

**CERTIFICATE OF ANALYSIS  
CHLOROFORM**
**Meets UV/HPLC Grade  
(Stabilized with Ethanol)**

Lot # C20B11CAS0000CHL

Date of Manufacture: February 14, 2020

Recommended Retest Date: Three Years from Date of Manufacture

Main Catalog #: ZH30900UVHPLC

TEST	SPECIFICATIONS	RESULTS
Acetone and Aldehydes (as Acetone)	Passes Test	Passes
Acid and chloride	Passes Test	Passes
Assay (by GC-FID) (excluding Ethanol)	Min 99.9 %	99.98 %
Color	Max 10 APHA	< 5 APHA
Free chlorine	Passes Test	Passes
Lead (Pb)	Max 0.05 ppm	< 0.05 ppm
Residue after Evaporation	Max 3 ppm	< 0.3 ppm
Stabilizer (as Ethyl alcohol)	Between 0.5-1.0 %	0.9 %
Substances Darkened by Sulfuric acid	Passes Test	Passes
Suitability for use in Dithizone tests	Passes Test	Passes
Water (by KF coulometry)	Max 0.02 %	0.002 %
Optical Absorbance at		
245 nm	Max 1.00 AU	0.71 AU
255 nm	Max 0.15 AU	0.09 AU
260 nm	Max 0.05 AU	0.03 AU
270 nm	Max 0.02 AU	0.01 AU

Approved



Amanda Fenstermacher

Quality Assurance Clerk

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# CERTIFICATE OF ANALYSIS DIMETHYL SULFOXIDE (DMSO)

Reagent Grade ACS

Lot # C19F18CAS000DMSO

Date of Manufacture: July 17, 2019

Recommended Retest Date: Three Years from Date of Manufacture

Main Catalog #: ZH367000ACS

TEST	SPECIFICATIONS	RESULTS
Description Clear colorless liquid free of suspended matter	Passes Test	Passes
Assay (by GC-FID) (Corrected for Water)	Min 99.9 %	99.97 %
Residue after Evaporation	Max 0.01 %	< 0.00001 %
Titration Acid (as Acetic acid)	Max 0.001 meq/g	0.0002 meq/g
Water (by KF coulometry)	Max 0.1 %	0.01 %

Form: Dimethyl Sulfoxide, ACS, Rev. 1.5, 03/18, RR

This product is for further commercial manufacturing, laboratory or research use, and may be used as an excipient or a process solvent for pharmaceutical purposes. It is not intended for use as an active ingredient in drug manufacturing nor as a medical device or disinfectant. Appropriate/legal use of this product is the responsibility of the user.

Approved



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