



CRM-1

⁵¹Cr-SODIUM CHROMATE (Na₂⁵¹CrO₄) INJECTION

(DIAGNOSTIC -FOR INTRAVENOUS ADMINISTRATION)

Chromium-51 is used for measurement of red cell volume by using isotope dilution technique. Chromium is present in the hexavalent state, in which form it readily penetrates the red blood cell, attaches to the hemoglobin, and is reduced to the trivalent state. This state is maintained until the red blood cell is sequestered by the spleen, at which time the chromium is released to the plasma and is readily excreted in the urine. In the trivalent state, chromium ⁵¹Cr is not re-utilized for tagging of additional red blood cells. Since the product has a high specific activity, adequate red blood cell tagging is secured in minimum time without demonstrable effect on cell life

INDICATIONS

- To determine red blood cell volume/mass
- To study red blood cell survival time (in conditions such as hemolytic anemia)
- To evaluate blood loss

Description	:	Sterile, non-pyrogenic aqueous solution of ⁵¹ Cr as Sodium chromate in isotonic saline solution
Appearance	:	Clear, faint yellow coloured aqueous preparation
Radioactive concentration	:	0.1-5 mCi/ml (3.7-185 MBq/ml) on the reference date
Radionuclidic purity	:	No other extraneous radionuclide is present
pH	:	6-8
Radiochemical purity	:	Not less than 95% as chromate
Storage	:	Store at room temperature with adequate shielding
Shelf life	:	Not later than 90 days from the date of determining the radiochemical purity or till the date when specific activity is not less than 20 μCi/μg (740 kBq/μg) of chromium, whichever is less
Specific Activity	:	80-120 μCi/μg
Availability	:	Once in two months
Dosage and administration	:	Usual dose for blood volume studies is 25 μCi, (925 kBq) administered intramuscularly/ intravenously
Available pack size	:	1 mCi (37 MBq), 2 mCi (74 MBq) or 3 mCi (111 MBq)



Radiopharmaceutical laboratory, BRIT, Vashi, Navi Mumbai.

BRIT

Code	Description	Activity
CRM-1	⁵¹ Cr-Sodium Chromate (Na ₂ ⁵¹ CrO ₄) Injection	1mCi, 2mCi, 3mCi as on the reference date

Physical Characteristics of Chromium - 51

Half life	27.7 d
Decay mode	Electron capture
E _γ	320 keV (9.8%)

Decay Chart of Chromium - 51

Days	Multiplication Factor	1 mCi on Ref. date	2 mCi on Ref. date	3 mCi on Ref. date
-3	1.08	1.08	2.16	3.24
-2	1.05	1.05	2.10	3.15
-1	1.03	1.03	2.06	3.09
Reference date	1.00	1.00	2.00	3.00
1	0.98	0.98	1.96	2.94
2	0.95	0.95	1.90	2.85
3	0.93	0.93	1.86	2.79
4	0.91	0.91	1.82	2.73
5	0.88	0.88	1.76	2.64
6	0.86	0.86	1.72	2.58
7	0.84	0.84	1.68	2.52
8	0.82	0.82	1.64	2.46
10	0.78	0.78	1.56	2.34
12	0.74	0.74	1.48	2.22
14	0.71	0.71	1.42	2.13
16	0.67	0.67	1.34	2.01
18	0.64	0.64	1.28	1.92
20	0.61	0.61	1.22	1.83
22	0.58	0.58	1.16	1.74
24	0.55	0.55	1.11	1.65
26	0.52	0.52	1.04	1.56
28	0.50	0.50	1.0	1.50



⁵¹Cr-Sodium Chromate Production Facility



For placing the orders and further details please contact
Customer Support Services Cell (CSSC)

Board of Radiation and Isotope Technology

V.N.Purav Marg, Mumbai-400 094

Tel: (022) 2556 9806, 2551 2993, 2557 3534, 2556 5535 • Fax: (022) 2556 2161, 2558 1319

E-mail:sales@britatom.com • Website : www.britatom.com