



**SAFETY DATA SHEET  
SULPHUR-35**

**<sup>35</sup>S**

**PHYSICAL DATA:**

Radiation: Beta ( $\beta^-$ ) - 100 % abundance  
Energy: Max: 167 keV; Avg: 53 keV  
Half Life (T<sub>1/2</sub>) Physical - 87.4 d  
Biological - 623 d  
Effective - 44 - 76 d  
Specific Activity 1.58E + 15 Bq.g<sup>-1</sup>  
Beta Range: Air - 26 cm  
Water/tissue - 0.32 mm  
Plexiglass - 0.25 mm

**RADIOLOGICAL DATA:**

Exemption Quantity 1 x 10<sup>8</sup> Bq  
Radiotoxicity Moderate  
Critical organ Whole body, testes  
Exposure routes Inhalation, ingestion, absorption  
Radiological hazard External - negligible  
Internal - primary concern

**SHIELDING:**

3 mm plexiglass for stock solutions

**DOSIMETRY REQUIREMENTS**

None required. Contact RSO for suspected uptake

**DETECTION**

Liquid scintillation counting  
Pancake GM probe - 4-6 % efficiency @ 1cm

**PERSONAL PROTECTIVE EQUIPMENT REQUIREMENTS**

Lab coats, double gloving

**SPECIAL PRECAUTIONS**

Avoid skin contamination by double gloving (change outer pair ~ every 30 minutes). Use remote handling devices where possible.  
Many <sup>35</sup>S compounds are slightly volatile. This can occur when <sup>35</sup>S amino acids are thawed, and when added to cell culture media and incubated.

## **<sup>35</sup>S Handling Procedures**

1. Designate an area for handling <sup>35</sup>S and label clearly
2. Do not consume food and/or drink in the laboratory
3. Do not pipette by mouth
4. Cover work surfaces with absorbent liners
5. Use transfer pipettes and spill trays to confine contamination
6. Handle potentially volatile compounds (particularly <sup>35</sup>S methionine and cysteine) in ventilated enclosures
7. Vent <sup>35</sup>S amino acid stock vials with an open ended charcoal filled disposable syringe
8. Incubators used with <sup>35</sup>S should have an activated charcoal trap placed inside
9. Promptly return stock solutions to storage areas
10. Maintain contamination control by regularly monitoring and promptly cleaning contaminated areas
11. Isolate waste in clearly labelled containers and arrange for disposal with the RSO
12. Maintain cleanliness and good housekeeping in the work area
13. Supervise nuclear substances at all times when in use
14. Keep laboratory locked when unattended