



Material Safety Data Sheet

MSDS/SDS Number: 00000012MSDS
Latest Revision Date: January 17, 2011
Revision: A

SECTION 1 IDENTIFICATION OF THE SUBSTANCE OR PREPARATION AND OF THE COMPANY/UNDERTAKING

Product Name: Radioimmunoassay (RIA) I¹²⁵ Labeled Lyophilized Reagents.
Catalogue Number(s): See Section 16.
Chemical Name: Dry powder containing Sodium Azide, 125-Iodine [$<5 \mu\text{Ci}$ (185kBq)], Peptides and Components Not Classified as Dangerous.
Synonyms: None.
Intended Product Use: Intended for research use only. This product should be used by persons who are trained and proficient in the use of radioactive materials. All activities, including storage, use and disposal, should be conducted in compliance with the requirements of a radiation safety program.

| | | |
|---|---|---|
| Manufacturer/Distributor: | Millipore Corporation (Corporate Headquarters) | Millipore S.A.S. (European Headquarters) |
| Postal Address: | 290 Concord Road Billerica MA, 01821 USA | Boite Postale 116 Molsheim Cedex, 67124 France |
| Telephone Number: | +1-978-715-1335 | +33(0)3 90 46 90 00 |
| Hours of Operation: | 9:00 am to 4:00 pm ET (GMT -4) | 9:00 am to 4:00 pm EU CT (GMT +1) |
| Worldwide Offices: | http://www.millipore.com/offices/cp3/officeshome | |
| Email: | msds@millipore.com | |
| CHEMTREC Emergency Telephone Number: | International +1-703-527-3887 (collect) North America 1-800-424-9300 (toll free) | |

SECTION 2 HAZARDS IDENTIFICATION

Globally Harmonized System of Classification and Labeling of Chemicals (GHS):

Symbol: **Hazard Category:** 2A: Serious Eye Damage/Irritation
2: Skin Corrosion/Irritation
3: Specific Target Organ Toxicity, Single Exposure
5: Acute Toxicity

Signal Word: Warning**Hazard Statement:** H303+H313+H333: May be harmful if swallowed, in contact with skin or if inhaled.
H315+H320: Causes skin and eye irritation.
H335: May cause respiratory irritation.**GHS Precautionary Statements:**

Prevention: P261: Avoid breathing dust.
P264: Wash hands thoroughly after handling.
P270: Do not eat, drink or smoke when using this product.
P271: Use only outdoors or in a well-ventilated area.
P281: Use personal protective equipment as required.

Response: P308+P313: If exposed or concerned: Get medical advice/attention.
P304+P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P302+P352: IF ON SKIN: Wash with plenty of soap and water.
P362: Take off contaminated clothing and wash before reuse.
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Storage: P403+P233: Store in a well ventilated place. Keep container tightly closed.

Disposal: P501: Dispose of content/container in accordance with local regulations.

Registration, Evaluation, Authorization, and Restriction of Chemicals (REACH):**Symbol:** **Symbol Letter:** Xi**Hazard:** Irritant**Risk Phrase:** R36/37/38: Irritating to eyes, respiratory system and skin.**SECTION 3 COMPOSITION/INFORMATION ON INGREDIENTS****Identification of Dangerous Components:** This product contains the substances listed below, which are defined as dangerous substances or hazardous chemicals as defined in European Community Directives 67/548/EEC or 1999/45/EC, and Hazard Communication Standard 29 CFR 1910.1200.

| Dangerous Component | EINECS or ELINCS No. | CAS No. | Content (weight percent) | EU Hazard Symbol Letters**† | R Phrases*** † |
|---------------------|----------------------|------------|--------------------------|-----------------------------|----------------------|
| Sodium Azide: | 247-852-1 | 26628-22-8 | < 0.1 % | T N | R28 R32 R50/53 |
| 125-Iodine: | Not Listed | 14158-31-7 | Proprietary | N/A | N/A |

Identification of Components Not Classified as Dangerous: This product contains the substances listed below, which are not defined as dangerous substances or hazardous chemicals as defined in European Community Directives 67/548/EEC or 1999/45/EC, and Hazard Communication Standard 29 CFR 1910.1200.

| Non-Dangerous Component | EINECS or ELINCS No. | CAS No. | Content (weight percent) | EU Hazard Symbol Letters | R Phrases |
|--------------------------------|----------------------|--------------|--------------------------|--------------------------|-----------|
| Peptides: | N/A | N/A | Proprietary | N/A | N/A |
| Not Classified as Dangerous: | Trade Secret | Trade Secret | Remainder | N/A | N/A |

* Symbol letters and categories of danger: **T+** = Very Toxic, **T** = Toxic, **C** = Corrosive, **Xn** = Harmful, **Xi** = Irritant, **E** = Explosive, **F+** = Extremely Flammable, **F** = Highly Flammable, **N** = Dangerous for the Environment, **O** = Oxidising.

** The full text of each R Phrase is listed in Section 15.

† Symbols letters and R Phrases are assigned to each dangerous component for the highest concentration range as defined in 67/548/EEC and 1999/45/EC.

SECTION 4 FIRST AID MEASURES

| | Treatment Measures: | Symptoms of Exposure: |
|---------------------------|---|--|
| Contact with Eyes: | If the product contacts the eyes, promptly wash (irrigate) the eyes with large amounts of tepid water for at least 15 minutes, occasionally lifting the lower and upper lids. Seek medical attention immediately. | Possible eye irritation, redness, itching and lacrimation. |
| Ingestion: | Seek medical attention immediately. Never give an unconscious person anything by mouth. | Possible gastrointestinal irritation causing nausea, vomiting, headache and abnormal breathing. |
| Inhalation: | If a person inhales large amounts of the product move the exposed person to fresh air at once. If breathing is difficult or stops seek immediate medical attention. | Possible respiratory tract and mucous membrane irritation. Inhalation of radioactive dusts may cause cell changes, mutations and cancer. |
| Skin Contact: | If the product contacts the skin, immediately flush the contaminated skin with mild soap and water. If this chemical penetrates clothing immediately remove the clothing and flush the skin with water. Seek medical attention immediately. | Possible skin irritation. Sodium Azide may be absorbed through skin causing systemic toxicity. |

SECTION 5 FIRE FIGHTING MEASURES

| | |
|---|---|
| Suitable Extinguishing Media: | Use extinguishing media appropriate for the surrounding fire. This product is compatible with commercially available extinguishing media. |
| Special Protective Equipment for Firefighters: | This product does not require the use of any additional fire fighting equipment beyond what is appropriate to the surrounding fire. |

SECTION 6 ACCIDENTAL RELEASE MEASURES

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|------------------------------|--|
| Personal Precautions: | Wear chemical resistant boots, clothing, eye protection, and gloves to prevent skin contact (See Section 8). |
|------------------------------|--|

Small Spills: Identify the spilled material(s). Barricade the spill area and notify others in the surrounding areas. Control all sources of ignition if the substance is flammable. Don the appropriate personal protective equipment (See section 8). Control the movement of the spilled product (into drains, soil, across floors etc.) with absorbent spill materials. Collect contaminated spill material and place in container meeting appropriate U.N. packaging requirements. Decontaminate used equipment and affected spill area appropriately.

Large Spills: In addition to small spill precautions, determine personnel evacuation distances. Notify appropriate authorities if necessary.

Environmental Precautions: Collect and dispose of contaminated materials according to international, federal, state and local regulations. Keep away from surface and ground water, drains, and soil.

SECTION 7 HANDLING AND STORAGE

Handling: Seek appropriate training to safely handle this product under normal conditions. Use the recommended personal protective equipment (See Section 8) to prevent chemical exposures. Wash hands with soap and water before eating, drinking, or touching common items (phone, computer, etc.) to prevent cross contamination. Use this product with adequate ventilation. See product technical data sheet for details.

Storage: See product technical data sheet for details.

Specific use: See product technical data sheet for details.

SECTION 8 EXPOSURE CONTROL AND PERSONAL PROTECTION

| Exposure Limit Values: | OSHA PEL | NIOSH REL | ACGIH TLV | Other |
|-------------------------------|------------|--|--|-----------|
| Sodium Azide: | Not Listed | Ceiling 0.3 mg/m ³ as NaN ₃ [Skin] | Ceiling 0.29 ppm; A4 Not classifiable as a human carcinogen. | See Below |
| Australia: | | Ceiling 0.11 ppm (0.3 mg/m ³), JUL2008 | | |
| Belgium: | | TWA 0.1 mg/m ³ , STEL 0.3 mg/m ³ , Skin, MAR2002 | | |
| Denmark: | | TWA 0.1 mg/m ³ , OCT 2002 | | |
| E.C.: | | TWA 0.1 mg/m ³ ; STEL 0.3 mg/m ³ (skin), FEB 2006 | | |
| Finland: | | TWA 0.1 ppm (0.3 mg/m ³), STEL 0.3 ppm (0.9 mg/m ³), JAN1999 | | |
| France: | | VME 0.1 mg/m ³ , VLE 0.3 mg/m ³ , Skin, FEB2006 | | |
| Germany: | | MAK 0.2 mg/m ³ (inhalable), 2005 | | |
| Hungry: | | TWA 0.1 mg/m ³ , STEL 0.3 mg/m ³ , SEP2000 | | |
| Korea: | | Ceiling 0.1 ppm (0.3 mg/m ³), 2006 | | |
| The Netherlands: | | MAC-TGG 0.1 mg/m ³ , Skin, 2003 | | |
| New Zealand: | | Ceiling Concentration 0.11 ppm (0.29 mg/m ³), JAN2002 | | |
| Sweden: | | TWA 0.1 mg/m ³ ; STEL 0.3 mg/m ³ , Skin, JUN2005 | | |
| Switzerland: | | MAK- week 0.2 mg/m ³ ,KZG- week 0.4e mg/m ³ , DEC2006 | | |
| United Kingdom: | | TWA 0.1 mg/m ³ ; STEL 0.3 mg/m ³ (skin), 2005 | | |

| | | | | |
|-------------|---|---|---|-----------|
| 125-Iodine: | C 0.1 ppm (1 mg/m ³) (as I ₂), (Ionizing Radiation - See OSHA 29CFR 1910.1096) | C 0.1 ppm (1 mg/m ³) (as I ₂) | TWA 0.01 ppm inhalable fraction and vapor for Iodine and Iodides. 0.1 ppm (STEL) vapor and aerosol for Iodine. | See Below |
|-------------|---|---|---|-----------|

ARAB Republic of Egypt: TWA 0.1 ppm (0.1 mg/m³) (as I₂), JAN1993Australia: TWA 0.1 ppm (1 mg/m³) (as I₂), JAN1993Belgium: STEL 0.1 ppm (1 mg/m³) (as I₂), JAN1993Denmark: Ceiling concentration 0.1 ppm (1 mg/m³) (as I₂), OCT 2002Finland: STEL 0.1 ppm (1 mg/m³), Skin (as I₂), JAN1999France: VLE 0.1 ppm (1 mg/m³) (as I₂), FEB2006Japan: OEL 0.1 ppm (1 mg/m³) (as I₂), APR2007Korea: Ceiling concentration 0.1 ppm (1 mg/m³) (as I₂), 2006Mexico: peak 0.1 ppm (1 mg/m³) (as I₂), 2004The Netherlands: MAC- continuous 1 mg/m³(as I₂), 2003New Zealand: Ceiling concentration 0.1 ppm (1 mg/m³) (as I₂), JAN2002Russia: STEL 1 mg/m³, Skin(as I₂), JUN2003Sweden: Ceiling concentration 0.1 ppm (1 mg/m³) (as I₂), JUN2005Switzerland: MAK- week 0.1 ppm (1 mg/m³), KZG- week 0.1 ppm (1 mg/m³) (as I₂), DEC2006United Kingdom: STEL 0.1 ppm (1.1 mg/m³) (as I₂), 2005

| | Normal Handling Conditions | Emergency Response Conditions |
|---|---|---|
| Engineering Controls: | General room ventilation is adequate for the use of this product. | Provide negative pressure ventilation. |
| Respiratory Protection | Use appropriate respiratory protection. | Use appropriate respiratory protection. |
| Eye Protection: | Safety glasses with side shields. | Chemical splash goggles or other face protection as appropriate. |
| Skin Protection: | Laboratory coat, adequate chemical-resistant gloves. | Chemically resistant boots, clothes, and impermeable gloves as appropriate. |
| Environmental Exposure Controls: | Not Available. | Not Available. |
| Other Equipment: | Safety shower, eyewash stations, and hand washing equipment should be available close to the work area as needed. | |

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Lyophilized Powder**Odor:** Not Available**Odor Threshold:** Not Available**pH:** Not Available

| | | |
|---|--------------------|--------------------|
| Melting Point/Freezing Point: | Not Available | |
| Initial Boiling Point and Boiling Range: | Not Available | |
| Flash Point: | Not Available | |
| Evaporation Rate, 20 °C: | Not Available | |
| Flammability (Solid/Gas): | Not Available | |
| Explosive Limits: | LEL: Not Available | UEL: Not Available |
| Vapor Pressure: | Not Available | |
| Vapor Density, 20 °C: | Not Available | |
| Relative Density (Water = 1.0): | Not Available | |
| Solubility: | Soluble | |
| Partition Coefficient (n-octanol/water): | Not Available | |
| Auto Ignition Temperature (ASTM D1929): | Not Available | |
| Decomposition Temperature: | Not Available | |
| Oxidizing Properties: | None | |
| Viscosity, Centipoise: | Not Available | |

SECTION 10 STABILITY AND REACTIVITY

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|--|--|
| Chemical Stability: | Product is stable under normal operating conditions and use as described in the product technical data sheet. |
| Conditions to Avoid: | See product technical data sheet for details. |
| Radioactivity: | This product contains iodine isotope 125 which is radioactive. During decay, it emits gamma rays with an energy of 35.5 kev. The initial concentration activity (Ci/gram ^C) of iodine isotope 125 (I ¹²⁵) is 1.76x10 ⁴ (<3 uCi). Radioactive isotope Iodine 125 has a half life of 59.4 days. |
| Incompatible Materials to Avoid: | Strong acids or bases, strong oxidizers, and extreme temperatures. |
| Hazardous Decomposition Products: | Heating to decomposition temperature may produce radioactive particulates, carbon monoxide, carbon dioxide, nitrogen oxides. |

SECTION 11 TOXICOLOGICAL INFORMATION

| | | | |
|-------------------------|--|--|--|
| Toxicology Data: | Toxicological information for this product as a whole does not exist, below is data for the individual components. | | |
| | Sodium Azide: RTECS #VY8050000 | | |
| | Iodine (I ₂): RTECS #NN1575000 | | |

| Toxicity Test | Exposure Route | Dose | Observed Effect |
|---------------|----------------|------|-----------------|
|---------------|----------------|------|-----------------|

Acute Toxicity:

| | | | | |
|---|---|--------------|----------------------|---|
| Sodium Azide: | LD ₅₀ (Rat) | Oral | 27 mg/kg | Eye: Other eye effects Behavioral: Convulsions or effect on seizure threshold Lung, Thorax, or Respiration: Structural or functional change in trachea or bronchi ¹ |
| | LC ₅₀ (Rat) | Inhalation | 37 mg/m ³ | N/A ¹ |
| | LD ₅₀ (Rat) | Skin | 50 mg/kg | N/A ¹ |
| 125-Iodine: | Lowest Published Lethal Concentration (Rat) | Inhalation | 137 ppm/1 hour | Eye: Lacrimation Behavioral: Somnolence (general depressed activity) Nutritional and Gross Metabolic: Body temperature decrease ² |
| | Lowest Published Lethal Dose (Human) | Oral | 28 mg/kg | Gastrointestinal: Hypermotility, diarrhea Gastrointestinal: Other changes ² |
| | LD ₅₀ (Mouse) | Oral | 1,000 mg/kg | Behavioral: Change in motor activity (specific assay) ² |
| | Lowest Published Lethal Dose (Rabbit) | Subcutaneous | 175 mg/kg | N/A ² |
| Skin Corrosion/Irritation: | Not Available | | | |
| Serious Eye Damage/Eye Irritation: | Not Available | | | |
| Respiratory or Skin Sensitization: | Not Available | | | |
| Germ Cell Mutagenicity: | Not Available | | | |
| Reproductive Toxicity: | Not Available | | | |
| STOST-Single Exposure: | Not Available | | | |
| STOST-Repeated Exposure: | Not Available | | | |
| Aspiration Hazard: | Not Available | | | |
| Carcinogenicity: | Carcinogenetic information for this product as a whole does not exist, below is data for the individual components. | | | |
| Research Agency: | OSHA: | NTP: | IARC: | |
| Sodium Azide: | Not Listed | Not Listed | Not Listed | |
| 125-Iodine: | Select Carcinogen | Not Listed | Group 1 | |

SECTION 12 ECOLOGICAL INFORMATION

Ecotoxicity: Ecotoxicity information for this product as a whole does not exist, below is data for the individual components.

Sodium Azide: LC₅₀ Lepomis Macrochirus 24 Hours 1,800 ug/L³

LC₅₀ Lepomis Macrochirus 48 Hours 800.0 ug/L

LC₅₀ Lepomis Macrochirus 96 Hours 680.0 ug/L⁴

125-Iodine: LC₅₀ Ictalurus Punctatus 24 Hours 720.0 ug/L⁵

LC₅₀ Oncorhynchus Mykiss 96 Hours 4,200 ug/L⁶

Mobility:

Sodium Azide: Aquatic Fate: Photolysis of sodium azide may result in metal nitrides initially, with the eventual formation of the free metal and nitrogen gas.⁷

125-Iodine: Atmospheric Fate: Iodine enters the atmosphere mainly through volatilization of methyl iodide and, to a lesser extent, molecular iodine from the ocean surface. ¹²⁹I is introduced naturally through the conversion of ¹²⁹Xe (xenon-¹²⁹) to ¹²⁹I through the interaction with high energy particles in the upper atmosphere. ¹³¹I was released through weapons production/utilization, nuclear fuel reprocessing, and energy production. In the atmosphere, iodine undergoes extensive photochemical changes and can exist as gaseous inorganic, gaseous organic, or particulate forms. These forms have an average residency time in the atmosphere of 10, 18, and 14 days, respectively. The gaseous inorganic and particulate forms of iodine are precipitated from the atmosphere through wet (rain, sleet, and snow) and dry (gravitational settling and wind turbulence) deposition processes. Alkyl iodides, such as methyl iodide, have a low susceptibility to both wet and dry deposition.⁸

Terrestrial Fate: The deposition of iodine will depend on particle size and concentration, wind turbulence, and the chemical form of iodine. If precipitation occurs over land, iodine will be deposited onto plant surfaces or soil surfaces, or into surface waters. The average retention time of iodine on plant surfaces is 7.5–14 days due to weathering. Retention of iodine in the soil is influenced by a number of factors, including soil pH, soil moistness, porosity of soil, and composition of organic and inorganic (e.g., aluminum and iron oxides) components. Approximately 1% of iodine received through atmosphere-to-soil deposition is returned through volatilization of molecular iodine and methyl iodide; the remaining iodine is eventually returned to the oceans through surface water and groundwater. The average residency time of iodine in the soil at 0.3- and 1-meter depths has been suggested to be 80 and 800 years, with only 1–3% of deposited iodine migrating to the 1-meter depth. Transport of iodine through surface water and groundwater is not greatly retarded by the soil, rock, and sediments over or through which these waters flow.⁸

Aquatic Fate: The concentration of iodine in river water ranges between 0.1 and 18 µg/L, which parallels the concentration of iodine in rainwater of 0.1– 15 µg/L. In groundwater, the mean concentration is 1 µg/L. The concentration of iodine in river water often increases downstream of urban areas due to the discharge of waste streams from municipal treatment facilities. This is especially true for ¹³¹I that enters sewage streams from patients undergoing radioiodine therapies. Slightly elevated concentrations of ¹²⁹I have been observed in surface water and groundwater near nuclear fuel reprocessing facilities.⁸

Persistence and Degradation:

Sodium Azide: The dissipation of azides in soil is not by microbial action but is strictly a chemical process accelerated by acidity and elevated temperatures. Sodium azide dissipates rapidly in solids by oxidation or by reactions of hydrazoic acid with soil organic acids to form azides of these acids which decompose by the curts rearrangement.⁷

125-Iodine: It is estimated that the earth's surface contains 6.3x10¹⁸ g of iodine. The majority of this iodine is in the earth's crust (3.4x10¹⁸ g) and in sedimentary rock (2.9x10¹⁸ g). However, this iodine is inaccessible, except for the small portion that is liberated through weathering processes (≈10⁹ g/year) and eventually enters into the oceans. The ocean, on the other hand, is the largest compartment of accessible iodine that can be transferred to other environmental compartments. The earth's oceans contain 8.1x10¹⁶ g of iodine

at an average concentration of between 45 and 60 µg/L. Other environmental compartments with steady-state levels of iodine include atmosphere (8.8×10^{10} g), surface soil (4.1×10^{14} g), subsurface region (2.5×10^{13} g), and terrestrial biosphere (3.0×10^{11} g). The iodine in the ocean is in equilibrium with the iodine in ocean sediments (8.0×10^{17} g), with a net flux of 1.8×10^{11} g/year. A net transfer of iodine also occurs between the ocean surface and the global atmosphere at an average rate of 2.0×10^{12} g/year, of which 1.9×10^{12} g/year returns to the ocean through wet/dry deposition processes, and 1.2×10^{11} g/year is deposited onto land surfaces. Of the iodine that is deposited on land, 7.7×10^{10} g/year is returned to the ocean through groundwater and river effluents, and 1.6×10^{10} g/year enters into the terrestrial biosphere, of which 1.4×10^{10} g/year returns to the soil surface through weathering and decay of vegetation.⁸

The relative proportions of iodine as inorganic particulates and organic gaseous forms are on average 25% for particulates and 40–80% for organic forms as methyl iodide. The residence times for iodine in the atmosphere are 14 days for particulates, 10 days for inorganic gases (i.e., I₂), and 18 days for organic gases (compared to a 9-day residency time for water vapor), providing for extended global transport and substantial mixing. The dry deposition rate is dependent on particle size, wind speed, and turbulence. Iodine will settle onto soil and plant surfaces. Direct deposition of iodine onto plant surfaces is limited to 7.5–14 days, where particulate iodine is removed from plant surfaces through weathering processes. Dry deposition onto plant surfaces is affected by the moistness of the surface; deposition is approximately 2-fold greater on moist plant surfaces versus dry surfaces. Also, dry deposition onto plants is affected by the surface area of the plant, as is evident from the 2-fold increase in iodine deposited on clover versus grasses. Upwards of 90% of elemental iodine vapor can be intercepted by a dense cover of grassland herbage, but 40–70% can typically be expected to be intercepted by a more average density of plant cover.⁸

Bio Accumulative Potential:

125-Iodine: Iodine has been shown to bioaccumulate in many seawater and freshwater aquatic plants. Freshwater plants (e.g., algae) contain 10-5% by weight of iodine, whereas marine plants (algae) contain 10-3% by weight. In freshwater fish, iodine concentrations in tissues range from 0.003 to 0.81 ppm, which gives concentration ratios (fish/water) of 0.9–810. In marine fish, the iodine concentrations range between 0.023 and 0.11 ppm, yielding concentration ratios of between 10 and 20. In terrestrial plants, iodine can be taken up through the roots, mainly as iodide and to a lesser extent, as iodate or iodine. The average iodine concentration in terrestrial plants is 0.42 µg/g. The uptake is dependent on soil conditions and the use of fertilizers. **Error! Bookmark not defined.** Distribution of iodine and iodide varies throughout the plant. The uptake of iodine into terrestrial plants in combination with deposition of iodine onto the surfaces of plants plays an important role in the transfer of iodine through the soil-plant-cow-milk pathway. The efficiency through which iodine is transferred through this pathway is important in ascertaining the risk of radioiodine exposures in the general human population from continuous or accidental releases of 131I and 129I, especially in children.⁸

Iodine can also bioaccumulate to varying extents in aquatic organisms. Aquatic bioaccumulation factors for iodine in fresh water are 40 (algae), 5 (invertebrates), and 15 (fish); in salt water, these factors are 4,000–10,000 (algae), 50–100 (invertebrates), and 10–20 (fish). Certain seaweeds and algae can concentrate iodine to levels as high as 0.8–4.5 g/kg of dried material; these high levels are usually associated with the relatively high levels of iodine in seawater (50 µg/kg).⁸

Results of PBT Assessment: Not Available.

Other Adverse Effects: None Known.

SECTION 13 DISPOSAL INFORMATION

- Substance:** Dispose of unused contents in accordance with international, federal, state, and local regulations.
- Contaminated Packaging:** Dispose of container in accordance with international, federal, state and local requirements.

SECTION 14 TRANSPORTATION INFORMATION

- UN Number:** UN2910.
- Class:** 7.
- Proper Shipping Name:** Radioactive material, excepted package-limited quantity of material.
- Packing Group:** Not Listed.
- Marine Pollutant:** Not Listed.
- Other Applicable Information:** None.

SECTION 15 REGULATORY INFORMATION

- Australia:** Hazchem Code: Not Listed.
Poisons Schedule Number: Not Listed.
- California:** Proposition 65 Listed: Radionuclides.
- Canada:** WHMIS: D2A, D2B.
- European Union:** REACH: Chemical Safety Assessment for the substance or substances in the preparation not required.
- Substances of Very High Concern (SVHC) - January 13, 2010: This product does not contain SVHC's in concentrations above 0.1% weight/weight.
- Category of Danger: T+: Very Toxic.
N: Dangerous for the Environment.
Xi: Irritant.
- Risk Phrases: R22: Harmful if swallowed.
R28: Very toxic if swallowed.
R32: Contact with acids liberates very toxic gas.
R36/37/38: Irritating to eyes, respiratory system and skin.
- Safety Phrases: S7/9: Keep container tightly closed and in a well-ventilated place.
S20/21: When using do not eat, drink or smoke.
S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S27/28: After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of soap and tepid water.
S29/35: Do not empty into drains; dispose of this material and its

container in a safe way.
 S36/37/39: Wear suitable protective clothing, gloves and eye/face protection.
 S45: In case of accident or if you feel unwell, seek medical advice immediately.

OECD/High Production Volume (HPV) Chemicals: Not Listed.

RoHS: This product does not contain RoHS listed substances in concentrations above the established thresholds.

Japan: Poisonous and Deleterious Substances Control Law: Sodium Azide: Poisonous Substance.

SECTION 16 ADDITIONAL INFORMATION

Product Number: Product Name:

8014 Human Insulin, 20 Curves
 8020 Human C-Peptide, 20 Curves
 8021 Rat C-Peptide, 20 Curves
 8030 Glucagon, 20 Curves
 9011 Human Insulin, 250 Tubes
 9011S Human Specific-Ultra Sensitive Insulin, 250 Tubes
 9015 Human Proinsulin Insulin, 250 Tubes
 9016 Lis/Pro Insulin, 250 Tubes
 9020 Human C-Peptide, 250 Tubes
 9022 Rat C-Peptide, 250 Tubes
 9023 Porcine C-Peptide, 250 Tubes
 9030 Glucagon
 9045 Rat Growth Hormone Tracer
 9081 Human Leptin, 125 Tubes
 9082 Mouse Leptin, 250 Tubes
 9083 Rat Leptin, 250 Tubes
 9020-HK Human C-Peptide, 125 Tubes
 9035-HK Glucagon Like Peptide 1 (GLP-1), 125 Tubes
 9045-HK Rat Growth Hormone, 125 Tubes
 9046-HK Porcine/Canine Growth Hormone, 125 Tubes
 9060-HK Mouse/Human Adiponectin, 125 Tubes
 9066-HK 125I-PYY Total <1.5 uCi
 9068-HK 125I- Rat PYY <1.5 uCi
 9081-HK Human Leptin, 250 Tubes
 9096-HK Mouse Resistin, 250 Tubes
 9097-HK 125I-Mouse RELM-beta <1.5 uCi

Component of Kit Number: Product Name:

HADP-61HK Human Adiponectin RIA

| | |
|------------|---|
| 9024-HK | Canine C-Peptide RIA |
| GL-32K | Glucagon RIA |
| HL-81K | Human Leptin RIA |
| LPI-16K | LisPro Insulin RIA |
| ML-82K | Mouse Leptin RIA |
| RL-83K | Rat Leptin RIA |
| RI-13K | Rat Insulin RIA |
| HL-81HK | Human Leptin RIA |
| MADP-60HK | Mouse Adiponectin RIA |
| PI-12K | Porcine Insulin RIA |
| HPI-15K | Human Proinsulin RIA |
| HADP-61HK | Human Adiponectin RIA |
| PGH-46HK | Porcine/Canine Growth Hormone RIA |
| HI-14HK | Human Insulin-Specific RIA |
| RCP-21K | Rat C-Peptide RIA |
| CCP-24HK | Canine C-Peptide RIA |
| HCP-20HK | Human C-Peptide RIA |
| GHRA-88HK | Human Ghrelin (ACTIVE) RIA |
| PCP-22K | Porcine C-Peptide RIA |
| GHRT-89HK | Human Ghrelin (TOTAL) RIA |
| PYYT-66HK | Human PYY (Total) RIA |
| RGH-45HK | Rat Growth Hormone RIA |
| SRI-13K | Sensitive Rat Insulin RIA |
| HCP-20K | Human C-Peptide RIA |
| HI-14K | Human Insulin-Specific RIA |
| XL-85K | Multi-Species Leptin RIA |
| RMPYY-68HK | Rat/Mouse PYY RIA |
| RM0BS-55HK | Rat/Mouse Obestatin RIA |
| RM0BS-33HK | Rat/Mouse Obestatin RIA |
| GLP1A-35HK | Glucagon Like Peptide-1 (Active) RIA |
| PYY-67HK | Human PYY (3-36) Specific RIA |
| GLP1T-36HK | Glucagon Like Peptide-1 (Total) RIA |
| HI-11K | Ultra Sensitive Human Insulin RIA |
| M2HI-00K | M2 Hexyl Insulin RIA 250 Tube Kit <5uCi |

Training Advice: Seek effective chemical handling training to reduce the hazards associated with this product prior to use.

Technical Contact: <http://www.millipore.com/support>

Abbreviations Used

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| ACGIH | American Conference of Government Industrial Hygienists |
| ADR | European agreement on the international carriage of dangerous goods on road |
| CAS | Chemical Abstract Service |
| EINECS | European Inventory of Existing Commercial Chemical Substances |
| ELINCS | European List of Notified Chemical Substances |
| EPA | United States Environmental Protection Agency |

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|------------------|---|
| IARC | International Agency for Research in Cancer. |
| IATA | International Air Transport Association |
| ICAO | International Civil Aviation Organization |
| IMDG | Regulations regarding the transportation of dangerous goods on ocean-going vessels issued by the International Maritime Organization. |
| LC ₅₀ | Lethal Concentration 50% is the concentration of a chemical which kills 50% of a sample population |
| LD ₅₀ | Lethal Dose 50% is the dose of a chemical which kills 50% of a sample population. |
| LDLo | Lowest observed lethal dose |
| LEL | Lower Explosive Limit |
| MSFU | Manufacture, Formulation, Supply and Use (Section 13) |
| NIOSH | National Institute of Occupational Safety and Health (US) |
| NTP | National Toxicology Program (US) |
| OSHA | United States Occupational Safety and Health Administration |
| RID | International regulations concerning the international carriage of dangerous goods by rail. |
| RTECS | Registry of Toxic Effects of Chemical Substances (US) |
| STOST | Specific Target Organ Systemic Toxicity |
| UEL | Upper Explosive Limit |
| WHMIS | Workplace Hazardous Materials Information System (Canada) |

This safety data sheet has been prepared to comply with the requirements of the European Union regulation on the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH) 1906/2006 and ANSI standard Z400.1-1998.

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¹ Centers for Disease Control and Prevention, 1600 Clifton Rd, Atlanta, GA 30333, USA, National Institute for Occupational Health and Safety (NIOSH), Registry of Toxic Effects of Chemical Substances (RTECS) File #VY8050000, 2009.

² Centers for Disease Control and Prevention, 1600 Clifton Rd, Atlanta, GA 30333, USA, National Institute for Occupational Health and Safety (NIOSH), Registry of Toxic Effects of Chemical Substances (RTECS) File # NN1575000, 2008.

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⁴ Mayer, F.L.Jr., and M.R. Ellersieck, Manual of Acute Toxicity: Interpretation and Data Base for 410 Chemicals and 66 Species of Freshwater Animals, Resour.Publ.No.160, U.S.Dep.Interior, Fish Wildl.Serv., Washington, DC :505 p. (USGS Data File), 1986.

⁵ LeValley, M.J., Acute Toxicity of Iodine to Channel Catfish (*Ictalurus punctatus*), Bull.Environ.Contam.Toxicol. 29(1):7-11, 1982.

⁶ Laverock, M.J., M. Stephenson, and C.R. Macdonald, Toxicity of Iodine, Iodide, and Iodate to *Daphnia magna* and Rainbow Trout (*Oncorhynchus mykiss*), Arch.Environ.Contam.Toxicol. 29(3):344-350, 1995.

⁷ <http://toxnet.nlm.nih.gov/cgi-bin/sis/search/f?/.temp/~MYae0Z:1>, U.S. National Library of Medicine, 8600 Rockville Pike, Bethesda, MD 20894, 2009.

⁸ <http://www.atsdr.cdc.gov/toxprofiles/tp158.pdf>, U.S. Department of Health and Human Services, Toxicological profile for Iodine, Public Health Service, Agency for Toxic Substances and Disease Registry, April 2004.