

## $Na_2^{51}CrO_4$

Product Number:

NEZ030

## LOT SPECIFIC INFORMATION

| Calibration Date     | 24-Apr-2024   |  |  |  |  |
|----------------------|---------------|--|--|--|--|
| Lot Number           | CR042424      |  |  |  |  |
| Specific Activity    | 306.69 mCi/mg |  |  |  |  |
|                      | 11.34 GBq/mg  |  |  |  |  |
| Concentration        | 5 mCi/mL      |  |  |  |  |
|                      | 185 MBq/mL    |  |  |  |  |
| Radiochemical Purity | 99.7 %        |  |  |  |  |
| Radionuclidic Purity | 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 <sup>-₀</sup> 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.

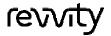
| Days | 0     | 1     | 2     | 3     | 4     | 5     | 6     | 7     | 8     | 9     |
|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0    | 1.000 | .9753 | .9512 | .9277 | .9048 | .8824 | .8606 | .8394 | .8186 | .7984 |
| 10   | .7787 | .7595 | .7407 | .7224 | .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 <sup>51</sup>Cr, clearly label all containers.
- 2. Store <sup>51</sup>Cr behind lead shielding.
- 3. Wear extremity and whole body dosimeters while handling mCi (37 MBq) quantities.
- 4. Use shielding to minimize exposure while handling <sup>51</sup>Cr.
- 5. Use tools to indirectly handle unshielded sources and potentially contaminated vessels.
- 6. Prohibit eating, drinking, smoking and mouth pipetting in room where <sup>51</sup>Cr is handled.
- 7. Use transfer pipettes, spill trays and absorbent coverings to confine contamination.
- 8. Handle <sup>51</sup>Cr 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 <sup>51</sup>Cr.
- 13. Submit urine samples for bioassay at least four hours after handling <sup>51</sup>Cr to indicate uptake by personnel. <sup>51</sup>Cr is slowly eliminated from the body. Whole body counting provides a more sensitive method than urinalysis for determining <sup>51</sup>Cr 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 <sup>51</sup>Cr, remove and dispose protective clothing and coverings, monitor and decontaminate self and surfaces, wash hands and monitor them again.

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**Revvity** 940 Winter Street Waltham, MA 02451 USA

(800) 762-4000 www.revvity.com

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