

Radionuclide Safety Data Sheet

Co-60	Radionuclide:	Cobalt-60			Half-life
	Atomic Number	27	Atomic Weight	60	5.27 years
Annual Limit on Intake (Bq)					
Ingestion	Oxides, hydroxides, inorganic compounds 8E+06			Unspecified compounds 6E+06	
Inhalation	Oxides, hydroxides, halides, nitrates 1E+06			Unspecified compounds 3E+06	
Radiation Characteristics					
Principal Emissions	Maximum Energy (MeV)	Dose Rate at 1 m Distance (mSv/h/GBq)		Recommended Shielding	
Gamma	1.173, 1.3321	0.37		HVL Lead: 12 mm	
Beta	0.318	~0.05		na	
Detection and Measurement					
Method of detection:	<u>G-M detector, NaI crystal detector.</u>				
Dosimetry:	External: <u>whole body, skin and extremity</u> Internal: <u>whole body, thorax, urine analysis and faeces</u>				
Protective Measures					
<p>Hazards: Cobalt-60 sealed sources presents an external gamma hazard</p> <p>Exposure routes: Ingestion, inhalation, puncture, wound, skin contamination/absorption</p> <p>Recommended protective clothing: No protective clothing is necessary for work with sealed sources. When working with unsealed sources wear appropriate protective clothing such as laboratory coats, coveralls, gloves, safety glasses/goggles and a suitable mask, if the radioactive material is in the form of dust, power or if it is potentially volatile</p> <p>Optimize time, distance and shielding. Manipulate sealed sources remotely to minimize extremity doses</p>					
Sources and application of Co-60					
Cobalt-60 is made artificially and has many common industrial applications such as in leveling devices, thickness gauges and in radiotherapy in hospitals. Large sources of cobalt-60 are increasingly used for sterilization of spices and certain foods. Cobalt-60 is also used for industrial radiography to detect structural flaws in metal parts					