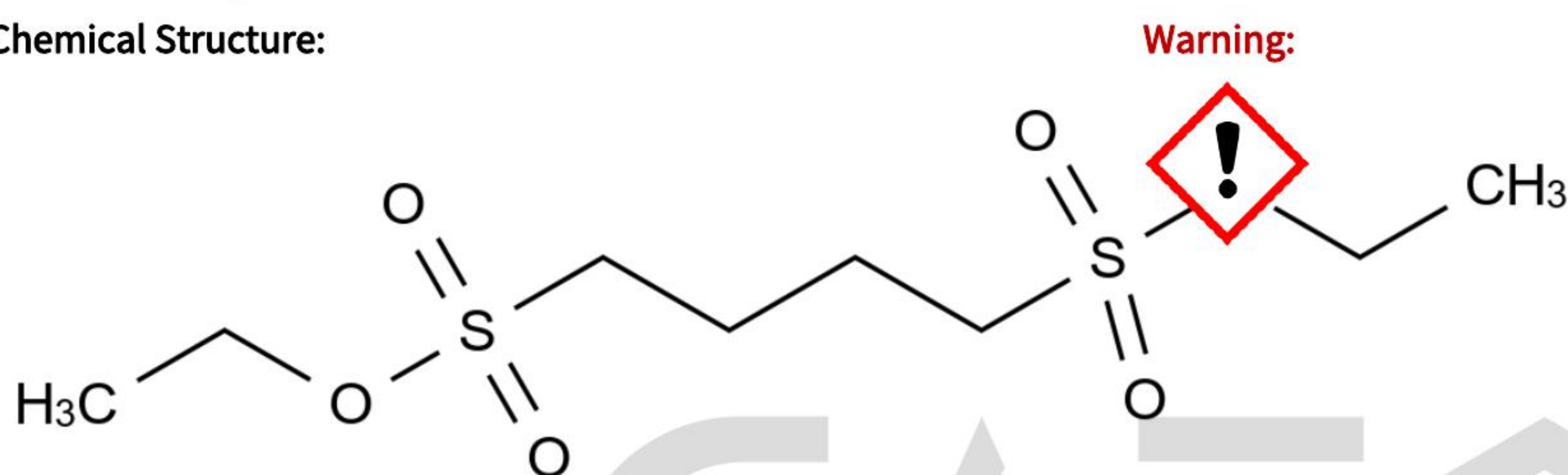


Certificate of Analysis

Reference Material & Standard

Product Name:	1,4-Butanedisulfonic Acid Diethyl Ester	Catalogue Number:	CS450555
Synonyms:	N/A	Lot Number:	0110-RE-0031
CAS Number:	98544-67-3	Expiry Date:	Dec 22, 2025
Molecular Formula:	C ₈ H ₁₈ O ₆ S ₂	Storage:	2°C ~ 8°C Protected from light and Sealed
Molecular Weight:	274.35		
Chemical Structure:			



Test Items	Method	Results
Appearance	Visual inspection	Off-White Solid
Identification	LCMS&IR&HNMR	Confirmed
Purity	ELSD	98.6692%
Water Content	Karl Fischer	0.1%
Residual Solvents	NMR	0.2% ethyl acetate and 0.2% diethyl ether
Assay		98.2%
Uncertainty		±2.0%

Comment:

1. The calculation of the 100% method follows the formula (calculated on the non-dried basis):

Assay (%) = (100% - Water Content - Residual Solvents) * Purity ELSD (%) / 100%

Water Content and Residual Solvents are considered as absolute effect, ELSD purity is considered as relative effect.

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: 吴炫校

Reviewed by: *Hinlam*

Aporoved by General Manager:

David

Date: Dec 23, 2022

Date: Jan 10, 2023

Date: Jan 10, 2023

