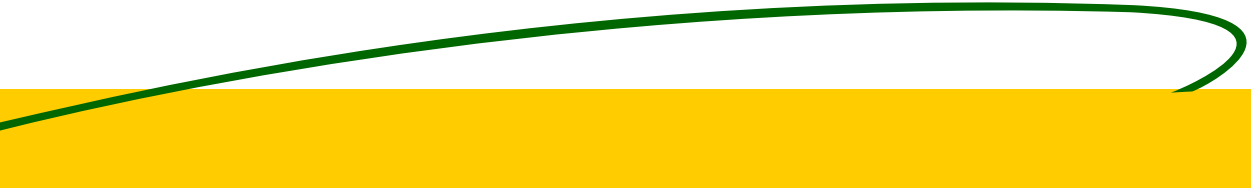


Sulfur 35



Characteristics

- ✦ Radioactive half-life: 87.4 days
- ✦ Decay mechanism: Beta emission
- ✦ Energy: $E_{\max} = 167 \text{ keV}$
 $E_{\text{avg}} = 49 \text{ keV}$
- ✦ Contamination monitoring: Thin window Geiger-Mueller detector, liquid scintillation counter for wipe surveys
- ✦ Dosimetry: Urinalysis

Decay Table

Days	0	1	2	3	4	5	6
7	1000	992	984	976	969	961	954
14	946	939	931	924	916	909	902
21	895	888	881	874	867	860	863
28	847	840	833	827	820	814	807
35	801	795	788	782	776	770	764
42	717	711	705	700	694	689	683
49	678	373	667	662	657	652	646
56	941	636	631	626	621	616	612



Volatility

- Radiolysis of S-35 labelled amino acids may lead to the release of S-35 labelled volatile impurities. Delivery vials should therefore be opened in a fume hood



Stabilizers

- The addition of stabilizers (buffers) will reduce, but not eliminate, the evolution of S-35 volatiles from tissue culture media. Incubators should be checked for contamination after using S-35 methionine or other volatile compounds.



Differentiation Difficulty

- S-35 may be difficult to distinguish from C-14. If both nuclides are being used in the same laboratory, establish controls to ensure they are kept separate. If "unknown" contamination is found, treat it as C-14.