



## 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:	Cr	Common Names:	Chromium
Atomic Weight:	51	Atomic Number:	24

#### Part 2 - RADIATION CHARACTERISTICS

Physical Half-Life: 27.704 days

CNSC Exemption Quantity (in Bq):  $1 \times 10^6$  (1 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	-	n/a		
Gamma & X-rays	0.3201	n/a	0.0063	10 mm Pb
Beta*	-			
Alpha	-	n/a		

\* 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: Scintillation detector

#### Dosimetry:

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

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

#### Part 4 - PREVENTATIVE MEASURES

Chromium and chromate salts are suspected carcinogens of the lungs, nasal cavity and paranasal sinus, also experimental carcinogen of the stomach and larynx. Skin exposure to chromate salts may result in dermatitis. Sodium chromate (Cr-51) solution may emit radioactive fumes containing Cr-51 when heated to decomposition.

Recommended protective clothing: Disposable plastic, latex, or rubber gloves. Lab coat. Safety glasses.

Minimise handling time. Use syringe shields and tongs to handle unshielded sources and potentially contaminated vessels.

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	Unspecified Soluble compounds	Halides, nitrates	Oxides, hydroxides
Annual Limit on Intake (Bq)	5E+08	7E+08	6E+08	6E+08

#### 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

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