

Order Number

Customer Number

1. Identification of the substance/preparation and of the company/undertaking

Product name : Bisbenzimidazole H 33342 Fluorochrome, Trihydrochloride

Catalog # : 382065

Chemical formula : C₂₇H₂₈N₆O · 3HCl

Supplier : EMD Biosciences, Inc.
10394 Pacific Center Court
San Diego, CA 92121
(858)450-5558/(800)854-3417
FAX: (858)453-3552

Synonym : 2'-(4-Ethoxyphenyl)-5-(4-methyl-1-piperazinyl)-2,5'-bi-1H-benzimidazole
HCl; HOE33342

Emergency telephone number : Call Chemtrec®
(800)424-9300 (within U.S.A.)
(703)527-3887 (outside U.S.A.)

2. Composition / information on ingredients

Substance/Preparation : Substance

Chemical name*	CAS No.	EC Number	Symbol	R-Phrases
2'-(4'-ethoxyphenyl)-5-(4-methylpiperazin-1-yl)-2,5'-bis-1h-benzimidazole trihydrochloride trihydrate	23491-52-3	245-691-1	T	R24/25, R36/37/38, R45

3. Hazards identification

Physical/chemical hazards : Not applicable.

Human health hazards : WARNING!
CANCER HAZARD.
CAN CAUSE CANCER.
HARMFUL IF ABSORBED THROUGH SKIN OR IF SWALLOWED.
MAY CAUSE RESPIRATORY TRACT, EYE AND SKIN IRRITATION.

4. First-aid measures

First-Aid measures

Inhalation : If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Ingestion : If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.

Skin Contact : In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Cover the irritated skin with an emollient. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.

Eye Contact : Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention.

Effects and symptoms

Inhalation : Hazardous in case of inhalation (lung irritant).

Ingestion : Very hazardous in case of ingestion. May be fatal if swallowed

Skin Contact : Very hazardous in case of skin contact (permeator). Hazardous in case of skin contact (irritant). Severe over-exposure can result in death. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.

Eye Contact : Hazardous in case of eye contact (irritant).

Aggravating conditions : Repeated exposure to a highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.

5. Fire-fighting measures

- Flammability of the Product** : May be combustible at high temperature.
- Extinguishing Media**
- Suitable** : SMALL FIRE: Use DRY chemical powder.
LARGE FIRE: Use water spray, fog or foam. Do not use water jet.
- Hazardous thermal (de)composition products** : These products are carbon oxides (CO, CO₂), nitrogen oxides (NO, NO₂...), halogenated compounds, hydrogen chloride.
- Special fire-fighting procedures** : Fire fighters should wear positive pressure self-contained breathing apparatus (SCBA) and full turnout gear.
- Protection of fire-fighters** : Be sure to use an approved/certified respirator or equivalent.

6. Accidental release measures

- Personal precautions** : Splash goggles. Full suit. Dust respirator. Boots. Gloves. A self-contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.
- Small Spill and Leak** : Use appropriate tools to put the spilled solid in a convenient waste disposal container.
- Large Spill and Leak** : Stop leak if without risk. Do not get water inside container. Do not touch spilled material. Use water spray to reduce vapors. Prevent entry into sewers, basements or confined areas; dike if needed. Eliminate all ignition sources. Call for assistance on disposal.

7. Handling and storage

- Handling** : Keep locked up. Keep away from heat. Keep away from sources of ignition. Empty containers pose a fire risk, evaporate the residue under a fume hood. Ground all equipment containing material. Do not ingest. Do not breathe dust. Wear suitable protective clothing. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes. Keep away from incompatibles such as oxidizing agents.
- Storage** : Keep container tightly closed. Keep container in a cool, well-ventilated area. Do not store above 4°C (39.2°F).
- Packaging materials**
- Recommended use** : Use original container.

8. Exposure controls/personal protection

- Engineering measures** : Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.
- Hygiene measures** : Wash hands, forearms, and face thoroughly after handling compounds and before eating, smoking, using lavatory, and at the end of day.

<u>Ingredient Name</u>	<u>Occupational Exposure Limits</u>
Bisbenzimidazole H 33342 Fluorochrome, Trihydrochloride	Not available.

Personal protective equipment

- Respiratory system** : Dust respirator. Be sure to use an approved/certified respirator or equivalent.
- Skin and body** : Lab coat.
- Hands** : Gloves.
- Eyes** : Splash goggles.
- Protective Clothing (Pictograms)** :



9. Physical and chemical properties

- Physical state** : Solid. (Solid powder.)
- Color** : Yellow.
- Molecular Weight** : 561.9 g/mole
- Solubility** : Easily soluble in cold water.
- Flash point** : Not available.
- Explosive properties** : Risks of explosion of the product in presence of mechanical impact: Not available.
Risks of explosion of the product in presence of static discharge: Not available.

10. Stability and reactivity

Stability	: The product is stable.
Conditions to avoid	: Sensitive to light.
Materials to avoid	: Reactive with oxidizing agents.
Hazardous Decomposition Products	: These products are carbon oxides (CO, CO ₂), nitrogen oxides (NO, NO ₂ ...), halogenated compounds, hydrogen chloride.

11. Toxicological information

RTECS #	: DT4200000
Local effects	
Skin irritation	: Hazardous in case of skin contact (irritant).
Acute toxicity	: LD50: Not available. LC50: Not available.
Chronic toxicity	: Repeated exposure to a highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.
Other Toxic Effects on Humans	: Toxic for humans or animal life. Very hazardous in case of skin contact (permeator), of ingestion. Hazardous in case of skin contact (irritant), of eye contact (irritant), of inhalation (lung irritant). Not available. Not available.
Carcinogenic effects	: Not available.
Mutagenic effects	: Not available.
Reproduction toxicity	: Not available.
Teratogenic effects	: Not available.

12. Ecological information


Ecotoxicity	: Not available.
Toxicity of the Products of Biodegradation	: The products of degradation are as toxic as the product itself.

13. Disposal considerations


Methods of disposal; Waste of residues; Contaminated packaging	: Waste must be disposed of in accordance with federal, state and local environmental control regulations.
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14. Transport information

International transport regulations

UN number	: UN2811
Land - Road/Railway	
Proper shipping name	: Toxic solid, organic, n.o.s.*
ADR/RID Class	: CLASS 6.1: Toxic substance.
Packing Group	: II
ADR/RID label	: 

Sea

Proper shipping name	: Toxic solid, organic, n.o.s.*
IMDG Class	: CLASS 6.1: Toxic substance.
Packing Group	: II
IMDG label	: 

Air

Proper shipping name	: Toxic solid, organic, n.o.s.*
UN/ID Number	: UN2811

IATA-DGR Class : CLASS 6.1: Toxic substance.


Packing Group : II
IATA label :



Special Provisions for Transport : Not available.

15. Regulatory information

EU Regulations

Hazard symbol(s) : 

Classification : Toxic

Risk Phrases : R24/25- Toxic in contact with skin and if swallowed.
R36/37/38- Irritating to eyes, respiratory system and skin.
R45- May cause cancer.

Safety Phrases : S26- In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S36/37/39- Wear suitable protective clothing, gloves and eye/face protection.
S45- In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

Contains : - 2'-(4'-ethoxyphenyl)-5-(4-methylpiperazin-1-yl)-2,5'-bis-1h-benzimidazole trihydrochloride trihydrate

U.S. Federal Regulations : TSCA: No products were found.
SARA 302/304/311/312 extremely hazardous substances: No products were found.
SARA 302/304 emergency planning and notification: No products were found.
SARA 302/304/311/312 hazardous chemicals: No products were found.
SARA 311/312 MSDS distribution - chemical inventory - hazard identification: No products were found.
SARA 313 toxic chemical notification and release reporting: No products were found.
Clean Water Act (CWA) 307: No products were found.
Clean Water Act (CWA) 311: No products were found.
Clean air act (CAA) 112 accidental release prevention: No products were found.
Clean air act (CAA) 112 regulated flammable substances: No products were found.
Clean air act (CAA) 112 regulated toxic substances: No products were found.

HCS Classification : CLASS: Toxic.
CLASS: Irritating substance.

State Regulations :

WHMIS (Canada) : Not controlled under WHMIS (Canada).
No products were found.

16. Other information

Hazardous Material Information System (U.S.A.)

Health	2
Fire Hazard	1
Reactivity	0
Personal Protection	E

National Fire Protection Association (U.S.A.)



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