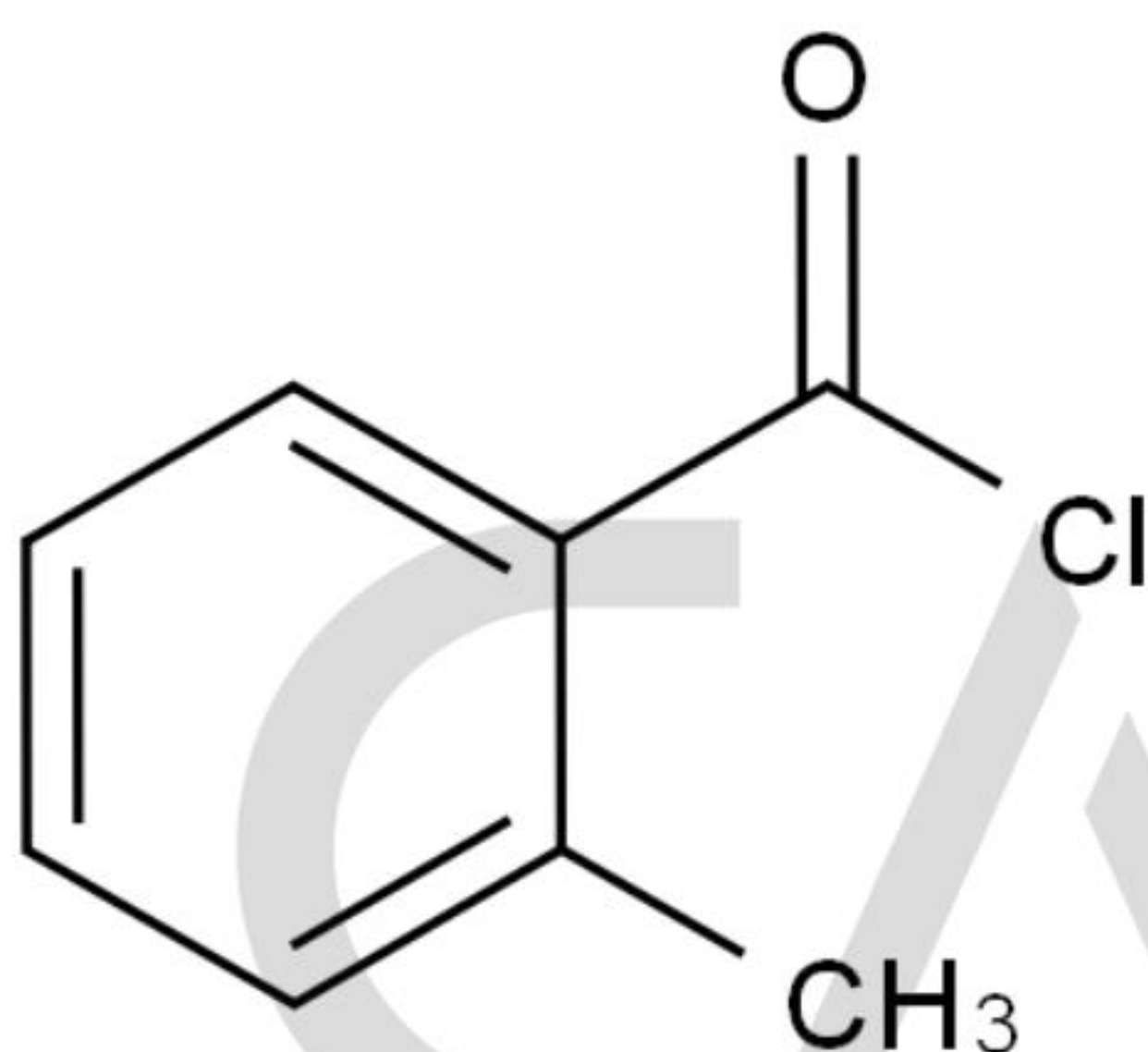


Certificate of Analysis

Reference Material & Standard

Product Name:	o-Toluoyl Chloride	Catalogue Number:	CCHM704722
Synonyms:	N/A	Lot Number:	0512-RE-0018
CAS Number:	933-88-0	Expiry Date:	May 16, 2027
Molecular Formula:	C ₈ H ₇ ClO	Storage:	Room Temp Protected from light and Sealed
Molecular Weight:	154.59	Warning:	

Chemical Structure:



Test Items	Method	Results
Appearance	Visual inspection	Colourless Liquid
Identification	GCMS&HNMR	Confirmed
Purity	GC	96.301%
Water Content	Karl Fischer	0.1856%
Assay		96.1%
Uncertainty		±2.0%

Comment:

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

Assay (%) = (100% - Water Content) * Purity GC (%) / 100%

Water Content is considered as absolute effect, GC 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:

Hin Lam

Reviewed by:

Lisa

Approved by General Manager:

David

Date: May 17, 2023

Date: May 18, 2023

Date: May 18, 2023

