



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:	P	Common Names:	Phosphorus
Atomic Weight:	32	Atomic Number:	15

Part 2 - RADIATION CHARACTERISTICS

Physical Half-Life: 14.3 days
 CNSC Exemption Quantity (in Bq): 1×10^4 (10 kBq)

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*	0.6947	1.710	9.17	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: Geiger-Meuller detector, Gamma survey meters with sodium iodide crystal detectors

Dosimetry:

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

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

Part 4 - PREVENTATIVE MEASURES

Chromic acid and its salts have a corrosive action on the skin and mucous membranes. Sodium phosphate is a mild irritant. Phosphocol and Sodium Phosphate (P-32) solutions may emit radioactive fumes containing P-32 when heated to decomposition.

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

Keep handling time to minimum. Use syringe shields (aluminium or lead foil) and tongs to avoid direct skin contact. When possible work behind a Plexiglas screen. Finger dosimeters should be worn if using quantities greater than a few tens of MBq (~a mCi). Vial should be encased in Lucite.

Always use the principles of time, distance and shielding to minimize dose.

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)	8×10^6	8×10^6

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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