

# Material Safety Data Sheet: Mito Inhibitor B (Component #3 of the XF Cell Mito Stress Test Kit)

## Section I – Chemical Product Identification

**Synonyms:** Rotenone  
**Molecular formula:** C<sub>23</sub>H<sub>22</sub>O<sub>6</sub>  
**Molecular weight:** 394.42

## Section II – Composition/Information On Ingredients

**Hazardous ingredients:** Rotenone  
**CAS number:** 83-79-4  
**EINECS:** 201-501-9  
**Weight:** N/A  
**OSHA PEL:** not established

## Section III – Hazardous Identification

**Warning! Fatal if ingested.**  
**Physical appearance:** white crystalline  
**Odor:** none detected  
**Effects of overexposure:**  
**General:** rotenone has shown toxic symptoms in humans. The most common are nausea, skin rashes.  
**Inhalation:** may be fatal if inhaled. May cause respiratory tract irritation.  
**Eyes:** may cause eye irritation.  
**Skin:** may be harmful if absorbed through skin. May cause skin irritation.  
**Ingestion:** a high ingestion hazard.  
**HMIS & NFPA hazard ratings:** health–2, flammability–0, chemical reactivity–0.

## Section IV – First Aid Measures

Never give fluids or induce vomiting if patient is unconscious or is having convulsions.  
**General advice:** remove contaminated clothing promptly (launder before reuse)  
**Eye contact:** flush thoroughly with running water (including under eyelids) for at least 15 minutes. If irritation persists after flushing, seek medical attention.  
**Skin contact:** wash contaminated skin with water. Seek medical attention if irritation persists.  
**Ingestion:** seek immediate medical care. Do not induce vomiting.  
**Inhalation:** remove to fresh air. If breathing has stopped, provide artificial respiration, keep the victim warm & seek medical attention.  
**Special advice:** chemical should be treated with care, respect & common sense.

## Section V – Fire Fighting Measures

**Extinguishing media:** Foam, carbon dioxide, dry powder & water spray.  
**Special protective equipment for fire-fighters:** wear a self-contained breathing apparatus (SCBA).  
**Special exposure hazards:** wear rubber gloves, SCBA, & rubber suit.  
**Flashpoint & method:** N/A  
**LEL:** 3.0 – N/A  
**UEL:** 42 – N/A  
**Auto ignition temperature:** N/A

## Section VI –Accidental Release Measures

**Personal precautions:** avoid formation of dust; use a respirator or self-contained breathing apparatus (SCBA).  
**Environmental precautions:** do not let enter drains. Contact environmental supervisor. Ventilate the area. Do not breathe the dust or aerosol.  
**Spill clean-up methods:** dilute & flush to wastewater treatment or absorb with inert material. Do not allow the material to enter streams or waterways.  
**Recommended decontamination facilities:** eye, bath, water washing facilities.

## Section VII – Handling & Storage

**Usage/handling precautions:** avoid formation of dust & aerosols. Provide appropriate exhaust ventilation at places where dust is formed. Normal measures for preventative fire protection. Avoid contact with skin, eyes, or clothing.  
**Storage precautions:** keep container tightly closed, in a well ventilated place.

## Section VIII – Exposure Controls/Personal Protection

**Exposure limits:**  
**ACGIH threshold limit value (TLV):** 5mg/m<sup>3</sup>  
**OSHA (USA) permissible exposure limit (PEL, 1989 table z-1-a values or section specific standards):** 5mg/m<sup>3</sup>  
**AIHA workplace environmental exposure level “weel” guideline for airborne concentrations in the workplace:** 5mg/m<sup>3</sup> (8-hr TWA)  
**Ventilation:** good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. Use process enclosures, local exhaust ventilation, or other engineering controls to maintain ventilation.  
**Respiratory protection:** in case of dust or aerosol formation use a respirator of SCBA.  
**Respirator type:** hygroscopic powder. If respirators are used, a program should be instituted to assure compliance with OSHA standards.  
**Hand protection:** butyl rubber or nitrile (NBR) rubber gloves.  
**Eye protection:** tightly fitting safety goggles.

## Section IX – Physical & Chemical Properties

**Appearance:** white powder

**Odor:** essentially odorless

**Odor threshold:** N/A

**pH:** N/A

**Boiling point:** 210-220°C (410-428°F) at 0.7 hpa (0.5 mmhg)

**Flashpoint & method:** 159-164°C (318-327°F)

**Sensitivity to static discharge:** material may accumulate a static charge.

## Section X – Stability & Reactivity

**Stability:** Stable.

**Conditions to avoid:** prolonged heating above 150°C (302°F) can cause rapid, exothermic decomposition

**Materials to avoid:** strong oxidizing agents.

**Hazardous decomposition products:** carbon oxides

## Section XI – Toxicological Information

**Acute toxicity data:**

**Oral Id-50 (male rat):** 60.000mg/kg

**Inhalation (rat):** N/A

**Dermal Id-50 (rat):** 1,000mg/kg

**Skin irritation (human):** mild

**Repeated skin application (human):** slight irritation

**Skin sensitization (human):** N/A

**Eye irritation (human):** N/A

**Developmental toxicity data:** may be fatal if enters into blood stream

## Section XII – Ecological Information

**Elimination information (persistence & degradability):**

bioaccumulation.

**Ecotoxicity effects:** toxic to fish.

**Further information on ecology:** toxic to aquatic invertebrates.

## Section XIII – Disposal Considerations

**Disposal methods:** waste disposal. Dilute & flush to an approved wastewater treatment system.

## Section XIV – Transportation Information

**Dot USA status:** not dangerous good

## Section XV – Regulatory Information

**OSHA hazards:** harmful by ingestion.

**DSL status:** All components of this product are on the Canadian DSL list.

**Sara 302 components:** no chemicals in this material are subject to the reporting requirements of SARA title iii, section 302.

**Sara 313:** this material does not contain any chemical components with known cas numbers that exceed the Threshold (de minimis) reporting levels established by SARA title iii, section 313.

**Sara 311/312 hazards:** acute health hazard, chronic health hazard.

**Massachusetts right to know components:**

**Rotenone CAS#:** 83-79-4

**Revision date:** 1991-07-01

**Pennsylvania right to know components:**

**Rotenone CAS#:** 83-79-4

**Revision date:** 1991-07-01

**New Jersey right to know components:**

**Rotenone CAS#:** 83-79-4

**Revision date:** 1991-07-01

**California prop. 65 components:** This product does not contain any chemicals known to state of California to cause cancer, birth defects, or any other reproductive harm.

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