

$Na_2^{51}CrO_4$

Product Number:

NEZ030

LOT SPECIFIC INFORMATION

| 31-Jul-2024 |
|---------------|
| CR073124 |
| 152.78 mCi/mg |
| 5.65 GBq/mg |
| 5 mCi/mL |
| 185 MBq/mL |
| 97.78 % |
| 99.9 % |
| |

Values given are all as of Calibration Date.

PACKAGING: Solvent is Saline.

SPECIFIC ACTIVITY RANGE: Calculated as Cr.

STORAGE CONDITIONS: Store this product at room temperature.

CONTAMINANTS: none detected

PHYSICAL PROPERTIES:

| Decay Mode | Electron Capture |
|------------------------|------------------|
| Half Life | 27.7 Days |
| Principal Gamma Photon | 0.320 MeV (9.8%) |

Occupational Limits (based on most restrictive intake category: 10 CFR 20 U.S.NRC Regulations)

| Derived Air Concentration (DAC) | 8x10 ^{-₀} µCi/mL |
|---------------------------------|---------------------------|
| Annual Limit on Intake (ALI) | 2x10⁴ µCi |



DECAY CHART:

To use the decay table find the number of days in the top row and left hand column of the chart then find the corresponding decay factor. To obtain a precalibration number, divide by the decay factor. For a postcalibration number multiply by the decay factor.

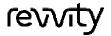
| Days | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0 | 1.000 | .9753 | .9512 | .9277 | .9048 | .8824 | .8606 | .8394 | .8186 | .7984 |
| 10 | .7787 | .7595 | .7407 | .7224 | .7045 | .6871 | .6702 | .6536 | .6375 | .6217 |
| 20 | .6064 | .5914 | .5768 | .5625 | .5486 | .5351 | .5219 | .5090 | .4964 | .4841 |
| 30 | .4722 | .4605 | .4491 | .4380 | .4272 | .4167 | .4064 | .3963 | .3865 | .3770 |

HAZARD INFORMATION:

WARNING: this product contains a chemical known to the state of California to cause cancer.

- 1. Designate area for handling ⁵¹Cr, clearly label all containers.
- 2. Store ⁵¹Cr behind lead shielding.
- 3. Wear extremity and whole body dosimeters while handling mCi (37 MBq) quantities.
- 4. Use shielding to minimize exposure while handling ⁵¹Cr.
- 5. Use tools to indirectly handle unshielded sources and potentially contaminated vessels.
- 6. Prohibit eating, drinking, smoking and mouth pipetting in room where ⁵¹Cr is handled.
- 7. Use transfer pipettes, spill trays and absorbent coverings to confine contamination.
- 8. Handle ⁵¹Cr compounds that are potentially volatile or in powder form in ventilated enclosures.
- 9. Sample exhausted effluent and room air by continuously drawing a known volume through membrane filters.
- 10. Wear lab coat, wrist guards and disposable gloves for secondary protection.
- 11. Maintain contamination and exposure control by regularly monitoring and promptly decontaminating gloves and surfaces.
- 12. Use end-window Geiger-Mueller detectors, NaI(T1) detector or liquid scintillation counter to detect ⁵¹Cr.
- 13. Submit urine samples for bioassay at least four hours after handling ⁵¹Cr to indicate uptake by personnel. ⁵¹Cr is slowly eliminated from the body. Whole body counting provides a more sensitive method than urinalysis for determining ⁵¹Cr body burdens. Whole body counting may be used occasionally to verify the urinalysis results.
- 14. Isolate waste in clearly labeled, shielded containers and hold for decay.
- 15. Establish surface contamination, air concentration and urinalysis action levels below regulatory limits. Investigate and correct any causes that threaten these levels to be exceeded.
- 16. On completing an operation, secure all ⁵¹Cr, remove and dispose protective clothing and coverings, monitor and decontaminate self and surfaces, wash hands and monitor them again.

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