

ALADDIN SCIENTIFIC CORPORATION

14078 Meridian Parkway, Riverside, CA. 92518

Certificate of Analysis

Date of Testing: 2023-08-24 10:09:45
 Date of Next Testing: 2027-08-23 10:09:45
 Product Name: **Sulfobetaine 12**
 CAS Number: 14933-08-5
 Specifications & Purity: 98%
 Lot #: H2318710
 SKU #: **S105512**
Analysis: **259071**
 Storage Temperature: Store at 2-8°C, Argon charged

| Parameter | Limit Values | Result |
|--|-----------------------------|-----------------------------|
| Ignition Residue | 0-0.1 (%) | 0.05 % |
| Nitrogen by Elemental Analysis | 3.9-4.4 (%) | 4.25 % |
| Zinc(Zn) | 0-5 (ppm) | 0.00 ppm |
| Carbon by Elemental Analysis | 59.4-61 (%) | 60.62 % |
| Insoluble matter | 0-0.1 (%) | 0.06 % |
| Calcium(Ca) | 0-0.002 (%) | 0.00 % |
| Copper(Cu) | 0-5 (ppm) | 0.00 ppm |
| Potassium(K) | 0-50 (ppm) | 9.43 ppm |
| Phosphate(PO4) | 0-5 (ppm) | 0.03 ppm |
| Chloride (Cl-) | 0-0.05 (%) | 0.01 % |
| Purity(HPLC) | 98-100 (%) | 99.85300 % |
| Iron(Fe) | 0-5 (ppm) | 0.00 ppm |
| Hydrogen by Elemental Analysis | 10.7-11.3 (%) | 10.92 % |
| Aluminum(Al) | 0-5 (ppm) | 0.00 ppm |
| Magnesium(Mg) | 0-5 (ppm) | 0.00 ppm |
| Sulfur by Elemental Analysis | 0-0.05 (%) | 0.01 % |
| (Pb)Lead | 0-0.001 (%) | 0.00 % |
| Ammonia (NH4) | 0-500 (ppm) | 0.00 ppm |
| Sodium(Na) | 0-50 (ppm) | 22.80 ppm |
| Appearance (S105512) | White powder | White powder |
| metal trace analysis (icp) | corresponds to requirements | CORRESPONDS TO REQUIREMENTS |
| Infrared spectrum | Conforms to Structure | Conforms to Structure |
| Solubility in H2O(20°C , colorless clear (< 3.5 ntu),1M) | pass | Pass |



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A handwritten signature in black ink that reads "John Su".

John Su
QA & QC Manager