



American International Chemical, Inc.

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SPECIFICATION SHEET

CALCIUM OROTATE DIHYDRATE

| Code No. | SCN No. | CAS No. | Effective Date | Product Manager | Rev. No. | Approved By |
|----------|---------|------------|----------------|-----------------|----------|-------------|
| CAOGIP | 2998 | 22454-86-0 | April 13, 2007 | MDS | No. 2 | TJK |

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| CHARACTERISTICS: | A white to almost white crystalline powder. Hardly soluble in water. Practically insoluble in 96% ethanol and ether. |
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| MOLECULAR FORMULA: | $C_{10}H_6CaN_4O_8 \cdot 2H_2O$ |
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| MOLECULAR WEIGHT: | 386.3 |
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| Heavy SPECIFICATIONS: | Identification | |
| | A. IR | To pass test |
| | B. Calcium | To pass test |
| | Assay (by complexometric titration) | 98-101% |
| | Acidity or Alkalinity test on 1.5g of substance suspended in 30ml of water, stir for 5 minutes and filtered. | 10 ml of the filtrate solution should not consume more than 0.25 ml of 0.01M HCl solution (or) 10 ml of filtrate solution should not consume more than 0.5 ml of 0.01N NaOH solution. |
| | Specific absorption | A1cm (1.0%) 286 - 306 at 285nm |
| | Heavy metals | 20 ppm max |
| | Sulphate | 200 ppm max |
| | Amino acid test on 1g sample | Absent |
| | Related substances Hydantonitrile | 0.1% max |

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| PACKAGING: | 25 kg HDPE lined drum |
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| APPLICATIONS: | Nutritional food supplements |
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| OTHER: | The manufacturing site is WHO cGMP and ISO 9000-2004, ISO 14000-2006 certified. The manufacturer has achieved a COS issued by the EDQM. It is certified by NQA to the requirement of HACCP under the Codex Alimentarius. The product is Kosher and Halal certified. |
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| SHELF LIFE: | Material should be re-tested against certificate of analysis three years from date of manufacture. Store in an air tight container at 25-30°C |
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