SAFETY DATA SHEET

Version 4.2 12/1/2022

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Xenon Xe-133 Gas

Synonyms Xenon gas, Xenon-133

Product Uses diagnostic radiopharmaceutical

COMPANY IDENTIFICATION: **Lantheus**
331 Treble Cove Road
Billerica, MA 01862
United States of America
1-800-299-3431

EMERGENCY PHONE: **CHEMTREC 1-800-424-9300.**
For International Transportation Emergencies Call CHEMTREC @ 1-703-527-3887.
Collect Calls are accepted

SECTION 2: HAZARDS IDENTIFICATION

Classification
This material is not considered hazardous under 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Label Elements
None Required

Hazards not otherwise classified (HNOC)
Xenon-133 is a diagnostic radiopharmaceutical. It emits radiation and must be handled with appropriate safety measures to minimize radiation exposure to household contacts consistent with institutional good radiation safety practices and patient management procedures.

SECTION 3: COMPOSITION INFORMATION ON INGREDIENTS

Component	Concentration	CAS
Xenon	95%	7440-63-3

Carbon Dioxide	5%	124-38-9
Xe-133 Gas	<0.1%	14932-42-4

SECTION 4: FIRST AID MEASURES

Eye contact
Not Applicable

Skin contact
Not Applicable

Inhalation
Move to fresh air. If breathing is difficult, give oxygen. Obtain medical attention if symptoms occur.

Ingestion
Not Applicable

Note to Physicians
Xenon-133 gas is a radiopharmaceutical that is used to evaluate pulmonary function and cerebral blood flow, and for imaging the lungs. It is administered by inhalation from closed respirator systems and spirometers.

Xenon-133 gas is a readily diffusible gas which is neither utilized nor produced by the body. Most of the Xenon-133 gas that enters the circulation from a single breath is returned to the lungs and exhaled after a single pass through the peripheral circulation.

SECTION 5: FIRE-FIGHTING MEASURES

Flammable Properties
Not expected to be flammable.

Suitable Extinguishing Media
Use agent most appropriate to extinguish surrounding fire.

Protection of Firefighters
In the event of fire, wear self-contained breathing apparatus.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal Precaution
Use personal protective equipment as required. Ensure adequate ventilation. Avoid contact with skin, eyes or clothing

Environmental Precautions
Avoid release to the environment

Methods for Containment and Clean Up
Keep in suitable, closed container for disposal.

Other Information
If loss or release of the radioactive contents occurs, notify your Radiation Safety Department

SECTION 7: HANDLING AND STORAGE

Handling Precautions
Wear personal protective equipment/face protection. Ensure adequate ventilation. Avoid contact with skin, eyes or clothing. Avoid ingestion and inhalation.

Storage Conditions
Keep container tightly closed in a dry and well ventilated place. Store and handle in a designated area. Keep away from heat, sparks and flames.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls and Ventilation
Use process enclosures, containment technology, or other engineering controls to keep airborne levels below recommended exposure limit. Ensure that eye wash stations and safety showers are close to the workstation location.

Respiratory Protection
Follow the OSHA respirator regulations found in 29 CFR 1910.134. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Eye/Face Protection
Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133

Skin and Body Protection
Wear appropriate protective gloves and clothing to prevent skin exposure

Hygiene Measures
Wash hands and face before breaks and immediately after handling the product.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Gas
Appearance	Colorless
Odor	Odorless
pH	Not Available
Molecular Weight	Not Available

Solubility	Soluble
Flashpoint	Not Available
Density	Not Available
Boiling Point	Not Available
Melting Point	Not Available
Melting Point	Not Available
Vapor Density	Not Available
Vapor Pressure	Not Available

SECTION 10: STABILITY AND REACTIVITY

Stability	Stable under normal conditions.
Conditions to Avoid	Not Available
Incompatible Products	Not Available
Hazardous Decomposition Products	None under normal use conditions
Hazardous Reactions	None under normal processing

SECTION 11: TOXICOLOGICAL INFORMATION

Routes of Entry	Inhalation
Eye Irritation	Not Available
Skin Irritation	Not Available
Respiratory Irritation	Not Available
Sensitization	Not Available
Acute Toxicity	Not Available
Carcinogenicity	Not Available
Reproductive Toxicity	Not Available
Developmental Toxicity	Not Available
Target Organs	Not Available
Symptoms	Not Available

Section 12: ECOLOGICAL INFORMATION

Environmental Fate: Not Available

Environmental Toxicity: Not Available

SECTION 13: DISPOSAL CONSIDERATIONS

Advice on Disposal and Packaging
Disposal should be in accordance with applicable regional, national, and local laws and regulations. Local regulations may be more stringent than regional or national requirements.

SECTION 14: TRANSPORT INFORMATION

DOT and IATA
The classification for transportation of radioactive materials will depend on the specific activity level of the material, type of isotope, as well as the quantity shipped. Specific site procedures should be followed for shipping radioactive materials or seek advice from your site radiation safety officer.

SECTION 15: REGULATORY INFORMATION

United States of America

OSHA Hazard Classification	No OSHA Hazards, Radioactive—This regulation does not address hazards related to radioactivity.
CERCLA/SARA RQ	Not Listed
311/312 SARA Hazard Classes	Not Listed
313 Toxic Release Inventory. Listed Chemicals/Compounds	No components listed on the SARA 313 inventory.
TSCA Inventory	Not listed. Food, drug and cosmetic products are exempt from TSCA.

International

Canada

WHMIS	Not Rated
DSL/NDSL	Not Listed

Mexico
Health classification - Minimal hazard -0 - Substances that do not pose a hazard under emergency conditions other than that of ordinary combustible materials.

Europe

EINECS/ELINCS Number	Xenon: 231-172-7, Carbon Dioxide: 204-696-9
Other Information	Medicinal product are exempt from classification and labeling requirements under EU Preparations Directive 1999/45/EC.

SECTION 16: OTHER INFORMATION

SDS preparation information

Prepared by	Environment, Health and Safety 1-978-671-8673
Prepared on	12/1/2022

The information contained in this SDS is believed to be accurate and represents the best information reasonably available at the time of preparation. However, we make no warranty, express or implied, with respect to such information and we assume no liability from its use.