



Canadian Nuclear
Safety Commission

Commission canadienne
de sûreté nucléaire



Canadian Nuclear Safety Commission

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Radiation Safety Data Sheet

This data sheet presents information on radioisotopes only.

For information on chemical compounds incorporating this radionuclide, see the relevant Material Safety Data Sheet.

Part 1 - RADIOACTIVE MATERIAL IDENTIFICATION

Chemical Symbol:	S	Common Names:	Sulphur
Atomic Weight:	35	Atomic Number:	16

Part 2 - RADIATION CHARACTERISTICS

Physical Half-Life: 87.44 days
CNSC Exemption Quantity (in Bq): 1×10^8 (100 MBq)

A CNSC license is not required if the amount of radioactive nuclides possessed is less than one Exemption Quantity.

Principal Emissions	Average Energy (MeV)**	Maximum Energy (MeV)***	Dose Rate at 1m Distance (mSv/h/GBq)	Recommended Shielding
Neutrons	-	-	-	-
Gamma & X-rays	-	-	-	-
Beta*	0.04883	0.167	n/a	1 cm Plexiglas
Alpha	-	-	-	-

* Where beta radiation is present, bremsstrahlung radiation will be produced. Shielding may therefore be required.

** Average energy of most abundant emission.

*** Maximum of most abundant emission.

Progeny	n/a
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Part 3 - DETECTION AND MEASUREMENT

Method of Detection: Thin end window Geiger-Mueller detector, Liquid scintillation counter

Dosimetry:

External: TLD (whole body & skin) _____ Extremity _____ Neutron _____

Internal: Whole body _____ Thorax _____ Urine analysis T _____ Other (specify) _____

Part 4 - PREVENTATIVE MEASURES

Sulphur dioxide: irritant to eye, nose, throat, lungs; bronchoconstriction; mutagen, suspect reproductive effects.
Hydrogen sulphide: moderate irritant to eye (conjunctivitis), lung; acute systemic toxicity; CNS effects. Sulphur is combustible.

Recommended protective clothing: Wear disposable lab coat, gloves and wrist guards for secondary protection. Select appropriate gloves for chemicals handled.

Handle potentially volatile compounds in ventilated enclosures. Take care not to generate sulphur dioxide or hydrogen sulphide which could be inhaled.

Consult CNSC license for requirements concerning engineering controls, protective equipment, and special storage requirements.

Part 5 - ANNUAL LIMIT ON INTAKE

	Ingestion	Inhalation
Compound Type	All compounds	All compounds
Annual Limit on Intake (Bq)	1×10^8	2×10^8

EMERGENCY PROCEDURES

The following is a guide for first responders. The following actions, including remediation, should be carried out by qualified individuals. In cases where life threatening injury has resulted, **first** treat the injury, **second** deal with personal decontamination.

Personal Decontamination Techniques

- C Wash well with soap and water and monitor skin
- C Do Not abrade skin, only blot dry
- C Decontamination of clothing and surfaces are covered under operating and emergency procedures

Spill and Leak Control

- C Alert everyone in the area
- C Confine the problem or emergency (includes the use of absorbent material)
- C Clear area
- C Summon Aid

Emergency Protective Equipment, Minimum Requirements

- C Gloves
- C Footwear Covers
- C Safety Glasses
- C Outer layer or easily removed protective clothing
- C Suitable respirator selected

Revision number: 0

Date of revision: 5 April 2004