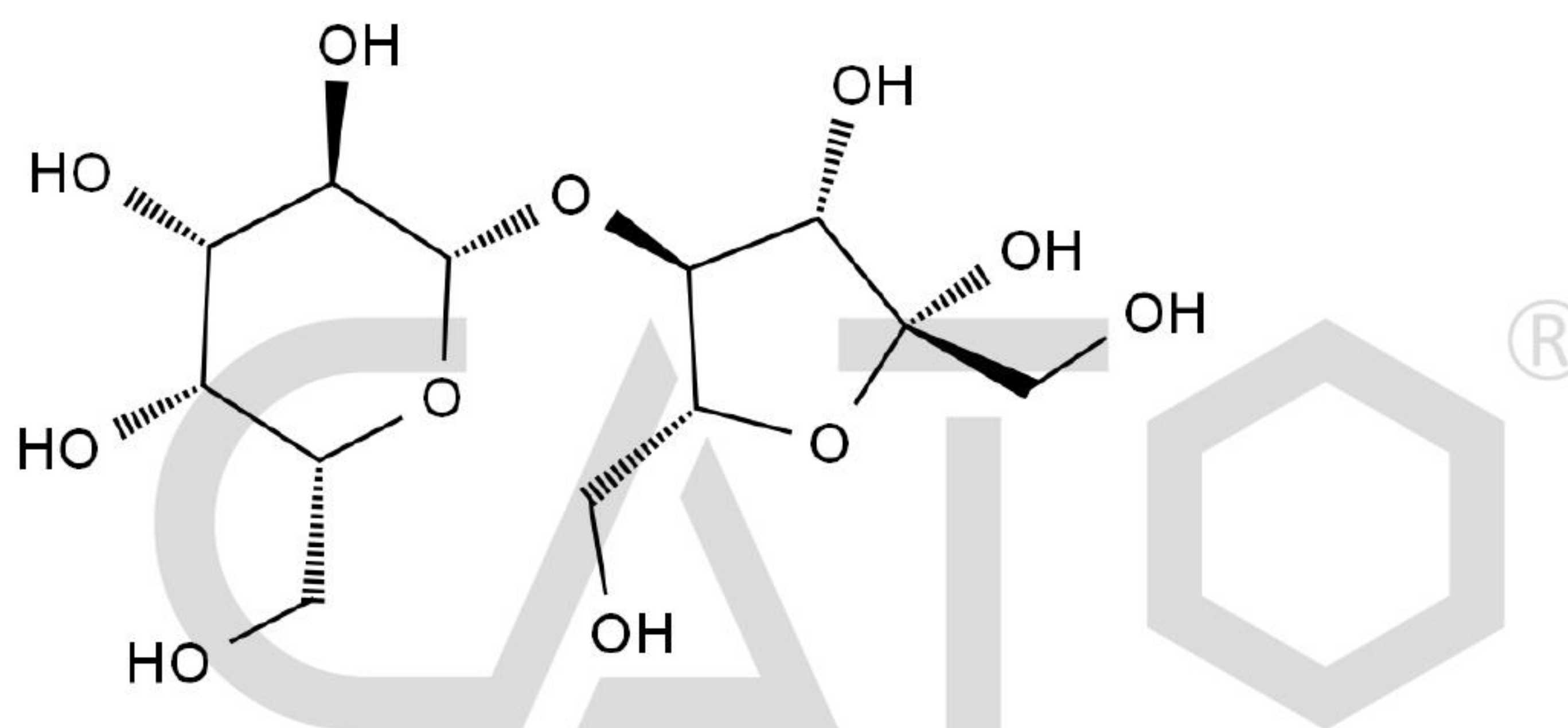


Certificate of Analysis

Reference Material & Standard

Product Name:	Lactulose	Catalogue Number:	CCFD200322
Synonyms:	N/A	Lot Number:	0820-RH-0040
CAS Number:	4618-18-2	Expiry Date:	Aug 19, 2030
Molecular Formula:	C ₁₂ H ₂₂ O ₁₁	Storage:	Room Temp Protected from light and Sealed
Molecular Weight:	342.30	Shipping Condition:	Shipping at Room Temperature

Chemical Structure:



Test Items	Method	Results
Appearance	Visual inspection	Off-White Solid
Identification	LCMS&HNMR	Confirmed
Purity	ELSD	100.000%
Residue on Ignition	TGA	0.1939%
Loss on Drying	TGA	0.6166%
Assay		99.2%
Uncertainty		±0.1%

Comment:

- The calculation of the mass balance method follows the formula (calculated on the non-dried basis):

$$\text{Assay (\%)} = (100\% - \text{Residue on Ignition} - \text{Loss on Drying}) * \text{Purity ELSD (\%)} / 100\%$$
Residue on Ignition and Loss on Drying are considered as absolute effect, ELSD purity is considered as relative effect.
- 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:

Lisa

Reviewed by:

Hin Lam

Approved by General Manager:

David

Date: Aug 20, 2026

Date: Aug 20, 2026

Date: Aug 20, 2026



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