

Material Safety Data Sheet

Implementing Directives 1999/45/CE, 2001/58/CE, 2001/59/CE

1. Identification of the preparation and of the supplying company:

Product Code: 3KG601
Identification of the Preparation: Duo PTH Kit (Cat #3KG601)
Product/Trade Name (as Labeled on box): Duo PTH Antibody Coated Beads
Kit Contents:
1) PTH Antibody (39-84) Coated Beads
2) 125I Total Intact PTH Antibody Tracer
3) 125I Anti N-Terminal PTH Antibody Tracer
4) Whole PTH Calibrators and Controls
5) Total Intact Calibrators and Controls
6) PTH Wash Concentrate
Manufacturer: Scantibodies Laboratory, Inc.
Manufacturer's Address: 9336 Abraham Way, Santee, CA 92071, USA
Manufacturer's Phone Number: (619) 258-9300
Date MSDS Prepared: 12 May 2004

2. Composition/Information on Ingredients:

Chemical Characterization:
1) Goat Blood protein (antibodies) coated on to polystyrene Beads.
2) Radioactive Isotopes, Iodine 125 conjugated to goat protein in buffer solution containing Sodium Azide @ 0.1%.
3) PTH Calibrators & Controls – Human Serum with protein stabilizers containing Sodium Azide @ 0.1%
4) Buffered Salt Solution containing sodium azide @ 1.5%.

Hazardous Ingredients:
1) Sodium Azide @ 0.1% (2,3)
CAS Number: 026628-22-8
Symbols: N/A
R-phrases: N/A
S-phrases: N/A
2) Sodium Azide @ 1.5% (4)
CAS Number: 026628-22-8
Symbols: Very Toxic T+; N
R-phrases: R28, R32, R50/53
S-phrases: S28, S45, S53, S60, S61
3) Radioactive Isotope (Iodine-125) @ <10 µCi/Vial (<370 kBq)
CAS Number: 7553-56-2
Symbols: Harmful Xn
R-phrases: R22, R52/53
S-phrases: S28, S45, S53, S60, S61

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3. Hazards and Potential Health Effects:

Sodium Azide:

Harmful if swallowed; Harmful to aquatic organisms/ may cause long-term adverse effects in the aquatic environment.

Iodine-125:

Ingestion: Corrosive. Can cause severe burns of the mouth, throat and stomach. Causes abdominal pain, diarrhea, fever, vomiting, stupor, and shock. Probable lethal dose is 2 to 4 gm of free iodine.

Skin: Corrosive. Liquid contact may cause blistering burns, irritation, and pain. Vapors may be severely irritating to the skin.

Eyes: Corrosive. Vapors are severely irritating and may cause damage to the eyes. Contact may cause severe burns and permanent eye damage.

Inhalation: Corrosive. Vapors severely irritate and can burn the mucous membranes and respiratory tract. Excessive tears, rhinitis, tightness in the chest, sore throat, headache and delayed pulmonary edema can result. Inhalation of concentrated vapors may be fatal.

Chronic Exposure: Chronic exposure to iodine may cause insomnia, conjunctivitis, inflammation of the nasal mucous, bronchitis, tremor, rapid heart beat, diarrhea, and weight loss. Allergic sensitization may occur.

Pre-existing Conditions: Persons with pre-existing skin disorders, eye problems, impaired respiratory function, or disease of the thyroid, lungs, or kidney may be more susceptible to the effect of the substance.

Adherence to basic rules of radiation safety should provide adequate protection.

4. First Aid Procedures:

Sodium Azide:

Ingestion: For small amounts, rinse mouth with water provided person is conscious. Consult with a physician.

Skin: Wash affected area with anti-microbial soap and water, rinse with water. Remove and wash contaminated clothing.

Eyes: Flush with copious amounts of water or eyewash saline for at least 15 minutes. Consult with a physician if irritation occurs.

Inhalation: Remove to fresh air; if not breathing, give artificial respiration.

Iodine-125:

Ingestion: Induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person.

Skin: Wipe off excess material from skin then immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention immediately. Wash clothing before reuse. Thoroughly clean shoes before reuse. Iodine stains can be removed by immediately washing skin with 5% sodium thiosulfate solution.

Eyes: Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

Inhalation: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately. Observe for the development of pulmonary edema.

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5. Fire Fighting Measures:

Sodium Azide:

No special procedures/media are required.

Iodine-125:

Fire: Not combustible, but substance is a strong oxidizer and its heat of reaction with reducing agents or combustibles may cause ignition.

Explosion: Contact with oxidizable substances and incompatibles may cause extremely violent combustion.

Extinguishing Media: Use any means suitable for extinguishing surrounding fire. Water spray may be used to keep fire exposed containers cool.

Special Information: 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.

6. Accidental Release Measures:

Sodium Azide:

Wear appropriate protective clothing. Cover with absorbent; wash area thoroughly.

Iodine-125:

Notify safety personnel of iodine spill or leaks. Ventilate area of leak or spill. Wear protective equipment as specified in section 8. Isolate hazard area. Keep unnecessary and unprotected personnel from entering. Cover the spill area with an excess of reducing agent (sodium thiosulfate, bisulfate, or ferrous salts in 3M sulfuric acid) and then neutralize with soda ash. Collect slurry into approved containers.

7. Handling and Storage:

Sodium Azide:

Handling: Wash hands after working with substance.

Storage: Keep in a tightly closed container. Store at 2-8 °C

Iodine-125:

Handling: Protect against physical damage. Containers of this material may be hazardous when empty since they retain product residues (dust, solids); observe all warnings and precautions listed for the product.

Storage: Keep in a tightly closed container. Store in a cool, dry ventilated area away from sources of heat or ignition. Store separately from reactive or combustible materials, and out of direct sunlight.

8. Exposure Controls/Personal Protection:

Wear latex or vinyl gloves, a laboratory coat, and safety glasses during use.

9. Physical and Chemical Properties:

Beads: Clear polystyrene bead with no odor.

Buffered Salt Solution: Clear liquid with no detectable odor.

Radioactive Isotope: Clear liquid with no detectable odor.

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PTH Calibrators & Controls: Yellow to brown colored liquid in lyophilized form.

10. Stability and Reactivity:

Sodium Azide:

Stable at 2-8 °C until expiry date if unopened; once opened stable for 8 weeks if stored at 2-8 °C.

No reactivity data available.

Iodine-125:

Stable under normal conditions of use and storage. Toxic gases may be released when involved in fire. Incompatible with ammonia, powdered metals, alkali metals, or strong reducing agents. Reaction can be violent or explosive with acetaldehyde and acetylene. Reacts with ammonium hydroxide to form shock-sensitive iodides on drying.

Avoid heat, sunlight, and poor ventilation.

11. Toxicological Information:

Sodium Azide:

Short-term effects: In pure form, sodium azide is highly toxic and may be fatal if inhaled, swallowed, or absorbed through the skin. May cause eye and skin irritation. At product concentrations, sodium azide is not believed to cause hazardous short-term effects.

Long-term effects: In pure form, sodium azide is classified as a questionable carcinogen with experimental tumourigenic data. At product concentrations, there are no hazardous long-term effects documented.

Precautionary note: To the best of our knowledge, the chemical, physical, and toxicological properties of this product have not been thoroughly investigated at product concentrations.

Iodine-125:

Short-term effects: In pure form, iodine is highly toxic and may be fatal if inhaled, swallowed, or absorbed through the skin. May cause eye and skin irritation. At product concentrations, sodium azide is not believed to cause hazardous short-term effects.

Long-term effects: In pure form, iodine is classified as a questionable carcinogen with experimental tumourigenic data. At product concentrations, there are no hazardous long-term effects documented.

Precautionary note: To the best of our knowledge, the chemical, physical, and toxicological properties of this product have not been thoroughly investigated at product concentrations.

12. Ecological Information:

At product concentrations – Harmful to aquatic organisms/ may cause long-term adverse effects in the aquatic environment. No harmful effects at use concentration.

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13. Disposal:

Sodium Azide:

Observe all federal, state, and local environmental regulations. If the disposal of this solution is acceptable, flush with large volumes of water to prevent build-up of azides in plumbing.

Iodine-125:

Dispose of containers and unused contents in accordance with federal, state, and local requirements.

14. Transport Information:

CDG UK: Non-hazardous for road freight

IMDG: Non-hazardous for sea freight

IATA: Non-hazardous for air freight

15. Regulatory Information:

Sodium Azide ($\leq 0.2\%$):

Labeling according to EC directives: N/A for this product

Sodium Azide ($\leq 1\%$ and $> 0.2\%$):

Labeling according to EC directives: N/A for this product

Sodium Azide ($\geq 1\%$):

Labeling according to EC directives: Contains 1.5% sodium azide

Symbol: Very Toxic T+

R-phrases: R28, R32, R50/53

Radioactive Isotope:

Labeling according to EC directives: Contains less than 10 $\mu\text{Ci/Vial}$ of Iodine-125

Symbol: Harmful Xn

R-phrases: R22, R52/53

Small pack derogation applies to all other risks and safety phrases.

16. Other Information:

R28: Very toxic if swallowed.

R32: Contact with acids liberates very toxic gas.

R50/53: Very toxic to aquatic organisms/ may cause long-term adverse effects in the aquatic environment.

S28: After contact with skin, wash with plenty of water.

S45: In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

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S53: Avoid exposure – obtain special instructions before use.

S60: This material and its container must be disposed of as hazardous waste.

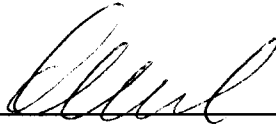
S61: Avoid release to the environment. Refer to special instructions/safety data sheets.

17. Document Revisions:

<u>Version</u>	<u>Date:</u>	<u>Changes:</u>
01	12 MAY 2004	Corrected calibrator & control Sodium Azide concentration S/B 0.1%. Split Sodium Azide according to concentration requirements in sections 2 and 15.
02	19 MAY 2004	Removed coated beads (1) from section 2 item 2 as they do not contain Sodium Azide.
03	20 MAY 2004	Corrected section 9 – replace tube with bead.
04	25 MAY 2004	Revised section 2 – radioactive isotope contains 0.1% Sodium Azide not 0.5%.
05	1 JUN 2004	Corrected section 2 - Sodium Azide @ 1.5% has R-phrase 50/53 not 52/53. Refer to section 16; harmful is 52/53 and toxic is 50/53.
06	09 SEP 2005	Revised section 2 to clarify controls and standards composition.
07	11 JUL 2006	Revised document to remove symbol and phrase requirements for Sodium Azide at concentrations $\leq 0.2\%$.
08	21 JUL 2006	Revised document to clarify section 15 regarding concentration labeling requirements.

18. Document Approval:

Reviewed/Approved By: _____



Date: _____

28/7/06