

MATERIAL SAFETY DATA SHEET

Hampford Research, Inc.

SECTION 1. -----CHEMICAL PRODUCT AND COMPANY IDENTIFICATION-----

IR DYE 822

CHEMICAL FORMULA: C46 H51 CL N2 O6 S2

CAS NUMBER: 162411-28-1

CHEMICAL NAME: 1H-Benz[e]indolium, 2-[2-[2-chloro-3-[[1,3-dihydro-1,1-dimethyl-3-(4-sulfobutyl)-2H-benz[e]indol-2-ylidene]ethylidene]-1-cyclohexen-1-yl]ethenyl]-1,1-dimethyl-3-(4-sulfobutyl)-, inner salt

REVISED: 12/30/2004

MANUFACTURER: Hampford Research, Inc
P.O. Box 1073
54 Veterans Blvd.
Stratford, CT 06615

EMERGENCY TELEPHONE NUMBERS: OFFICE (203) 375-1137
CHEMTREC (800) 424-9300

SECTION 2. -----COMPOSITION / INFORMATION ON INGREDIENTS-----

COMPONENT	CAS #	% BY WEIGHT	EXPOSURE LIMITS
1H-Benz[e]indolium, 2-[2-[2-chloro-3-[[1,3-dihydro-1,1-dimethyl-3-(4-sulfobutyl)-2H-benz[e]indol-2-ylidene]ethylidene]-1-cyclohexen-1-yl]ethenyl]-1,1-dimethyl-3-(4-sulfobutyl)-, inner salt	162411-28-1	100 %	Not established

SECTION 3. -----HAZARDS IDENTIFICATION-----

EYES: Short term exposure may cause irritation, Effect of long term exposure not known

SKIN: May cause slight skin irritation.

SWALLOWING: Not known

INHALATION: Short term exposure may cause irritation, Effect of long term exposure not known

SECTION 4. -----FIRST AID MEASURES-----

EYE CONTACT:
In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Call a physician.

SKIN CONTACT:
In case of contact, flush with water followed by washing with soap and water.

INGESTION:
If swallowed, consult a physician.

INHALATION:
If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

SECTION 5. -----FIRE FIGHTING MEASURES-----

UNUSUAL FIRE AND EXPLOSION HAZARDS:
Toxic fumes of sulfur and/or nitrogen oxides may be formed in a fire.

Material Safety Data Sheet

FIRE EXTINGUISHING MEDIA:

Water, CO2

SPECIAL FIREFIGHTING INSTRUCTIONS:

Evacuate personnel to a safe area. Keep personnel removed and upwind of fire. Wear self-contained breathing apparatus.

SECTION 6. -----ACCIDENTAL RELEASE MEASURES-----

PERSONAL PROTECTIVE EQUIPMENT (PPE):

Review fire fighting measures and handling (personnel) sections before proceeding with clean-up. Use appropriate personal protective equipment during clean-up.

SPILL CLEANUP MEASURES:

Use moist towel or absorbent to collect dust. Place in suitable container and hold for proper disposal.

SECTION 7. -----HANDLING AND STORAGE-----

HANDLING AND STORAGE REQUIREMENTS:

Avoid breathing dust. Avoid contact with eyes, skin or clothing. Wash thoroughly after handling. Keep container in a cool place. Keep container in a dark place. Keep container tightly closed. Store in a cool, dry, well-ventilated area away from heat and light.

SECTION 8. -----PERSONAL PROTECTION/EXPOSURE CONTROLS-----

EYE/FACE PROTECTION: Wear safety glasses.

SKIN PROTECTION: If there is potential for significant dermal contact, wear appropriate impervious clothing and gloves.

RESPIRATORY PROTECTION: No occupational exposure limits have been established. Ensure compliance with applicable exposure limits for particulate mater. If levels of dust exceed safe levels wear a NIOSH approved respirator for dust.

ENGINEERING CONTROLS: Local exhaust ventilation or other engineering controls to control airborne levels are recommended.

SECTION 9. -----PHYSICAL AND CHEMICAL PROPERTIES-----

PHYSICAL STATE: Crystalline powder

MELTING POINT: 250°C

BOILING POINT: Not available.

SPECIFIC GRAVITY: Not available.

APPEARANCE: Dark green/Gray

ODOR: Not available.

OTHER:

SECTION 10. -----STABILITY AND REACTIVITY-----

INCOMPATIBILITIES:

None reasonable foreseeable.

HAZARDOUS DECOMPOSITION:

Decomposes at temperatures >250°C forming oxides of nitrogen and sulfur.

Revision Date: 12/30/2004

Page 2 of 4

Chemical Name: 1H-Benz[e]indolium, 2-[2-[2-chloro-3-[[1,3-dihydro-1,1-dimethyl-3-(4-sulfobutyl)-2H-benz[e]indol-2-ylidene]ethylidene

Material Safety Data Sheet

CHEMICAL STABILITY:

Stable at normal temperatures and storage conditions.

HAZARDOUS POLYMERIZATION:

Polymerization will not occur.

SECTION 11. -----TOXICOLOGICAL INFORMATION-----**TOXICOLOGICAL EFFECTS:**

No known human or animal information available

SECTION 12. -----ECOLOGICAL INFORMATION-----**ECOLOGICAL EFFECTS:**

Not known

SECTION 13. -----DISPOSAL INFORMATION-----**WASTE MANAGEMENT PROCEDURES:**

Treatment, storage, transportation, and disposal must be in accordance with applicable Federal, State, and local regulations. Consult site hazardous waste coordinator for proper disposal procedures.

SECTION 14. -----TRANSPORT INFORMATION-----**TRANSPORTATION INFORMATION:****-----DOT (DOMESTIC SURFACE)-----**

PROPER SHIPPING NAME: Not regulated not listed by DOT
HAZARD CLASS OR DIVISION:
UN / NA NUMBER:
PACKING GROUP:
DOT PRODUCT RQ lbs (kgs):
HAZARD LABEL (s):
HAZARD PLACARD (s):

-----IMO / IMDG CODE (OCEAN)-----

PROPER SHIPPING NAME: Not regulated not listed by IMDG
HAZARD CLASS DIVISION NUMBER:
UN NUMBER:
PACKAGING GROUP:
HAZARD LABEL (s):
HAZARD PLACARD (s):

-----ICAO / IATA (AIR)-----

PROPER SHIPPING NAME: Not regulated not listed by IATA

Revision Date: 12/30/2004

Page 3 of 4

Chemical Name: 1H-Benz[e]indolium, 2-[2-[2-chloro-3-[[1,3-dihydro-1,1-dimethyl-3-(4-sulfobutyl)-2H-benz[e]indol-2-ylidene]ethylidene

Material Safety Data Sheet

HAZARD CLASS DIVISION NUMBER:
UN NUMBER:
SUBSIDIARY RISK:
PACKING GROUP:
HAZARD LABEL (s):
RADIOACTIVE?:
PASSENGER AIR - MAX QTY:
PASSENGER PACKING INSTRUCTION:
CARGO AIR - MAX QTY:
CARGO AIR PACKAGING INSTRUCTION:

SECTION 15. -----REGULATORY INFORMATION-----

REGULATORY INFORMATION:

The manufacture and use of IR DYE 822 is authorized under a TSCA Low Volume Exemption (LVE) under Section: 5(h) (4) of TSCA-Final Conditional Grant

SECTION 16. -----ADDITIONAL INFORMATION-----

ADDITIONAL INFORMATION:

The data in this Material Safety Data Sheet relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process. The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. Hampford Research, Inc. shall not be held liable for any damage resulting from handling or from contact with the above product. Hampford Research grants permission to make unlimited paper copies for internal use only.