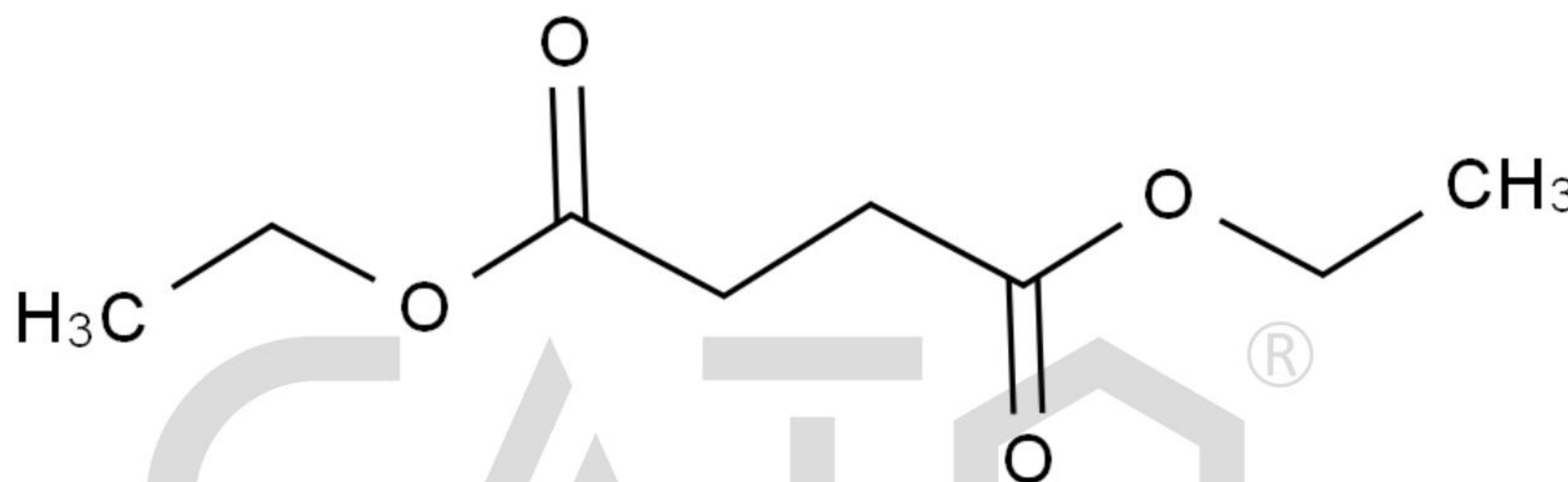


# Certificate of Analysis

## Reference Material & Standard

|                    |                                               |                   |                                           |
|--------------------|-----------------------------------------------|-------------------|-------------------------------------------|
| Product Name:      | Succinic Acid Diethyl Ester                   | Catalogue Number: | CCHM700173                                |
| Synonyms:          | N/A                                           | Lot Number:       | 1020-RE-0057                              |
| CAS Number:        | 123-25-1                                      | Expiry Date:      | Oct 19, 2027                              |
| Molecular Formula: | C <sub>8</sub> H <sub>14</sub> O <sub>4</sub> | Storage:          | Room Temp Protected from light and Sealed |
| Molecular Weight:  | 174.19                                        |                   |                                           |

Chemical Structure:



| Test Items     | Method            | Results           |
|----------------|-------------------|-------------------|
| Appearance     | Visual inspection | Colourless Liquid |
| Identification | GCMS&IR&HNMR      | Confirmed         |
| Purity         | GC                | 98.3%             |
| Assay          | qNMR              | 97.5%             |
| Uncertainty    |                   | ±2.0%             |

## Comment:

1. Assay was determined by quantitative <sup>1</sup>H-NMR
2. The uncertainty values are the expanded uncertainty and represent an estimated standard deviation equal to the positive square root of the total variation of the uncertainty of components. A normal distribution is assumed and a coverage factor of K=2 is chosen using approximately a 95% confidence level.

Signature:

Prepared by:

*Nice*

Reviewed by:

*Lisa*

Approved by General Manager:

*David*

Date: Aug 13, 2024

Date: Aug 13, 2024

Date: Aug 13, 2024

