

# MATERIAL SAFETY DATA SHEET

(Effective Date: April 2003)

## METASTRONÒ (STRONTIUM-89 CHLORIDE INJECTION)

### 1. PRODUCT IDENTIFICATION

**Product Code:** SMS.2PA

**Chemical Formula:** SrCl<sub>2</sub> in H<sub>2</sub>O

**Formula CAS No.:** Not applicable.

**Molecular Weight:** 158.5

**Hazardous Ingredients:** Radioactive Strontium Chloride in solution.

### 2. PHYSICAL DATA

**Appearance:** Colorless, particle-free solution.

**Radioactivity:** 4 mCi/vial at time of calibration.

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

**Specific Activity:** 2.96-6.17 MBq/mg, 80-167 µCi/mg at time of calibration.

**Odor:** Odorless.

**Solubility:** Not applicable.

**Half-Life:** 50.5 days.

**Boiling Point:** 100 °C

**Melting Point:** 0 °C

**Vapor Pressure (mm Hg):** No information found.

**Evaporation Rate:** No information found.

**Vapor Density (Air=1):** No information found.

### 3. FIRE AND EXPLOSION HAZARD DATA

**Fire:** Substance is non-flammable.

**Explosion:** Not considered an explosion hazard.

**Fire Extinguishing Media:** Use water spray, dry chemical, CO<sub>2</sub> or foam as appropriate for the burning material.

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

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### 4. HEALTH HAZARD DATA

#### A. Effects of Overexposure

**Inhalation:** May cause asymptomatic uptake in target organs.

**Eye Contact:** May cause mechanical irritation.

**Ingestion:** May cause asymptomatic uptake in target organs. Ingestion of this product may result in bone marrow toxicity as discussed below.

**Skin Contact:** Not considered an acute health hazard.

**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, Metastron7 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.

#### B. First Aid Procedures

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

**Ingestion:** Notify Radiation Safety Officer immediately. Assess and document the amount of activity ingested.

**Skin Exposure:** Wash exposed area thoroughly with soap and water or other approved decontamination media. Notify Radiation Safety Officer immediately.

**Eye Exposure:** Rinse eyes thoroughly with water for a minimum of 15 minutes. Notify Radiation safety Officer immediately.

#### C. Toxicity Data

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. See the comments in Chronic Exposure section of Part A for toxicity information in injection of product.

### 5. REACTIVITY DATA

**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.

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### 6. SPILL OR LEAK PROCEDURES

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 experience 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.

### 7. OCCUPATIONAL PROTECTION INFORMATION

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

### 8. SPECIAL PRECAUTIONS

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.

### 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.

### MATERIAL SAFETY DATA SHEET STANDARD FORM DISCLAIMER

The above information is based upon data available to Amersham Health and is believed to be correct, but does not intend to be all inclusive and shall be used only as a guide. Since the information contained herein may be applied under conditions beyond the control of Amersham Health, no responsibility is assumed for the results of its use.