Standard Operating Procedure

Evans Blue Dye

*This is an SOP template and is not complete until: 1) lab specific information is entered into the box below 2) lab specific protocol/procedure is added to the protocol/procedure section and
3) SOP has been signed and dated by the PI and relevant lab personnel.*

 Print a copy and insert into your
*Laboratory Safety Manual* and *Chemical Hygiene Plan*.
Refer to instructions for assistance.

|  |  |
| --- | --- |
| **Department:** | Click here to enter text. |
| **Date SOP was written:** | Click here to enter a date. |
| **Date SOP was approved by PI/lab supervisor:** | Click here to enter a date. |
| **Principal Investigator:** | Click here to enter text. |
| **Internal Lab Safety Coordinator/Lab Manager:** | Click here to enter text. |
| **Lab Phone:** | Click here to enter text. |
| **Office Phone:** | Click here to enter text. |
| **Emergency Contact:** | Click here to enter text. |
| *(Name and Phone Number)* |
| **Location(s) covered by this SOP:** | Click here to enter text. |
| *(Building/Room Number)* |

**Type of SOP:** ☒ Process ☒Hazardous Chemical ☐ Hazardous Class

**Purpose**

(*State the procedure the specific chemical is used for in lab/the purpose of the chemical*)

**Physical & Chemical Properties/Definition of Chemical Group**

Chemical Name: Evans Blue Dye

Synonyms: Direct Blue 53; 6,6-[(3,3’-Dimethyl[1, 1’-biphenyl]-4,4’-diyl)bis[4-amino-5-hydroxy-1,3-naphthalenedisulfonic acid] tetrasodium salt

CAS#: 314-13-6

Class: Irritant and Carcinogen

Molecular Formula: C34H24N6O14S4Na4



Molecular weight: 960.82 g

Form: solid; dark brown powder

Solubility: No data available in MSDS

Volatility: Stable under recommended storage conditions. Store in a cool dry area. May be combustible at high temperatures.

Other: Laboratory operations should be conducted in a ducted fume hood as the chemical, physical and toxicological properties of Evans Blue Dye have not been thoroughly investigated.

**Potential Hazards/Toxicity**

Toxic Effects: Toxic effects are not available for Evans Blue Dye. However, it is considered a hazardous irritant and potential carcinogen.

Acute Effects: May cause respiratory tract irritation (wheezing, coughing, shortness of breath). May be harmful if swallowed (burning in the mouth or throat). May cause eye irritation (watering or burning). May be harmful if absorbed through skin and cause skin irritation.

Chronic Effects: Evans Blue Dye contains a component that has been reported to potentially be carcinogenic. Prolonged exposure is not known to aggravate medical conditions. Overexposure may cause reproductive disorders based on tests with laboratory animals.

Carcinogenic Effects: Evans Blue Dye contains a component that has been reported to probably be carcinogenic.

Mutagenic/Teratogenic Effects: Evans Blue Dye is not known to be mutagenic or teratogenic.

Systemic effects: Not available

**Personal Protective Equipment (PPE)**

Wear gloves, full-length lab coat, and safety glasses with side-shields or a face shield in addition to long pants and closed-toe shoes.

Always wash hands after removing gloves following handling Evans Blue Dye.

Lab personnel intending to use/wear a respirator mask must be trained and fit-tested by ORS and should contact occhealt@uga.edu. This is a UGA requirement described in more detail in the [UGA Respiratory Protection Plan](https://esd.uga.edu/sites/default/files/respiratoryprotection.pdf) and supported by the [Office of Research Occupational Health and Safety Program](https://research.uga.edu/ohsp/).

**Engineering Controls**

Always handle Evans Blue inside a certified chemical fume hood or ducted bio-safety cabinet.

**First Aid Procedures**

Skin & Eye Exposure: Skin: remove contaminated clothing and wash gently and thoroughly with running water and non-abrasive soap. Be particularly careful to clean folds, crevices, and creases. Cover irritated skin with an emollient. If irritation persists, seek medical attention. Wash contaminated clothing before reusing. Eye: check for and remove any contact lenses. Rinse immediately with copious amounts of running water for at least 15 minutes. Do not use any ophthalmic ointments. Consult a physician promptly.

Ingestion: Do not induce vomiting. Loosen any tight clothing. Never give anything by mouth to an unconscious person. Rinse mouth with water and consult a physician.

Inhalation: Remove rapidly to clean air. Administer rescue breathing if necessary

 and call emergency services. Seek medical attention if needed.

**Special Handling and Storage Requirements**

* Keep away from heat and/or sources of ignition. Discard empty containers. Store away from extreme heat and strong oxidizing agents.
* Needles used for Evans Blue Dye injection will be disposed of in approved sharps containers immediately following use.
* Needles used for Evans Blue Dye injection should never be bent, sheared, or recapped.

**Spill and Accident Procedure**

**Chemical Spill Dial 911**

**24-7 On-Call Response to Research, Environment, Health or Safety Concerns Dial 2-5561 from a campus phone or 706-542-5561 from a non-campus line.**

**Spill** – Follow the procedures set out in the [UGA Chemical and Laboratory Safety Manual.](http://research.uga.edu/docs/units/safety/manuals/Chemical-Laboratory-Safety-Manual.pdf)

[If there are any chemical-specific protocols for responding to a spill, insert them here or mark “none”:]

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**Medical Emergency Dial 911**

**Life Threatening Emergency, After Hours, Weekends And Holidays** – Dial **911** or the emergency phone numbers listed at the beginning of the UGA Chemical and Laboratory Safety Manual

*Note: All incidents that result in an injury or property damage must be reported to ORS / ESD using a University Incident/Accident Report.*

**Non-Life Threatening Emergency** – Follow the instructions in the UGA Chemical and Laboratory Safety Manual.

*Note: All incidents that result in an injury or property damage must be reported to ORS / ESD using a University Incident/Accident Report.*

**Decontamination/Waste Disposal Procedure**

**For general hazardous waste disposal procedures, see Appendix H of the UGA Chemical and Laboratory Safety Manual.**

**Chemical Specific Procedures: [to be inserted or marked as “none”]**

Clean areas where Evans Blue Dye has been handled by adding water, followed with a soap and water wash.

No waste streams containing Evans Blue Dye shall be disposed of in sinks or general refuse.

**Safety Data Sheet (SDS) Location**

UGA personnel can access Online SDS through a link in the upper left corner of the ESD home page (<https://esd.uga.edu>) and logging in by using their UGA email user name and password.

**Protocol/Procedure**

*(Add specific description of procedure.)*

**Note:** Any deviation from this SOP requires written approval from PI.

**Documentation of Training** *(signature of all users is required)*

* Prior to conducting any work with Evans Blue Dye, designated personnel must provide training to his/her laboratory personnel specific to the hazards involved in working with this substance, work area decontamination, and emergency procedures.
* The Principal Investigator must provide his/her laboratory personnel with a copy of this SOP and access to the SDS provided by the manufacturer.

The Principal Investigator must ensure that his/her laboratory personnel have attended appropriate laboratory safety training or refresher training within the last 12 months.

**Principal Investigator SOP Approval**

Print name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Signature\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Approval Date:

I have read and understand the content of this SOP:

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| --- | --- | --- |
| **Name** | **Signature** | **Date** |
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