

SAFETY DATA SHEET (SDS)

FD&C Blue No. 1 (Brilliant Blue FCF, Powder, >85% Pure)

SECTION 1: IDENTIFICATION

Product Identifier

- **Product Name:** FD&C Blue No. 1 (Brilliant Blue FCF)
- **Product Code:** FDCBLUE1
- **Chemical Name:** Disodium α -[4-[N-ethyl-3-sulfonatobenzyl]amino]phenyl]- α -(4-sulfonatophenyl)toluene-5-sulfonate
- **CAS Number:** 3844-45-9
- **EC Number:** 223-339-8
- **Molecular Formula:** C₃₇H₃₄N₂Na₂O₉S₃
- **Molecular Weight:** 792.85 g/mol
- **C.I. No:** 42090

Relevant Identified Uses and Uses Advised Against

- **Intended Use:** Food, pharmaceutical, and cosmetic colorant; dyeing agent for research and industrial applications.
- **Uses Advised Against:** Not for use in applications where purity beyond regulatory food standards is required.

Manufacturer / Supplier Details

- **Company Name:** Chemical Store Inc.
 - **Address:** 1059 Main Avenue, Clifton, NJ 07011, USA
 - **Phone Number:** +1 (973) 405 – 6248 (Monday-Friday 10 AM – 5:00 PM)
 - **Website:** ChemicalStore.com
 - **Emergency Phone Number:** +1-973-420-4972 (24/7 Emergency Assistance)
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SECTION 2: HAZARD(S) IDENTIFICATION

Classification of the Substance or Mixture (GHS-US)

- This substance is **not classified** as hazardous under OSHA's **HazCom 2012** (29 CFR 1910.1200).

- Not a **flammable, corrosive, toxic, or reactive** chemical.

GHS Label Elements

- **Pictograms:** *(None Required – Placeholder for Optional Symbols)*
- **Signal Word:** Not required
- **Hazard Statements:**
 - May cause minor skin or eye irritation in sensitive individuals (**H303** – May be harmful if swallowed in large amounts).
 - Dust may cause mild respiratory irritation (**H335** – May cause respiratory irritation).
- **Precautionary Statements:**
 - **P261** – Avoid breathing dust.
 - **P280** – Wear protective gloves, eye protection.
 - **P305 + P351 + P338** – IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 - **P302 + P352** – IF ON SKIN: Wash with plenty of soap and water.

Other Hazards Not Otherwise Classified (HNOC)

- **Dust Hazard:** Fine powder may cause mechanical irritation if inhaled.
- **Environmental Impact:** No significant hazards known; biodegradable.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

| Substance | CAS Number | EC Number | Concentration |
|--------------------------------------|------------|-----------|---------------|
| FD&C Blue No. 1 (Brilliant Blue FCF) | 3844-45-9 | 223-339-8 | ≥85% |
| Inert Components | - | - | ≤15% |

Note: May contain minor amounts of humidity, sodium chloride and sulfate salts as manufacturing byproducts.

SECTION 4: FIRST-AID MEASURES

General Advice:

- Seek medical attention if irritation persists or if large amounts have been ingested.

Inhalation:

- Remove to fresh air. Seek medical attention if respiratory irritation persists.

Skin Contact:

- Wash thoroughly with soap and water. If irritation develops, consult a physician.

Eye Contact:

- Rinse with plenty of water for at least 15 minutes. Remove contact lenses if present. Seek medical attention if irritation continues.

Ingestion:

- Rinse mouth with water. Do **not** induce vomiting unless directed by a medical professional.
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SECTION 5: FIRE-FIGHTING MEASURES

- **Flash Point:** Not applicable
 - **Autoignition Temperature:** Not available
 - **Extinguishing Media:**
 - Suitable: Water spray, dry chemical, foam, or CO₂.
 - Unsuitable: None known.
 - **Special Protective Equipment:** Firefighters should wear self-contained breathing apparatus (SCBA) and protective clothing.
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SECTION 6: ACCIDENTAL RELEASE MEASURES

- **Personal Precautions:** Avoid dust formation. Wear protective equipment.
 - **Environmental Precautions:** Prevent spillage from entering drains.
 - **Cleanup Methods:** Vacuum or sweep up carefully to minimize dust. Dispose of in accordance with local regulations.
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SECTION 7: HANDLING AND STORAGE

- **Handling:** Avoid creating dust. Use in well-ventilated areas.
- **Storage:** Store in a dry, cool place. Keep container tightly closed.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

- **Occupational Exposure Limits:** Contains no substances with occupational exposure limit values.
- **Engineering Controls:** Use local exhaust ventilation if dust is generated.
- **Personal Protective Equipment (PPE):**
 - Eye Protection: Safety goggles
 - Skin Protection: Protective gloves (nitrile or latex)
 - Respiratory Protection: Dust mask (if airborne dust is present)



SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

- **Appearance:** Reddish brown powder, turns blue when dissolved in water
- **Odor:** Odorless
- **pH:** 5.0 - 7.0 (1% solution)
- **Melting Point:** 283 °C (541 °F) _ Decomposes before melting
- **Solubility in Water:** Soluble
- **Partition Coefficient (log Pow):** Not available

SECTION 10: STABILITY AND REACTIVITY

Reactivity:

- This product is **not reactive** under normal conditions of storage, handling, and use.
- It does not undergo **hazardous polymerization** or react violently with common substances.

Chemical Stability:

- **Stable** under recommended storage conditions.
- **Not prone** to decomposition under normal temperatures and pressures.

Possibility of Hazardous Reactions:

- **No known hazardous reactions** under normal conditions.

- Avoid **strong oxidizing agents**, which may react with organic components in the dye.

Conditions to Avoid:

- Excessive **heat** (>200°C), open flames, and **direct sunlight**.
- Avoid **dust generation** in poorly ventilated areas.

Incompatible Materials:

- **Strong oxidizing agents** (e.g., hydrogen peroxide, nitric acid, perchlorates).
- **Strong acids or bases** in high concentrations may degrade the dye over time.

Hazardous Decomposition Products:

- When heated above 200°C, it may **decompose**, releasing **carbon oxides (CO, CO₂)**, **nitrogen oxides (NO_x)**, and **sulfur oxides (SO_x)**.
 - Toxic decomposition fumes may form in case of fire.
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SECTION 11: TOXICOLOGICAL INFORMATION**Acute Toxicity:**

- **Oral (LD50, rat):** > 2,000 mg/kg (low toxicity)
- **Dermal (LD50, rabbit):** No data available, but not expected to be hazardous.
- **Inhalation:** No known significant toxic effects through inhalation.

Skin Corrosion/Irritation:

- **Mild irritation** may occur in sensitive individuals or after prolonged exposure to powder.
- **Not classified** as a skin irritant under GHS.

Serious Eye Damage/Irritation:

- May cause **minor, temporary irritation** if exposed to **large amounts of dust**.
- **Not classified** as an eye irritant under GHS.

Respiratory or Skin Sensitization:

- **No known sensitization effects.**

Germ Cell Mutagenicity:

- **Not mutagenic** based on available data.

Carcinogenicity:

- **Not classified as carcinogenic** by IARC, NTP, OSHA, or ACGIH.
- Long-term studies show **no significant evidence** of carcinogenic effects.

Reproductive Toxicity:

- **No known reproductive toxicity.**

Specific Target Organ Toxicity (STOT) - Single Exposure:

- May cause **mild respiratory irritation** if inhaled in **large quantities** (dust exposure).

Specific Target Organ Toxicity (STOT) - Repeated Exposure:

- **No evidence** of significant health effects from prolonged exposure.

Aspiration Hazard:

- **Not classified** as an aspiration hazard.
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SECTION 12: ECOLOGICAL INFORMATION**Ecotoxicity:**

- **Aquatic Toxicity:**
 - **Fish (LC50, 96h):** > 100 mg/L (low toxicity)
 - **Daphnia (EC50, 48h):** > 100 mg/L (low toxicity)
 - **Algae (EC50, 72h):** > 100 mg/L (low toxicity)

Persistence and Degradability:

- **Biodegradable** under normal environmental conditions.
- May take **several weeks** to degrade completely.

Bioaccumulative Potential:

- **Not bioaccumulative** (log Pow < 1.0).

Mobility in Soil:

- High **water solubility** → likely to **migrate through soil** but **not expected** to bioaccumulate.

Other Adverse Effects:

- No known **ozone depletion**, **endocrine disruption**, or **global warming potential**.
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SECTION 13: DISPOSAL CONSIDERATIONS**Waste Treatment Methods:**

- **Recommended Disposal:** Dispose of in accordance with **local, state, and federal regulations**.
- **Industrial Waste Management:** If in large quantities, **consult with a licensed hazardous waste disposal company**.
- **Household Disposal:** Small quantities can be **disposed of in regular waste** following local guidelines.

Container Disposal:

- **Rinse and recycle plastic/metal containers** where applicable.
 - **Dispose of paper bags or fiber drums in accordance with local regulations**.
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SECTION 14: TRANSPORT INFORMATION**U.S. DOT (Department of Transportation):**

- **Not classified as a hazardous material** under DOT regulations.
- **UN Number:** Not applicable
- **Proper Shipping Name:** Not regulated
- **Hazard Class:** Not applicable
- **Packing Group:** Not applicable

IATA (Air Transport):

- **Not classified as dangerous goods**.

IMDG (Maritime Transport):

- Not classified as dangerous goods.

Special Transport Precautions:

- Store away from food and beverages when transported in bulk.
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SECTION 15: REGULATORY INFORMATION**U.S. Federal Regulations**

- **OSHA Hazard Classification:** Not hazardous
- **TSCA (Toxic Substances Control Act):** Listed
- **CERCLA Reportable Quantity (RQ):** Not applicable
- **SARA Title III Sections 302/304 (Emergency Planning and Release Reporting):** Not applicable
- **SARA Title III Section 311/312 (Hazard Categories):** Not hazardous
- **SARA Title III Section 313 (Toxic Release Inventory - TRI):** Not listed

State Regulations

- **California Proposition 65:** This product **does not contain** any substances known to the State of California to cause cancer, birth defects, or reproductive harm.
- **Right-to-Know Lists:**
 - **Massachusetts, Pennsylvania, New Jersey:** Listed as a non-hazardous food-grade dye.

International Regulations

- **EU REACH Status:** Pre-registered
 - **Canada DSL/NDSL:** Listed
 - **Australia AICS:** Listed
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SECTION 16: OTHER INFORMATION**NFPA Hazard Rating**

| Category | Health | Flammability | Reactivity | Special Hazards |
|----------|--------|--------------|------------|-----------------|
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| Category | Health | Flammability | Reactivity | Special Hazards |
|--------------|------------|-------------------|------------|-----------------|
| Rating (0-4) | 1 (slight) | 0 (non-flammable) | 0 (stable) | None |

HMIS Hazard Rating

| Category | Health | Flammability | Reactivity | PPE |
|--------------|--------|--------------|------------|----------------------------|
| Rating (0-4) | 1 | 0 | 0 | B (gloves, safety glasses) |

Revision History

- **Version 1.0** – Initial issue
- **Revision Date:** 2/12/2025
- **Prepared By:** Chemical Store Inc.

Disclaimer: The information provided in this SDS is accurate to the best of our knowledge and is intended as a guideline for safe handling. This does not constitute a warranty.