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## **CERTIFICATE OF ANALYSIS**

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| Product Name: | (1R,2R)-(-)-1,2-<br>CYCLOHEXANEDICARBOXYLIC<br>ACID | o<br>II    |
|---------------|---|------------|
| Batch No:     | 20160831  | HO         |
| CAS No:       | 46022-05-3  | HO         |
| Manu. Date:   | Aug. 31, 2016                                       | Structure: |
| Report Date:  | Sep. 01, 2016                                       |            |

| Item   |   | Specification                                       | Analysis<br>Results | Conclusion |  |  |
|--|---|---|---------------------|------------|--|--|
| Appearance   |   | White or off white powder                           | white powder        | conform    |  |  |
| Water  |   | NMT 0.5%  | 0.39%               | conform    |  |  |
| R (+) $\alpha$ phenyl ethylamine                     |   | Not more than0.5%                                   | 0.23%               | conform    |  |  |
| Cis acid   |   | Not more than 0.15%                                 | Not detected        | conform    |  |  |
| Single unspecified impurity                          |   | Not more than 1.5%                                  | 0.53%               | conform    |  |  |
| Total impurities                                     |   | Not more than 2%                                    | 0.9%                | conform    |  |  |
| (1S, 2S) – cyclohexane – 1,<br>2 – dicarboxylic acid |   | Not more than 1%                                    | 0.6%                | conform    |  |  |
| Assay by HPLC (*)                                    |   | Between 98.0 to 102.0%<br>(w/w), on anhydrous basis | 99.3%               | conform    |  |  |
| Storage & Conclusion                                 |   |   |                     |            |  |  |
| Packing  | Pack in paper-drums and two plastic-bags inside. 25.00 kg/Drum              |   |                     |            |  |  |
| Storage  | Store in a well-closed place with room temperature and no direct sun light. |   |                     |            |  |  |
| Conclusion   | Qualified with the specification.   |   |                     |            |  |  |