material which can cause cancer.

Potential Health Effects

Primary Routes of Entry: Skin Contact, Eye Contact, 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: Titanium dioxide (Rutile)

May cause mechanical irritation.

For Component: Carbon Black

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

For Component: Crystalline Quartz Silica

May be harmful by inhalation. May cause mechanical irritation.

Chronic Inhalation

For Component: Carbon Black

Epidemiological studies of workers in the carbon black producing industry have shown no significant health effects due to occupational exposure to carbon black. In addition, studies in rats have shown effects due only to the prolonged exposure from the accumulation of nontoxic dust in the pulmonary system including chronic inflammation, lung fibrosis, and lung tumors.

Skin

Acute Skin

For Component: Limestone

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

For Component: Titanium dioxide (rutile)

May cause mechanical irritation.

For Component: Titanium dioxide (Rutile)

Not expected to be irritating.

For Component: Carbon Black

May cause mechanical irritation.

For Component: Benzophenone

Slightly toxic by skin absorption. May cause slight irritation. Not expected to be a skin sensitizer.

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)

May cause mechanical irritation.

For Component: Titanium dioxide (Rutile)

Not expected to be irritating.

For Component: Carbon Black

May cause mechanical irritation.

For Component: Crystalline Quartz Silica

May cause mechanical irritation.

Ingestion

Acute Ingestion

For Component: Limestone

Slightly toxic by ingestion.

For Component: Titanium dioxide (rutile)

Symptoms of ingestion may include abdominal pain, nausea, vomiting, and diarrhea. Not expected to be harmful if swallowed.

For Component: Titanium dioxide (Rutile)

Not expected to be harmful if swallowed.

For Component: Benzophenone

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 Possibly carcinogenic to humans.
Titanium dioxide (Rutile)	IARC - Overall evaluation: 2B Possibly carcinogenic to humans.
Carbon Black	IARC - Overall evaluation: 2B Possibly carcinogenic to humans.
Benzophenone	IARC - Overall evaluation: 2B Possibly carcinogenic to humans.
Crystalline Quartz Silica	NTP - Hazard Designation: Known To Be Human Carcinogen. IARC - Overall evaluation: 1 Carcinogenic to humans.

3. Composition/Information on Ingredients

Hazardous components

<u>Weight percent</u>	<u>Components</u>	<u>CAS-No.</u>
25 - 35%	Limestone	1317-65-3
0.1 - 1%	Titanium dioxide (rutile)	1317-80-2
0.1 - 1%	Titanium dioxide (Rutile)	13463-67-7
0.1 - 1%	Carbon Black	1333-86-4
0.1 - 1%	Benzophenone	119-61-9
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. Firefighting 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.)

Carbon Black (1333-86-4)

US. ACGIH Threshold Limit Values

Time Weighted Average (TWA): 3.5 mg/m³

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

PEL: 3.5 mg/m³

US. ACGIH Threshold Limit Values

Time Weighted Average (TWA): 3 mg/m³ (Inhalable fraction.)

US. ACGIH Threshold Limit Values

Hazard Designation: Group A4 Not classifiable as a human carcinogen.

US. ACGIH Threshold Limit Values

Hazard Designation: Group A3 Confirmed animal carcinogen with unknown relevance to humans.

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

When handling this product, ventilation of the work area is recommended.

Respiratory protection

In case of mist, spray or aerosol exposure wear suitable personal respiratory protection and protective suit.

Hand protection

Permeation resistant gloves., Neoprene gloves

Eye protection

Chemical safety goggles or safety glasses with side-shields.

Skin and body protection

Wear as appropriate:, disposable one-piece overall with integral hood, Impervious protective clothing.

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:	Black
Odor:	Mild, Amine
Freezing Point:	Approximately 0 °C (32 °F) similar to water

Boiling point/boiling range: Approximately 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.
Vapour pressure: 17 mmHg @ 20 °C (68 °F) similar to water
Specific Gravity: 1.5
Bulk density: Approximately 1,500 kg/m³

10. Stability and reactivity

Hazardous Reactions

Hazardous polymerisation does not occur.

Stability

Stable

Materials to avoid

None known.

Hazardous decomposition products

By Thermal Decomposition: carbon monoxide, carbon dioxide, 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 h, Moderately irritating

Eye irritation

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

Toxicity Data for Titanium dioxide (rutile)

Acute oral toxicity

LD50: > 24,000 mg/kg (Rat)

Acute inhalation toxicity

LC50: 6820 mg/m³, 4 h (Rat)

Mutagenicity

Genetic Toxicity in Vitro:

Other assay: negative, Negative results were reported in various in vitro studies. (Bacillus subtilis)

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.", Animal experiments showed a statistically significant number of tumours.

Rat, Male/Female, oral, 103 weeks, daily,

No carcinogenic effects observed at the doses tested.
mouse, Male/Female, oral, 103 days, daily,
No carcinogenic effects observed at the doses tested.

Toxicity to Reproduction/Fertility

Three generation study, oral, (Rat) NOAEL (parental): 5 mg/L (as Titanium),
Reproductive effects have been observed in animal studies.

Toxicity Data for Titanium dioxide (Rutile)

Acute oral toxicity

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

Acute inhalation toxicity

LC0: > 6.82 mg/l, 4 h (Rat)

Acute dermal toxicity

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

Skin irritation

rabbit, Exposure Time: 24 h, Non-irritating

Eye irritation

rabbit, Draize, Non-irritating

Sensitisation

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)

negative

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 Carbon Black

Acute oral toxicity

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

LD50: > 2,000 mg/kg (Rat)

Acute dermal toxicity

LD50: > 3,000 mg/kg (rabbit)

Skin irritation

rabbit, non-irritant

Eye irritation

rabbit, non-irritant

Mutagenicity

Genetic Toxicity in Vitro:

Salmonella/microsome test (Ames test): negative

Carcinogenicity

Several inhalation studies involving carbon black in female rats have shown increases in benign and malignant lung tumors. Although a large body of data on possible mechanisms of carcinogenicity in rats was considered by the IARC Working Group, it was not possible to state with confidence that the mechanisms of carcinogenicity in rats correlate to exposure in humans. Tumors have not been observed in other animal species (i.e., mouse and hamster) under similar circumstances and study conditions.

Toxicity Data for Benzophenone**Acute oral toxicity**

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

Acute dermal toxicity

LD50: 3,535 mg/kg (rabbit)

Skin irritation

rabbit, Slightly irritating

Sensitisation

non-sensitizer (Guinea pig)

Repeated dose toxicity

90 d, oral: NOAEL: 20 mg/kg, LOAEL: 100 mg/kg, (rat, Male/Female, daily)

Mutagenicity

Genetic Toxicity in Vitro:

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

Carcinogenicity

mouse, female, dermal, life span,

No carcinogenic effects observed at the doses tested.

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)

ambiguous

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 h)

Ecological Data for Titanium dioxide (rutile)

Additional Ecotoxicological Remarks

No data available for this component.

Ecological Data for Titanium dioxide (Rutile)

Acute and Prolonged Toxicity to Fish

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

Acute Toxicity to Aquatic Invertebrates

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

Toxicity to Microorganisms

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

Ecological Data for Carbon Black

Acute and Prolonged Toxicity to Fish

LC0: > 1,000 mg/l (*Danio rerio* (zebra fish), 96 h)

Acute Toxicity to Aquatic Invertebrates

EC50: > 5,600 mg/l (Water flea (*Daphnia magna*), 24 h)

Toxicity to Microorganisms

EC0: 100 - 800 mg/l, (Activated sludge microorganisms, 3 h)

Ecological Data for Benzophenone

Biodegradation

aerobic, 0 %,

0 %, Exposure time: 28 d, i.e. not readily degradable

Bioaccumulation

Does not bioaccumulate.

Acute and Prolonged Toxicity to Fish

LC50: 15.3 mg/l (Fathead minnow (*Pimephales promelas*), 96 h)

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. Transport information

Land transport (DOT)

Non-Regulated

Sea transport (IMDG)

Non-Regulated

Air transport (ICAO/IATA)

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

None

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 person who generates a solid waste, as defined in 40 CFR 261.2, to determine if that waste is a hazardous waste.

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 percent</u>	<u>Components</u>	<u>CAS-No.</u>
>=1%	Water	7732-18-5
>=1%	Acrylic Polymer	
25 - 35%	Limestone	1317-65-3
0.1 - 1%	Titanium dioxide (rutile)	1317-80-2
0.1 - 1%	Titanium dioxide (Rutile)	13463-67-7

0.1 - 1%	Carbon Black	1333-86-4
0.1 - 1%	Benzophenone	119-61-9
0.1 - 1%	Crystalline Quartz Silica	14808-60-7

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

<u>Weight percent</u>	<u>Components</u>	<u>CAS-No.</u>
0.1 - 1%	Carbon Black	1333-86-4
0.1 - 1%	Crystalline Quartz Silica	14808-60-7

MA Right to Know Extraordinarily Hazardous Substance List:

<u>Weight percent</u>	<u>Components</u>	<u>CAS-No.</u>
0.1 - 1%	Crystalline Quartz Silica	14808-60-7

California Prop. 65:

Warning! This product contains chemical(s) known to the State of California to be Carcinogenic.

<u>Weight percent</u>	<u>Components</u>	<u>CAS-No.</u>
0.1 - 1%	Titanium dioxide (rutile)	1317-80-2
0.1 - 1%	Titanium dioxide (Rutile)	13463-67-7
0.1 - 1%	Carbon Black	1333-86-4
0.1 - 1%	Benzophenone	119-61-9
0.1 - 1%	Crystalline Quartz Silica	14808-60-7

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 Bayer MaterialScience LLC is comprised of Product Labels and Material Safety Data Sheets. HMIS and NFPA ratings are provided by Bayer MaterialScience LLC as a customer service.

Contact person: Product Safety Department
 Telephone: (412) 777-2835
 MSDS Number: 112000046727
 Version Date: 11/18/2013
 Report version: 3.0

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|| Changes since the last version are highlighted in the margin. This version replaces all previous versions.