



## MATERIAL SAFETY DATA SHEET

# DRAXIMAGE<sup>®</sup> Xenon Xe 133 Gas

### SECTION 1. CHEMICAL PRODUCT & COMPANY IDENTIFICATION

**Product Name:** Xenon Xe 133 Gas

**Synonyms:** Xenon Xe-133 Gas

**Category:** Diagnostic radiopharmaceutical for inhalation

**Manufactured by:**

DRAXIMAGE, A division of DRAXIS Specialty  
Pharmaceuticals Inc.  
16751 TransCanada Hwy.  
Kirkland, QC, H9H 4J4

**Information / Telephone:**

(514) 630-7080  
1-888-633-5343  
www.draximage.com

**CANUTEC:**

(613) 996-6666

### SECTION 2. COMPOSITION, INFORMATION ON INGREDIENTS

**Chemical Ingredients:**

Xenon <sup>133</sup>Xe

CAS No.  
14932-42-4

### SECTION 3. HAZARDS IDENTIFICATION

**EMERGENCY OVERVIEW**

**CAUTION – RADIOACTIVE MATERIAL HANDLE ACCORDING TO ALL FEDERAL AND STATE REGULATIONS GOVERNING THE USE OF RADIOACTIVE MATERIAL**

Do not remove the product vial from its protective lead shielding unless by qualified personnel. To be handled by qualified personnel only according to the requirements of the appropriate government licensing agency. Avoid all contact with the radioactive contents that could cause unnecessary exposure to radiation.

**POTENTIAL HEALTH EFFECTS**

**Skin Contact:**

Not expected to produce any acute adverse health effects on contact.

**Inhalation:**

Not expected to produce any acute adverse health effects on inhalation. No respiratory symptoms.

**Ingestion:**

Not applicable.

**Eye Contact:**

Not expected to produce any acute adverse health effects on contact.

**Aggravation of Pre-existing Conditions:**

No information found.

**CARCINOGENICITY**

Radioactive <sup>133</sup>Xe gas emits ionizing radiation. High doses of ionizing radiation can increase the risk of cancer to those who are exposed; however radiogenic health effects have not been demonstrated for doses of less than 10 rem (100 mSv) delivered at high dose rates.



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#### SECTION 4. FIRST AID MEASURES

**Inhalation:**

Remove to fresh air, support breathing by usual methods if necessary. Stand upwind if possible. Evaluate and document the amount of material inhaled and seek medical attention for radiation intake.

**Ingestion:**

Not applicable.

**Skin Exposure:**

Not expected to require first aid measures.

**Eye Exposure:**

Not expected to require first aid measures.

**IN CASE OF INHALATION OBTAIN MEDICAL ASSISTANCE IMMEDIATELY**

#### SECTION 5. FIRE FIGHTING MEASURES

**Fire:** Presents no combustion hazard. No flash point or auto combustion temperature.

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

**Fire Extinguishing Media:** Use measures appropriate to extinguishing the surrounding fire.

**Special Instructions:** In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full face piece operated in the pressure demand or other positive pressure mode.

#### SECTION 6. ACCIDENTAL RELEASE MEASURES

**EVACUATE THE AREA AND CONTROL ACCESS  
NOTIFY THE LOCAL RADIATION SAFETY OFFICER**

In the case of a leak of this material, wear protective clothing, a personal respirator, chemical-resistant rubber gloves, chemical safety goggles, and shoe covers. Place material in a suitable hermetically sealed lead container. If on site, follow the site licence requirements for the disposal of radioactive material or proceed as directed by the local Radiation Safety Officer. Ventilate the area, allowing sufficient time for several air exchanges.

#### SECTION 7. HANDLING AND STORAGE

All shippers and consignees of this material must possess a valid radioisotope licence issued by the appropriate federal or state authority.

The material should be stored at or below room temperature in a tightly closed shielded container stored in a dry, ventilated area.

Use handling equipment such as tongs and reduce handling times to a minimum in order to reduce personal radiation exposure.

Wear protective clothing, including chemical safety goggles and chemical-resistant waterproof gloves. Wash hands and forearms after handling.



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#### SECTION 8. EXPOSURE CONTROLS, PERSONAL PROTECTION

**Engineering Controls:**

Once the product is removed from its sealed container, adequate ventilation to dilute and remove escaped <sup>133</sup>Xe is essential. Use a chemical fume hood for adequate ventilation. The room in which <sup>133</sup>Xe is handled should be at negative pressure relative to surrounding rooms within the same facility. Handle the container behind lead glass windows whenever possible.

**Airborne Exposure Limits:** NRC Occupational concentration limit is  $1 \times 10^{-4}$   $\mu\text{Ci/mL}$  of air.

**Respiratory Protection:**

Not expected to require the use of a personal respirator.

**Eye/Face Protection:**

Not expected to require eye protection.

**Skin Protection:**

Not expected to require the use of skin protection..

#### SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

**Appearance:** Clear, colorless gas in a unit-does 3cc glass vial sealed with a rubber closure.

**Melting Point:** N/A

**Odour:** Odourless

**pH:** N/A

**Solubility:** Insoluble in water.

**Molecular formula:** <sup>133</sup>Xe

**Radioactivity:** 10 mCi or 20 mCi <sup>133</sup>Xe (370 or 740 MBq) per vial on the calibration date. Some lead containers may contain up to 2 vials each.

**Half-life:** 5.245 days

#### SECTION 10. STABILITY AND REACTIVITY

**Stability:** Stable under ordinary conditions of use and storage.

**Hazardous Polymerisation:** Will not occur.

**Hazardous Decomposition Products:** None; inert gas.

**Incompatibilities with other Materials:** No information found.

#### SECTION 11. TOXICOLOGICAL INFORMATION

The toxicological effects of exposure to the ionizing radiation emitted by <sup>133</sup>Xe will vary with the quantity and the time of exposure and may potentially include cancer, leukemia, and genetic and teratogenic effects. For detailed toxicological information on specific components, write to the address listed in Section 1 – Attn: Regulatory Affairs Department.

#### SECTION 12. ECOLOGICAL INFORMATION

Not expected to have adverse ecological impact under normal conditions of use.



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#### SECTION 13. DISPOSAL CONSIDERATIONS

Dispose of all waste material according to the site licence requirements for the disposal of radioactive material or proceed as directed by the local Radiation Safety Officer. Consult local, state, or federal regulations for proper disposal.

#### SECTION 14. TRANSPORTATION INFORMATION

DOT (Department of Transportation) and IATA (International Air Transport Association) regulated.

#### SECTION 15. REGULATORY INFORMATION

**HCS:** Class: 7 (Radioactive Material)

**Identification Number:** UN2915

**WHMIS:** This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

**NFPA Ratings:** Health: 1 Flammability: 0 Reactivity: 0

#### SECTION 16. OTHER INFORMATION

MSDS Status: Revised November 13, 2008  
Product Use: Diagnostic Radiopharmaceutical for Inhalation  
Revision Information: This is the first revision.

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