



MATERIAL SAFETY DATA SHEET

DRAXIMAGE[®] 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.
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(613) 996-6666

SECTION 2. COMPOSITION, INFORMATION ON INGREDIENTS

Chemical Ingredients:

Xenon ¹³³Xe

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 ¹³³Xe 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 ¹³³Xe is essential. Use a chemical fume hood for adequate ventilation. The room in which ¹³³Xe 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 1×10^{-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-dose 3cc glass vial sealed with a rubber closure.

Melting Point: N/A

Odour: Odourless

pH: N/A

Solubility: Insoluble in water.

Molecular formula: ¹³³Xe

Radioactivity: 10 mCi or 20 mCi ¹³³Xe (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 ¹³³Xe 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.

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SECTION 12. ECOLOGICAL INFORMATION

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

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 October 11, 2005
Product Use: Diagnostic Radiopharmaceutical for Inhalation
Revision Information: This is the original version.

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