# Material Safety Data Sheet

**Bayer MaterialScience**

**Bayer MaterialScience LLC**  
Product Safety & Regulatory Affairs  
100 Bayer Road  
Pittsburgh, PA 15205-9741  
USA

## 1. Product and Company Identification

<table>
<thead>
<tr>
<th>Product Name:</th>
<th>BAYSEAL IC IVORY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Material Number:</td>
<td>81179841</td>
</tr>
<tr>
<td>Chemical Family:</td>
<td>Water-based Acrylic Coating</td>
</tr>
</tbody>
</table>

## 2. Hazards Identification

### Emergency Overview

**WARNING!**  
**Color:** Ivory  
**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.

### 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: Vinyl acetate, n-butyl acrylate polymer**

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

**For Component: Titanium dioxide (Rutile)**

May cause mechanical irritation.

#### Skin

**Acute Skin**

**For Component: Vinyl acetate, n-butyl acrylate polymer**

May cause irritation with symptoms of reddening and itching.

**For Component: Titanium dioxide (Rutile)**
Not expected to be irritating.

**Eye**

**Acute Eye**

**For Component: Vinyl acetate, n-butyl acrylate polymer**
May cause irritation with symptoms of reddening, tearing and stinging.

**For Component: Titanium dioxide (Rutile)**
Not expected to be irritating.

**Ingestion**

**Acute Ingestion**

**For Component: Titanium dioxide (Rutile)**
Not expected to be harmful if swallowed.

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

### 3. Composition/Information on Ingredients

<table>
<thead>
<tr>
<th>Weight %</th>
<th>Components</th>
<th>CAS-No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>7 - 13%</td>
<td>Dipentaerythritol</td>
<td>126-58-9</td>
</tr>
<tr>
<td>5 - 10%</td>
<td>Vinyl acetate, n-butyl acrylate polymer</td>
<td>CAS# is a trade secret</td>
</tr>
<tr>
<td>5 - 10%</td>
<td>Polyvinyl Chloride Polymer</td>
<td></td>
</tr>
<tr>
<td>1 - 5%</td>
<td>Titanium dioxide (Rutile)</td>
<td>13463-67-7</td>
</tr>
</tbody>
</table>

### 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 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

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.

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:** Ivory
- **Odor:** Mild, Amine
- **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:** 1.31

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 Polyphosphoric acids, ammonium salts**
  **Acute Oral Toxicity**
  LD50: > 2,000 mg/kg (Rat)

- **Skin Irritation**
  rabbit, Non-irritating

- **Eye Irritation**
  rabbit, Non-irritating

- **Toxicity Data for Melamine**
  **Acute Oral Toxicity**
  LD50: 3,160 mg/kg (Rat)

  **Acute Inhalation Toxicity**
  LC50: 3,280 mg/m3, (Rat)
**Acute dermal toxicity**
LD50: > 1,000 mg/kg (rabbit)

**Skin Irritation**
rabbit, Exposure Time: 18 hrs, Non-irritating

**Eye Irritation**
rabbit, Draize, Slightly irritating
rabbit, Non-irritating

**Sensitization**
dermal: non-sensitizer (Human, Patch Test)
non-sensitizer (Guinea pig)

**Repeated Dose Toxicity**
28 Days, oral: NOAEL: 2000 ppm, (Rat)

**Mutagenicity**
Genetic Toxicity in Vitro:
Ames: negative (Salmonella typhimurium, Metabolic Activation: with/without)
Genetic Toxicity in Vivo:
Positive and negative results were seen in various in vitro studies; however in vivo studies were negative.

**Carcinogenicity**
mouse, Male/Female, oral, 2 Years,
negative
Rat, Male, oral, 2 Years,
positive

**Toxicity to Reproduction/Fertility**
Fertility Screening, inhalation, (Rat, Male) NOAEL (F2): 500 ug/m3
Reproductive effects have been observed in animal studies.

**Developmental Toxicity/Teratogenicity**
Rat, Female, oral, ad libitum, NOAEL (teratogenicity): 1,060 mg/kg,
No Teratogenic effects observed at doses tested.

**Toxicity Data for C18-28 Long Chain Chlorinated Paraffin**

**Acute Oral Toxicity**
LD50: > 26,100 mg/kg (Rat)

**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."

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### 12. Ecological Information

**Ecological Data for Polyphosphoric acids, ammonium salts**
**Acute and Prolonged Toxicity to Fish**
LC₅₀: > 500 mg/l (Goldfish (Carassius auratus), 96 h)

**Ecological Data for Melamine**
**Biodegradation**
Aerobic, 0 %, Exposure time: 14 Days
Under test conditions no biodegradation observed.
Aerobic, < 20 %, Exposure time: 20 Days

**Acute and Prolonged Toxicity to Fish**
LC₅₀: > 500 mg/l (Golden orfe (Leuciscus idus), 48 hrs)

**Acute Toxicity to Aquatic Invertebrates**
EC₅₀: > 2,000 mg/l (Water flea (Daphnia magna), 48 hrs)

**Toxicity to Aquatic Plants**
EC₅₀: 940 mg/l, (other: algae, 4 Days)

**Toxicity to Microorganisms**
EC₅₀: > 10,000 mg/l, (Pseudomonas putida, 2 hrs)

**Ecological Data for C₁₈-₂₈ Long Chain Chlorinated Paraffin**
**Acute and Prolonged Toxicity to Fish**
LC₅₀: 520 mg/l (Other fish, 96 h)

**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)

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)
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

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:**

<table>
<thead>
<tr>
<th>Weight %</th>
<th>Components</th>
<th>CAS-No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;=1%</td>
<td>Water</td>
<td>7732-18-5</td>
</tr>
<tr>
<td>&gt;=1%</td>
<td>Polyphosphoric acids, ammonium salts</td>
<td>68333-79-9</td>
</tr>
<tr>
<td>7 - 13%</td>
<td>Dipentaerythritol</td>
<td>126-58-9</td>
</tr>
<tr>
<td>&gt;=1%</td>
<td>Melamine</td>
<td>108-78-1</td>
</tr>
<tr>
<td>5 - 10%</td>
<td>Vinyl acetate, n-butyl acrylate polymer</td>
<td>CAS# is a trade secret</td>
</tr>
<tr>
<td>5 - 10%</td>
<td>Polyvinyl Chloride Polymer</td>
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<td>1 - 5%</td>
<td>Titanium dioxide (Rutile)</td>
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**MA Right to Know Extraordinarily Hazardous Substance List:**

<table>
<thead>
<tr>
<th>Weight %</th>
<th>Components</th>
<th>CAS-No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;0.05%</td>
<td>Acetaldehyde</td>
<td>75-07-0</td>
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<tr>
<td>&lt;0.05%</td>
<td>Vinyl Acetate</td>
<td>108-05-4</td>
</tr>
<tr>
<td>&lt;0.05%</td>
<td>Crystalline Quartz silica</td>
<td>14808-60-7</td>
</tr>
</tbody>
</table>

**California Prop. 65:**
Warning! This product contains chemical(s) known to the State of California to be Carcinogenic. - Female reproductive toxin.

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<td>Acetaldehyde</td>
<td>75-07-0</td>
</tr>
<tr>
<td>&lt;0.05%</td>
<td>Crystalline Quartz silica</td>
<td>14808-60-7</td>
</tr>
<tr>
<td>&lt;20 ppb</td>
<td>Ethylene Oxide</td>
<td>75-21-8</td>
</tr>
<tr>
<td>&lt;65 ppb</td>
<td>Arsenic</td>
<td>7440-38-2</td>
</tr>
<tr>
<td>&lt;1 ppm</td>
<td>Nickel (Ni)</td>
<td>7440-02-0</td>
</tr>
<tr>
<td>&lt;40 ppb</td>
<td>1,4-Dioxane</td>
<td>123-91-1</td>
</tr>
<tr>
<td>&lt;10 ppb</td>
<td>Formaldehyde</td>
<td>50-00-0</td>
</tr>
</tbody>
</table>

**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

<table>
<thead>
<tr>
<th>Health</th>
<th>1*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flammability</td>
<td>1</td>
</tr>
<tr>
<td>Physical Hazard</td>
<td>0</td>
</tr>
</tbody>
</table>

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: 000000008422
Version Date: 05/01/2008
Report Version: 2.1

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Changes since the last version will be highlighted in the margin. This version replaces all previous versions.