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This package conforms to the conditions and limitations specified in the 49 CFR 173.421 for excepted radioactive materials, limited quantity, n.o.s. UN2910. Less than $0.5mR/hr$ activity at the surface of the package at any time

Not classified as hazardous according to criteria of US Nuclear Regulatory Commission

Section 1: Identification

Product ID: **Co-57** Radionuclide

Trade name: **Co-57** Quanti-Calibrator; sealed, solid reference source, 12x75 **mm** outside dimensions cylindrical tube.

Manufacturer/Supplier: Reflex Industries, INC, 8020 Wing Span DR, San Diego, CA 92119 USA

Emergency Number: cell of Robert Gabardy, RSO, 619.995-1922 or rgabardy@gmail.com

Recommended Use: used to check the performance of Gamma Counters, especially Multi-well Gamma Counters.

Section 2: Hazard(s) Identification

Even though the product contains a radioactive element, **Co-57**, a gamma emitter, 122 **keV**, an X-ray emitter 136 **keV** the total activity is less than 10 **uCi** per package and less than 0.4 **uCi** per tube and ships under a DOT UN2910 label with the following verbiage: "Radioactive Material, Excepted Package. This package contains radioactive material, excepted package and is in all respects in compliance with the applicable international and national governmental regulations. The information for this package need not appear on the Notification to Captain (NOTOC)." The half-life for this radionuclide is 271.7 days.

There are no hazardous materials in this product and no latex or peanut products.

This product is not classified according to the Globally Harmonized System (GHS)

Label elements: GHS label elements-void; Hazard pictograms-void; Signal word-void; Hazard statements-void.

Section 3: Composition/Information on Ingredients

Substances; no dangerous or hazardous components

CAS 9010-79-1, polypropylene outer tube, molded

CAS 8002-74-2, paraffin wax, hardened

CAS 9010-79-1, polypropylene inner tube, molded

CAS 9003-39-8, polyvinylpyrrolidone, solid resin, less than 50 **mg** per tube

CAS 7681-50-5, **cobalt-57**, complexed with EDTA and polyvinylpyrrolidone, dry, <50 **ng** CoCl₂, <0.4 **uCi** per tube

CAS 8001-29-4, cotton, to hold down inner tube

CAS 9002-88-4, polyethylene, cap to seal tube

CAS 9010-79-1, polypropylene label, on outside tube

Section 4: First-Aid Measures

Each tube has been wipe-tested prior to release and found to be free of removable radioactivity. The tubes are not meant to be disassembled or eaten but choking is possible if that happens and standard anti-choking measures apply.

Section 5: Fire-Fighting Measures

Suitable Extinguishing Media: Water, Foam, Carbon Dioxide, Dry Chemical Powder

Section 6: Accidental Release Measures

Because the amount of radioactivity is small (excepted) removal of any mention of radioactive material on the tubes means that the tubes can be disposed of in the normal dry sewage system, but if your lab has a Specific License to possess radioactive materials follow your own Standard Operating Procedures.

Section 7: Handling and Storage

Use and storage of radioactive materials is described in the Daily Performance Log that accompanies each product.

Section 8: Exposure Controls/Personal Protection

The limited amount of radioactivity in this product produces less than 0.5 *mREM/hr* exposure at any distance. Wear gloves when handling the product and refrain from smoking, eating, drinking or application of cosmetics.

Section 9: Physical and Chemical Properties

The exterior polypropylene tubes are blue, cyan, magenta, lilac, yellow, orange, brown or red; no liquid

Section 10: Stability and Reactivity

The outer polypropylene tube and polyethylene cap render the Quanti-Calibrator safe and intact.

Section 11: Toxicological Information This product is not toxic.

Section 12: Ecological Information

All components can be disposed of in the normal sewage system(soil) once any reference to radioactivity is removed.

Section 13: Disposal Considerations

Because the amount of radioactivity is small (excepted) removal of any mention of radioactive material on the tubes means that the tubes can be disposed of in the normal dry sewage system, but if your lab has a Specific License to possess radioactive materials follow your own Standard Operating Procedures. **Section**

14: Transport Information

The total activity is less than 10 *uCi* per package and less than 0.4 *uCi* per tube and ships under a DOT UN2910 label with the following verbiage: "Radioactive Material, Excepted Package. This package contains radioactive material, excepted package and is in all respects in compliance with the applicable international and national governmental regulations. The information for this package need not appear on the Notification to Captain (NOTOC)."

Section 15: Regulatory Information

All shipments are sent via FEDEX under DOT labeling UN2910 or via licensed freight forwarders.

Section 16: Other Information

This product contains less radioactivity than most common smoke detectors, watch dials and sights on rifles. Even so, there should be an active protocol to reduce exposure to radioactive materials by reducing time, increasing distance and shielding when working with them and also any adsorption into the body by inhalation, skin adsorption or ingestion.