



COLORIMETER

CHLORINE SECONDARY STANDARDS

CODE 4140-03

QUANTITY	CONTENTS	CODE
1	DPD Chlorine Color Standard Blank	4136-E
1	DPD Chlorine Color Standard A	4147-E
1	DPD Chlorine Color Standard B	4138-E
1	DPD Chlorine Color Standard C	4139-E

Emergency information for all LaMotte reagents is available from Chem-Tel (US, 1-800-255-3924) (International, call collect, 813-248-0585).

These color standards are to be used as Chlorine Secondary Standards and are not intended to be used as calibration standards.

If the color standards are to be used with more than one colorimeter, copy and fill out the Data Sheet for each meter. Do not write the standard values on the color standard caps.

These color standards are to be used as Chlorine Secondary Standards to verify the performance of the meter and are not intended to be used as calibration standards. The meter is calibrated at the time of manufacture. The standards should be read on the meter when they are received and the results should be recorded. Periodically, as determined by the user, the standards should be read on the same meter and the results should be compared to the initial readings. The meter is performing satisfactorily if the difference between the initial readings and the current readings is within the specified tolerances on the data sheet.

The initial readings for the standards should be approximately:

Standard A	0.1 - 0.4 ppm
Standard B	0.9 - 1.2 ppm
Standard C	2.2 - 3.0 ppm

The exact value of the standards will vary on different types of meters. The critical measurement is the change in the readings over time, not the value of readings.

DC1200 - INITIAL DETERMINATION OF STANDARD VALUE

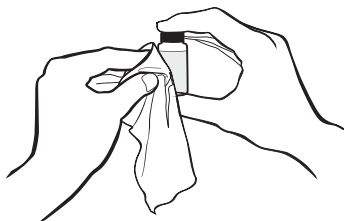
Perform this procedure once, when standards are received.

1



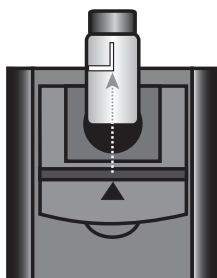
Follow the Calibration Procedure in the Colorimeter manual. Use two standards, as described, that have been titrated by an EPA accepted method (such as LaMotte Method 3176-02).

2



Wipe the DPD Chlorine Color Standard Blank (4136-E) with a clean, lint-free cloth.

3



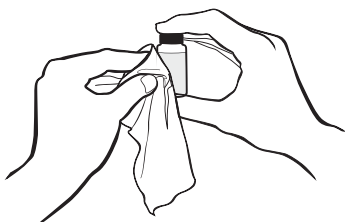
Insert the DPD Chlorine Color Standard Blank into the chamber, being sure to align the index line with the arrow on the meter. Close the lid.

4



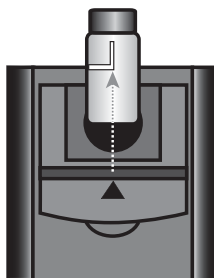
Push the **READ** button to turn the meter on. Press the **ZERO** button and hold it for 2 seconds until bLA is displayed. Release the button to take a zero reading (0 ppm).

5



Wipe the DPD Chlorine Color Standard A (4147-E) with a clean, lint-free cloth.

6



Insert DPD Chlorine Color Standard A into the chamber, being sure to align the index line with the arrow on the meter. Close the lid.

7



Press the **READ** button. The concentration in ppm will be displayed within 2 seconds.

8

Record the actual reading on the DPD Chlorine Color Standard A cap and on the Data Sheet, under initial reading.



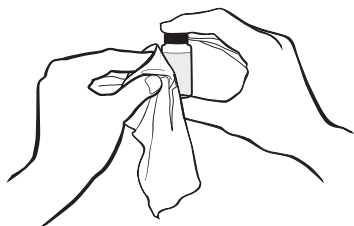
9

Repeat steps 5-8 for DPD Chlorine Color Standard B (4138-E) and DPD Chlorine Color Standard C (4139-E).

DC1200 - INSTRUMENT PERFORMANCE CHECK

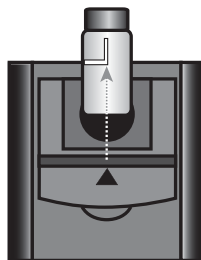
Perform this procedure at specified intervals to verify instrument performance.

1



Wipe the DPD Chlorine Color Standard Blank (4136-E) with a clean, lint-free cloth.

2



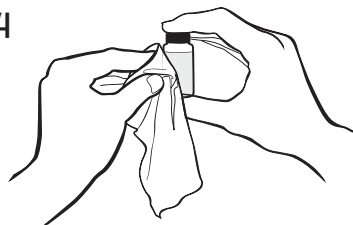
Insert the DPD Chlorine Color Standard Blank into the chamber, being sure to align the index line with the arrow on the meter. Close the lid.

3



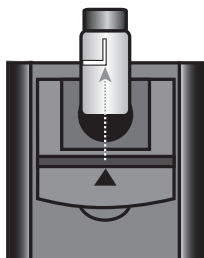
Push the **READ** button and hold it for 2 seconds until *BLA* is displayed. Release the button to take a zero reading.

4



Wipe the DPD Chlorine Color Standard A (4147-E) with a clean, lint-free cloth.

5



Insert the DPD Chlorine Color Standard A into the chamber, being sure to align the index line with the arrow on the meter. Close the lid.

6



Press the **READ** button. The concentration in ppm will be displayed within 2 seconds. The reading should be within the tolerance limits given on the Data Sheet.

7

Repeat steps 4-6 with DPD Chlorine Color Standard B (4138-E) and DPD Chlorine Color Standard C (4139-E).

8

If the readings are not within the tolerance limits, standardize the meter calibration by following the Calibration Procedure in the meter manual. If the readings are still not within the tolerance limits, the standards are no longer valid and should be replaced.

NOTE: Store standards in a cool place out of direct light. Exposure to excessive heat or light may cause degradation of the standards.

SMART 2 - INITIAL DETERMINATION OF STANDARD VALUE

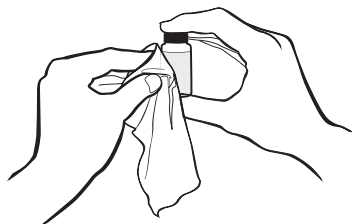
Perform this procedure once, when standards are received.

1



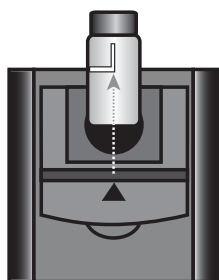
Follow the Calibration Procedure in the Colorimeter manual. Use two standards, as described, that have been titrated by an EPA accepted method (such as LaMotte Method 3176-02).

2



Wipe the DPD Chlorine Color Standard Blank (4136-E) with a clean, lint-free cloth.

3

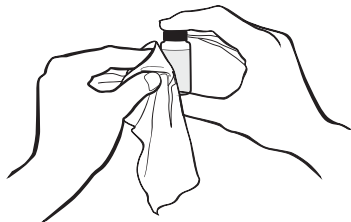


Insert the DPD Chlorine Color Standard Blank into the chamber, being sure to align the index line with the arrow on the meter. Close the lid.

4

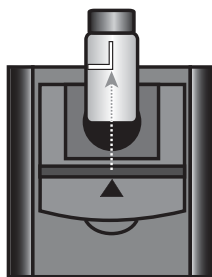
Press **ON** to turn the meter on. Press ***/ENTER** to select **START**. Press ***/ENTER** to select Testing Menu. Press ***/ENTER** to select All Tests. Press **▲** or **▼** to scroll to **015 Chlorine**. Press ***/ENTER** to select 015 Chlorine. Press ***/ENTER** to scan the blank.

5



Wipe the DPD Chlorine Color Standard A (4147-E) with a clean, lint-free cloth.

6



Insert DPD Chlorine Color Standard A into the chamber, being sure to align the index line with the arrow on the meter. Close the lid.

7

Press ***/ENTER** to scan the sample. The concentration will be displayed.

015 Chlorine
*Scan Sample

8

Record the actual reading on the DPD Chlorine Color Standard A cap and on the Data Sheet, under initial reading.



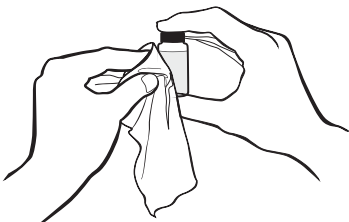
9

Repeat steps 5-8 for DPD Chlorine Color Standard B (4138-E) and DPD Chlorine Color Standard C (4139-E).

SMART 2 - INSTRUMENT PERFORMANCE CHECK

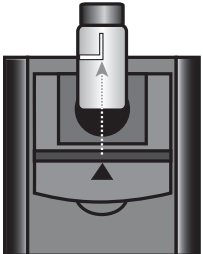
Perform this procedure at specified intervals to verify instrument performance.

1



Wipe the DPD Chlorine Color Standard Blank (4136-E) with a clean, lint-free cloth.

2

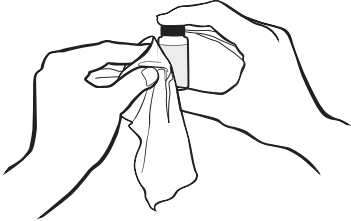


Insert the DPD Chlorine Color Standard Blank into the chamber, being sure to align the index line with the arrow on the meter. Close the lid.

3

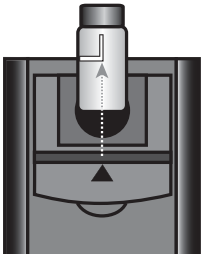
Press **ON** to turn the meter on. Press ***/ENTER** to select **START**. Press ***/ENTER** to select Testing Menu. Press ***/ENTER** to select All Tests. Press **▲** or **▼** to scroll to **015 Chlorine**. Press ***/ENTER** to select 015 Chlorine. Press ***/ENTER** to scan the blank.

4



Wipe the DPD Chlorine Color Standard A (4147-E) with a clean, lint-free cloth.

5



Insert DPD Chlorine Color Standard A into the chamber, being sure to align the index line with the arrow on the meter. Close the lid.

6

Press ***/ENTER** to scan the sample. The concentration will be displayed.

015 Chlorine
*Scan Sample

7

Repeat steps 4-6 with DPD Chlorine Color Standard B (4138-E) and DPD Chlorine Color Standard C (4139-E).

8

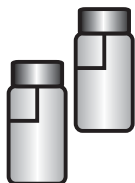
If the readings are not within the tolerance limits, standardize the meter calibration by following the Calibration Procedure in the meter manual. If the readings are still not within the tolerance limits, the standards are no longer valid and should be replaced.

NOTE: Store standards in a cool place out of direct light. Exposure to excessive heat or light may cause degradation of the standards.

SMART3 - INITIAL DETERMINATION OF STANDARD VALUE

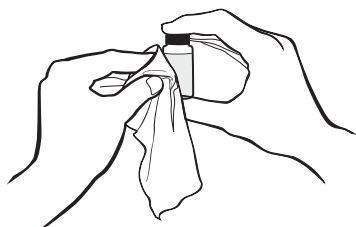
Perform this procedure once, when standards are received.

1



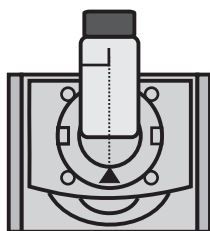
Follow the Calibration Procedure in the Colorimeter manual. Use one standard, as described, that has been titrated by an EPA accepted method (such as LaMotte Method 3176-02).

2



Wipe the DPD Chlorine Color Standard Blank (4136-E) with a clean, lint-free cloth.

3

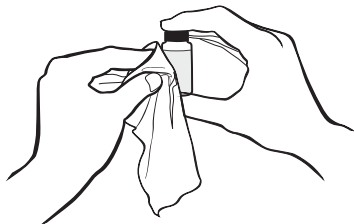


Insert the DPD Chlorine Color Standard Blank into the chamber, being sure to align the index line with the arrow on the meter. Close the lid.

4

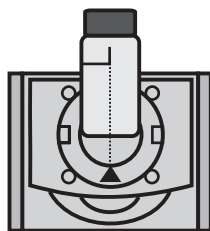
Press to turn the meter on. Press to select Testing Menu. Press to select All Tests Menu. Press to select All Tests. Press or to scroll to 014 Chlorine. Press to select 014 Chlorine. Press to scan the blank.

5



Wipe the DPD Chlorine Color Standard A (4147-E) with a clean, lint-free cloth.

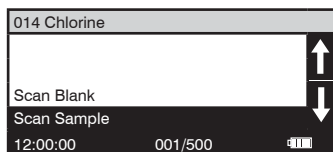
6



Insert DPD Chlorine Color Standard A into the chamber, being sure to align the index line with the arrow on the meter. Close the lid.

7

Press to scan the sample. The concentration will be displayed.



8

Record the actual reading on the DPD Chlorine Color Standard A cap and on the Data Sheet, under initial reading.

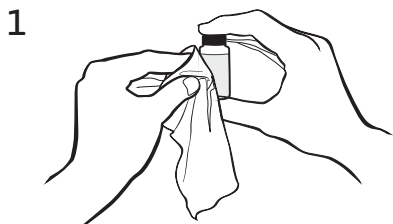


9

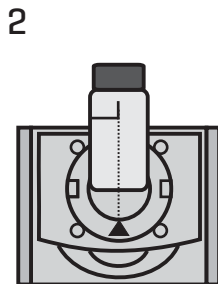
Repeat steps 5-8 for DPD Chlorine Color Standard B (4138-E) and DPD Chlorine Color Standard C (4139-E).

SMART3 - INSTRUMENT PERFORMANCE CHECK









Perform this procedure at specified intervals to verify instrument performance.

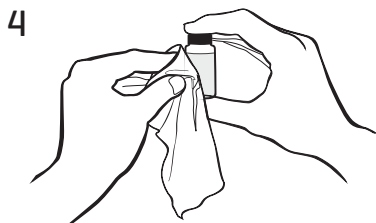


Wipe the DPD Chlorine Color Standard Blank (4136-E) with a clean, lint-free cloth.

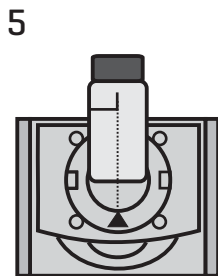


Insert the DPD Chlorine Color Standard Blank into the chamber, being sure to align the index line with the arrow on the meter. Close the lid.


3 Press  to turn the meter on. Press  to select Testing Menu. Press  to select All Tests Menu. Press  to select All Tests. Press  or  to scroll to 014 Chlorine. Press  to select 014 Chlorine. Press  to scan the blank.

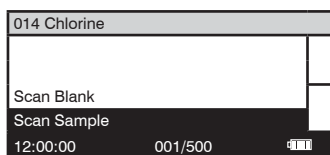


Wipe the DPD Chlorine Color Standard Blank (4136-E) with a clean, lint-free cloth.



5 Insert DPD Chlorine Color Standard A into the chamber, being sure to align the index line with the arrow on the meter. Close the lid.

6 Press  to scan the sample. The concentration will be displayed.



7 Repeat steps 4-6 with DPD Chlorine Color Standard B (4138-E) and DPD Chlorine Color Standard C (4139-E).

8 If the readings are not within the tolerance limits, standardize the meter calibration by following the Calibration Procedure in the meter manual. If the readings are still not within the tolerance limits, the standards are no longer valid and should be replaced.

NOTE: Store standards in a cool place out of direct light. Exposure to excessive heat or light may cause degradation of the standards.

1500 - INITIAL DETERMINATION OF STANDARD VALUE

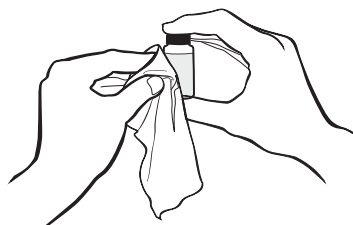
Perform this procedure once, when standards are received.

1



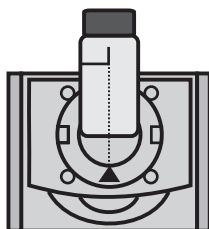
Follow the Calibration Procedure in the Colorimeter manual. Use one standard, as described, that has been titrated by an EPA accepted method (such as LaMotte Method 3176-02).

2







Wipe the DPD Chlorine Color Standard Blank (4136-E) with a clean, lint-free cloth.

3

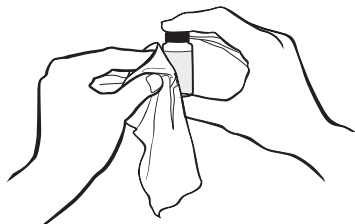


Insert the DPD Chlorine Color Standard Blank into the chamber, being sure to align the index line with the arrow on the meter. Close the lid.

4

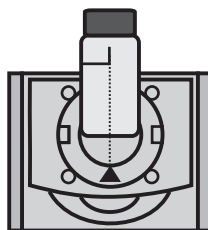
Press  to turn the meter on. Press  to select Testing Menu. Press  to select All Tests Menu. Press  to select All Tests. Scroll to and select Chlorine TT or Chlorine Liq DPD. Select Scan Blank.

5



Wipe the DPD Chlorine Color Standard A (4147-E) with a clean, lint-free cloth.

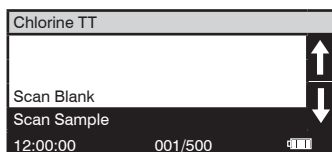
6



Insert DPD Chlorine Color Standard A into the chamber, being sure to align the index line with the arrow on the meter. Close the lid.

7

Select Scan Sample. The concentration will be displayed.



8

Record the actual reading on the DPD Chlorine Color Standard A cap and on the Data Sheet, under initial reading.

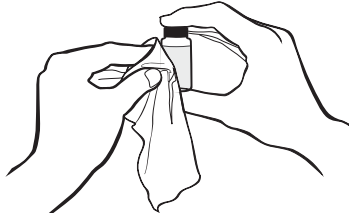
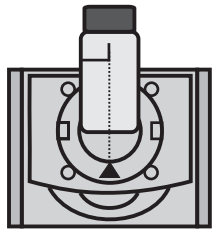




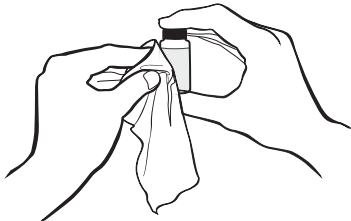
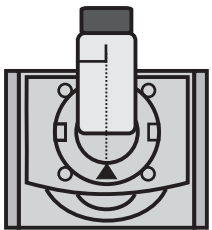
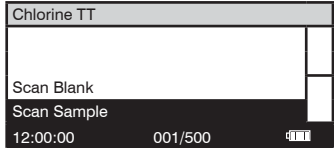


9

Repeat steps 5-8 for DPD Chlorine Color Standard B (4138-E) and DPD Chlorine Color Standard C (4139-E).

1500 - INSTRUMENT PERFORMANCE CHECK

Perform this procedure at specified intervals to verify instrument performance.

- | | |
|---|---|
| <p>1</p>  <p>Wipe the DPD Chlorine Color Standard Blank (4136-E) with a clean, lint-free cloth.</p> | <p>2</p>  <p>Insert the DPD Chlorine Color Standard Blank into the chamber, being sure to align the index line with the arrow on the meter. Close the lid.</p> |
| <p>3</p> <p>Press  to turn the meter on. Press  to select Testing Menu. Press  to select All Tests Menu. Press  to select All Tests. Scroll to and select Chlorine TT or Chlorine Liq DPD. Select Scan Blank.</p> | <p>4</p>  <p>Wipe the DPD Chlorine Color Standard Blank (4136-E) with a clean, lint-free cloth.</p> |
| <p>5</p>  <p>Insert DPD Chlorine Color Standard A into the chamber, being sure to align the index line with the arrow on the meter. Close the lid.</p> | <p>6</p> <p>Select Scan Sample. The concentration will be displayed.</p>  |
| <p>7</p> <p>Repeat steps 4-6 with DPD Chlorine Color Standard B (4138-E) and DPD Chlorine Color Standard C (4139-E).</p> | <p>8</p> <p>If the readings are not within the tolerance limits, standardize the meter calibration by following the Calibration Procedure in the meter manual. If the readings are still not within the tolerance limits, the standards are no longer valid and should be replaced.</p> |

NOTE: Store standards in a cool place out of direct light. Exposure to excessive heat or light may cause degradation of the standards.

DATA SHEET

Due to changes in the optics, meters that were manufactured at different times will have a different response to the Chlorine Secondary Standards. The variation is due to the spectral qualities of the dye standards being slightly different from the spectral qualities of DPD. Readings of actual DPD chlorine reactions will not differ significantly between meters.

Contact LaMotte Company Technical Service at 1-800-344-3100 or tech@lamotte.com with questions.

Serial Number: _____

Kit Lot Number: _____

Expiration Date: _____

Code	Lot#	Initial Reading	Tolerance	Colorimeter Reading
4136-E	_____	_____	Blank	_____
4147-E	_____	_____	±0.05	_____
4138-E	_____	_____	±0.1	_____
4139-E	_____	_____	±0.2	_____

LaMOTTE COMPANY

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PO Box 329 · Chestertown · Maryland · 21620 · USA
800-344-3100 · 410-778-3100 [Outside U.S.A.] · Fax 410-778-6394
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