



Analytical Reference Materials
Chloromethane Standard

Catalog # 30267

Lot # A0101059

110 Benner Circle Bellefonte, PA 16823-8812
1-814-353-1300 1-800-356-1168
www.restek.com

FOR LABORATORY USE ONLY. READ MSDS PRIOR TO USE.
RAW MATERIAL TEST INFORMATION AVAILABLE UPON REQUEST

MANUFACTURED UNDER RESTEK'S ISO 9001 REGISTERED QUALITY SYSTEM



CERTIFIED REFERENCE MATERIAL

110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

Certificate of Analysis



FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 30267 **Lot No.:** A0101059

Description : Chloromethane Standard
Chloromethane Standard 2,000µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : October 31, 2020 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)			
1	Chloromethane (methyl chloride) CAS # 74-87-3 (Lot SHBB3606V) Purity 99%	1,993.4 µg/mL	+/- 26.6642	µg/mL	Gravimetric	
			+/- 32.8928	µg/mL	Unstressed	
			+/- 35.2947	µg/mL	Stressed	

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Column:
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.#10910)

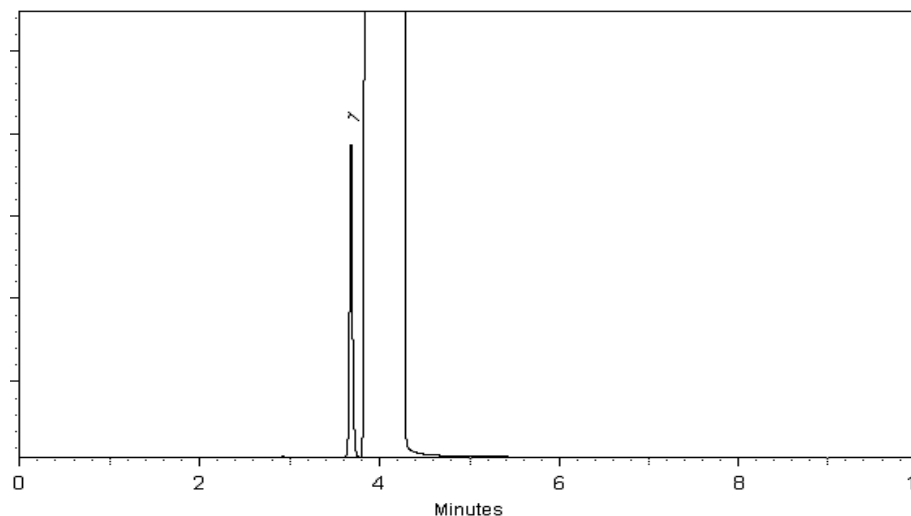
Carrier Gas:
hydrogen-constant pressure 11.0 psi.

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
250°C


Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen to guarantee product quality. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.


Kendra Swope - Mix Technician

Date Mixed: 03-Feb-2014 Balance: 1125113331


Jodi E. Breon - QA Analyst

Date Passed: 05-Feb-2014

Manufactured under Restek's ISO 9001:2008
Registered Quality System
Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k \sqrt{U_{gravimetric}^2 + U_{homogeneity}^2 + U_{storage\ stability}^2 + U_{shipping\ stability}^2}$$

k is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31840, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.



Chemical Standard Batch Sheet

Lot #: A0101059

Catalog #: 30267	Target: 2000 ug/mL	
Description: Chloromethane Standard		
Solvent: P&T Methanol	Solvent Lot: 124454	Final Volume: 100 ml

Made by: Kendra Swope	Date: 2/3/2014 10:53:51AM		
Tested by: Diane Shaffer	Date: 2/4/2014 11:57:39AM		
Pass	By: Jodi Breon	Date: 2/5/2014 12:37:44PM	
Packaged by: Alexandria Pavkovich / Alexandria Pavkov	Date: 2/3/2014 5:11:13PM	No. Units: 71	Pkg Size: 1 mL
Balance Used: BEDEARMBALPC5 AX504	Serial #: 1125113331		

<u>Compound</u>	<u>CAS</u>	<u>Storage Location</u>	<u>Lot #</u>	<u>Purity</u>	<u>Target Conc(ug/mL)</u>	<u>Target</u>	<u>Actual</u>	<u>Calc Conc(ug/mL)</u>
Chloromethane (methyl chloride)	74-87-3	VOALAB	A0100991	0.99	2,000.00		5.00 ml	1,993.4

QA Report: Chloromethane Standard (Cat.#30267)

<u>COMPONENT</u>	Runs of Lot # A0101059						Runs of Lot # A098829						P/F	
	Run #1	Run #2	Run #3	AVG	STD DEV	% RSD	Run #1	Run #2	Run #3	AVG	STD DEV	% RSD		%D MEAN
chloromethane	2111517	2071180	2099211	2093969	20673	0.99	2333321	2292859	2227283	2284488	53512	2.34	-9.10	PASS