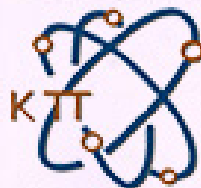


Libox Chem (India) Pvt. Ltd.

112, Kundaim Industrial Estate, Kundaim, Goa - 403115, India



www.kttchemical.com

Date: 11/04/2019

Certificate of Analysis

| | | |
|---|-------------------|--------------------------|
| Product : Potassium Permanganate (Pure Grade) ✓ | Formula: $KMnO_4$ | CAS No.: 7722-64-7 |
| Customer: | | EINECS No.: 231-760-3 |
| Customer Order number: | | Test Method: IS 133:2003 |
| Production Date: 10/04/2019 | | Batch No: PG/101904A |
| Quantity Represented: | | Sampled Qty.: 500 gm. |
| Packing type: | | Packing Nos.: |
| Date of Testing: 11/04/2019 | | Report No.: 030 |
| Retest Date: 3 years from date of testing. | | |

Analysis Report

| Sr. No. | Test | Specification | Result |
|---------|--|--|--|
| 1 | Appearance | A dark purple or brownish-black granular powder or almost black crystals, usually having a metallic luster. | Dark purple crystals with metallic luster. |
| 2 | Solubility | Freely soluble in alcohol and soluble in water. | Freely soluble |
| 3 | Test for Permanganate | A green color should develop. Heat to boiling, a dark brown precipitate should form, indicating the presence of permanganate ions. | Dark brown precipitate observed on heating to boiling. |
| 4 | Sieve Test | >60% Retained on ASTM-40 Mesh Sieve <40% Passing through ASTM-40 Mesh Sieve | 95% 05% |
| 5 | Substance insoluble in water | Max. 0.5% | 0.24% |
| 6 | Chloride (as Cl) | Max. 0.02% | 0.02% |
| 7 | Sulphate (as SO_4) | Max. 0.05% | 0.04% |
| 8 | Moisture (as H_2O) | Max. 0.50% | 0.21% |
| 9 | Assay (By Titrimetry, % w/w, as $KMnO_4$) | Not less than 99% and Not more than 101.5% | 99.10% |

Dishank

Analyzed By:

Date: 11/04/2019



[Signature]

Q.C. Incharge:

Date

Registered Office: 112, Kundaim Industrial Estate, Kundaim, Goa-403115, India

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Corporate Identity Number: U24231GA2000PTC012916