

**1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION**

**Product Name:** Metastron®  
**Synonyms:** Strontium-89 Chloride Injection  
**Applications:** Bone pain therapy  
**Emergency Number:** For transportation related accidents, call CHEMTREC at 1-800-584-9333  
**Manufacturer:** Amersham Health  
3350 North Ridge Avenue  
Arlington Heights, IL 60004  
847-398-8400

**2. COMPOSITION, INFORMATION ON INGREDIENTS**

**Concentration:** 10.9-22.6 mg of SrCl<sub>2</sub>/mL of H<sub>2</sub>O.

**3. HAZARDS IDENTIFICATION**

\*\*\*\*\***EMERGENCY OVERVIEW**\*\*\*\*\*

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**Potential Health Effects**

**Eyes:** May cause mechanical irritation.  
**Skin:** Not considered an acute health hazard.  
**Inhalation:** May cause asymptomatic uptake in target organs.  
**Ingestion:** May cause asymptomatic uptake in target organs. Ingestion of this product may result in bone marrow toxicity as discussed below.  
**Chronic Exposure:** Data on biological effects of Ionizing Radiation are based on exposures much higher than those permitted occupationally. No effects are expected from exposures received as a result of normal use. However, if injected, Metastron® will deliver a significant bone dose due to the selective irradiation of the bone with beta radiation. Bone marrow toxicity is to be expected following injection of this material.  
**Aggravation of Pre-existing Conditions:** No information found.

**4. FIRST AID MEASURES**

**Eyes:** Rinse eyes thoroughly with water for a minimum of 15 minutes. Notify Radiation Safety Officer immediately.  
**Skin:** Wash exposed area thoroughly with soap and water or other approved decontamination media.

**Ingestion:** Notify Radiation Safety Officer immediately.

**Inhalation:** Move to fresh air and notify physician or Radiation Safety Officer.

#### 5. FIRE FIGHTING MEASURES

**Flammable Properties:** Substance is non-flammable.

**Extinguishing Media:** Use water spray, dry chemical, carbon dioxide or foam as appropriate for the burning material.

**Unusual Fire and Explosion Hazards:** Not considered to be an explosion hazard.

**Special Information:** In the event of a fire, wear full protective clothing and a NIOSH approved self-contained breathing apparatus.

#### 6. ACCIDENTAL RELEASE MEASURES

**Spills:** Any cleanup of spilled radioactive material should be conducted under the direction of site radiation safety personnel. Any packages received with leaking internal components should be reported to Amersham Health Technical Services at 1-800-832-4633. Any packages delivered in a damaged condition should be reported to Amersham Health Environmental Regulatory Affairs at 847-398-8400.

#### 7. HANDLING AND STORAGE

**Handling:** Radiopharmaceuticals must be handled with care and appropriate safety measures should be used to minimize exposure to personnel. Radiopharmaceuticals should be used only by physicians who are qualified by training and experienced in safe use and handling of radionuclides, and where experience and training have been approved by the appropriate regulatory agency authorized to license the use of radionuclides.

**Storage:** The vial and its contents should be stored inside its transportation container at room temperature (59-77 °F). The calibration date (for radioactivity content) and expiration date are quoted on the vial label. The expiration date will be 28 days after calibration.

#### 8. EXPOSURE CONTROLS, PERSONAL PROTECTION

**Airborne Exposure Limits:** Occupational:  $4.0 \times 10^{-7}$   $\mu\text{Ci}/\text{cc}$  of air; Non-occupational:  $1.0 \times 10^{-9}$   $\mu\text{Ci}/\text{cc}$  of air.

**Personal Respirators (NIOSH Approved):** Respirator for radioactive dust or mist.

**Skin Protection:** Disposable rubber, plastic or latex gloves; lab coat.

**Eye Protection:** Safety goggles or safety glasses.

**Ventilation System:** Local exhaust.

**Precautions:** Practice good housekeeping and personal hygiene to preclude the possibility of contaminating work surfaces, equipment and skin. Avoid inhaling dust or mist; do not pipette solutions by mouth. No smoking, eating, or drinking where radioactive materials are handled or stored.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Appearance:** Colorless, particle-free solution.  
**Odor:** Odorless.  
**Solubility:** Not applicable.  
**pH:** 4 – 7.5  
**Radioactivity:** 4 mCi/vial at time of calibration.  
**Specific Activity:** 2.96-6.17 MBq/mg, 80-167  $\mu$ Ci/mg at time of calibration  
**Half-Life** 50.5 days.  
**Boiling Point:** 100°C  
**Melting Point:** 0°C  
**Vapor Pressure (mm Hg):** No information found.  
**Vapor Density (Air=1)** No information found.  
**Evaporation Rate:** No information found.

## 10. STABILITY AND REACTIVITY

**Stability:** Material is stable.  
**Hazardous Decomposition Products:** Thermal decomposition may cause the release of radioactive fumes.  
**Hazardous Polymerization:** Will not occur.  
**Incompatibilities:** No information found.

## 11. TOXICOLOGICAL INFORMATION

Scientific studies have indicated that large exposures to ionizing radiation can result in an increased probability of long-term biological effects such as cancer and birth defects. Although these effects have been difficult to demonstrate at low levels of exposure, efforts should be made to keep exposures as low as reasonably achievable.

## 12. ECOLOGICAL INFORMATION

**Environmental Fate:** No information found.  
**Environmental Toxicity:** No information found.

## 13. DISPOSAL CONSIDERATIONS

**Disposal Methods:** Dispose of in accordance with local, state, and federal regulations.

## 14. TRANSPORT INFORMATION

**Land:** Not applicable.  
**Sea:** Not applicable.

**Air:** Regulated for transport.

Class 7  
Radioactive Material, Type A Package  
UN2915

- OR -

Class 7  
Radioactive Material, excepted package – limited quantity of material.  
UN2910

**DOT:** Regulated for transport.

Class 7  
Radioactive Material, Type A Package  
UN2915

- OR -

Class 7  
Radioactive Material, excepted package – limited quantity of material.  
UN2910

#### 15. REGULATORY INFORMATION

**California Proposition 65 Information:** The state of California requires that customers and employees are provided with warnings about reproductive and carcinogenic hazards associated with substances sold in California. Radioactive materials are suspected to cause reproductive toxicity. Under Proposition 65, the following warning applies:  
WARNING: This product contains a substance known to the state of California to cause reproductive toxicity.

#### 16. OTHER INFORMATION

**Revision Date:** December 6, 2001

**Disclaimer:** Although reasonable care has been taken in the preparation of this document, we extend no warranties and make no representations as to the accuracy or completeness of the information contained therein, and assume no responsibility regarding the suitability of this information for the user's intended purposes or for the consequences of its use. Each individual should make a determination as to the suitability of the information for their particular purpose(s).