

Record of Line-item Letter Ballot Review by TC Chapter for Procedural Review

Region/Locale: **North America**
 Global Technical Committee: **Gases**
 TC Chapter Cochairs: **Mohamed Saleem / Brooks Instrument**
 Standards Staff: **Laura Nguyen**

	Scheduled in Background Statement	Actual
Date	11/07/2023	11/07/2023
Location	SEMI HQ, Milpitas, CA/USA	SEMI HQ, Milpitas, CA/USA
Reason for Change of Date and/or Location (if changed)		

Note: See *Regulations* ¶ 9.5 Exceptions for allowable reason to change.

Document Information

I. Document Number, Title, Lists of Line Items

Document Number 7098		Document Title Line-Item Revision to SEMI C56-1116, Specification for Dichlorosilane
List of Line Items	Line Item 1	Line Item Title Add chemical formula for dichlorosilane in title.
	Line Item 2	Line Item Title Update throughout to comply to Regs, PM and SM

Line Item 1 Adjudication

II. Tally

Voting Tally: As-cast tally after close of voting period

Note: A minimum of 60% of the Voting Interests that have TC Members within the global technical committee that issued the Letter Ballot must return Votes. (*Regulations* ¶ 9.6.2.1.1)

Voting Tally (with example values):

Voting Interest:	Returned Votes	Distribution	Return Rate	
Letter Ballot	48	÷ 80	= 60.0%	≥60%
Intercommittee Ballot	40			
Voting Interest Reject(s)	1	Total Voters with Rejects		1
Voting Interest Accept(s)	36			

Note: See *Regulations* § 3.2.1 for definition of Voting Interest.

III. Rejects

Voting Interest Reject 1 (Voting Interest Name: Guru)

Voter Reject 1 (Voter: Eric Sklar / SafetyGuru)

Negative 1 (SG1-1)

Negative	Referenced Section	Title	
	Negative Text	<i>Negative:</i> Replace "SiH2CL2" with "SiH2Cl2" <i>Reason/Justification:</i> Correct typographical errors in the formula.	
Withdrawal (check one)	<input checked="" type="checkbox"/>	No Negative withdrawal made by Voter. GO TO "Related" subsection	
	<input type="checkbox"/>	Withdrawal document received by Standards staff on MM/DD/YYYY.	GO TO "Final" subsection → (A)
Related	Motion and Reason (check one)	<input checked="" type="checkbox"/>	'Related' is mutually agreed upon. (Needs no motion.) GO TO "Persuasive" subsection
Persuasive	Motion and Reason (check one)	<input checked="" type="checkbox"/>	Negative is related and not persuasive. (Needs ≥2/3 votes to pass.)
		Reason	Editorial to correct typographical errors in the formula.
	Motion by/ 2 nd by	By: Max van den Berg / Festo SE & Co. KG Second: Yanli Chen / Applied Materials, Inc.	
	Discussion	None	
	Result of Vote (check one)	15 Y-0 N; Motion passed.	
	<input checked="" type="checkbox"/>	2/3 ≤ [Negative is related and not persuasive.] < 90%	GO TO "Final" subsection → (C)
Final	(check if applicable)	<input type="checkbox"/>	(A) Withdrawn (counted under h in disposition)
		<input type="checkbox"/>	(B) Not related (counted under i in disposition)
		<input checked="" type="checkbox"/>	(C) Related and not persuasive (significant)
		<input type="checkbox"/>	(D) Not significant (counted under j in disposition)
		<input type="checkbox"/>	(E) Related and persuasive and not addressed by technical change DOCUMENT FAILS
		<input type="checkbox"/>	(F) Addressed by technical change (counted under k disposition)
	(check if applicable)	<input checked="" type="checkbox"/>	Comment generated. See Section V-(ii) Comment # NC-1.

Disposition of Voting Interest Reject 1

Check only when the Document has not been failed.

1	Original number (#) of Negatives	(g)
0	Number of Negatives withdrawn	(h)
0	Number of Negatives found not related	(i)
0	Number of Negatives found not significant	(j)
0	Number of Negatives addressed by technical change (Negative becomes not significant)	(k)

Final		$g - (h + i + j + k) = 0$	Reject is Not Valid and is not included in the denominator of § VI. Approval Conditions Check
	X	$g - (h + i + j + k) > 0$	Reject is included in the denominator of § VI. Approval Conditions Check
		Reject without a Negative	Not Valid

Note: If all of the Negatives included with a Reject Vote are withdrawn, determined to be not related, or determined to be not significant, the Reject Vote is not valid. (Regulations ¶ 9.4.3.3)

Note: A Negative addressed by a technical change is automatically considered to be not significant. (Regulations ¶ 9.6.1.4.5.2)

IV. Other Technical Issues

None

V. Comments

V- (i) Voters' Comments

None

V-(ii) Comments Created by Handling Negative

Comment (Created by Handling Negative) NC – 1

Comment	*TF/TC Chapter to fill in	
	Negative: Replace "SiH ₂ CL ₂ " with "SiH ₂ Cl ₂ " Reason/Justification: Correct typographical errors in the formula.	
Action	The TC Chapter agreed to do one of the following actions.	
	*No motion is required in this step.	
	<input type="checkbox"/>	Already addressed by Commenter #, Comment #
	<input type="checkbox"/>	No further action was taken by the TC Chapter.
	<input type="checkbox"/>	Refer to the TF for more consideration.
	<input type="checkbox"/>	New business
<input checked="" type="checkbox"/>	Editorial change	
Options for editorial change (check one)	<input type="checkbox"/>	Case 1: No vote in this section: To be included and voted on as a group in § VI. Editorial Changes Other than Those Voted on in § V.
	<input checked="" type="checkbox"/>	Case 2: Voted in this section: Original section number and at least one full sentence are required in "FROM" and "TO" fields.
	<input type="checkbox"/>	
	<input type="checkbox"/>	
Editorial Changes	1	FROM: Section/Paragraph Title SPECIFICATION FOR DICHLOROSILANE (SiH ₂ Cl ₂)
		TO: Section/Paragraph Title SPECIFICATION FOR DICHLOROSILANE (SiH ₂ Cl ₂)
		Justification (If necessary) Editorial to correct typographical error.

Motion	To approve above editorial change(s)
Motion by/2nd by	By: Max van den Berg / Festo SE & Co. KG Second: Yanli Chen / Applied Materials, Inc.
Discussion	None
Vote	15 Y-0 N; Motion passed.

VI. Editorial Changes Other than Those Voted on in § V None

VII. Approval Conditions Check

VII. - (i). Approval Rate

APPROVAL CONDITION 1: All Negatives have been discussed and were withdrawn, found not related, found not persuasive, or addressed by a technical change. (*Regulations* ¶ 9.6.2.1.2)

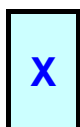
APPROVAL CONDITION 2: At least 90% of the sum of valid Voting Interest Accept and Voting Interest Reject Votes must be Accept. (*Regulations* ¶ 9.6.2.1.3)

Note: If both approval conditions are not satisfied, the Document fails.

		Accepts		(Accepts + Valid Rejects)					
Approval Rate	=	36		37	=	97.3%		≥90%	

II. – (ii) Approval Level (check one)

Note: See *Regulations* § 9.6.2 for further information.



Globally Approved (No Ratification Ballot needed):

Line Item 1 meets the Letter Ballot approval conditions for the global technical committee.

Line Item 2 Adjudication

II. Tally

Voting Tally: As-cast tally after close of voting period

Note: A minimum of 60% of the Voting Interests that have TC Members within the global technical committee that issued the Letter Ballot must return Votes. (*Regulations* ¶ 9.6.2.1.1)

Voting Interest:	Returned Votes	Distribution	Return Rate	
Letter Ballot	48	÷ 80	= 60.0%	≥60%
Intercommittee Ballot	40			
Voting Interest Reject(s)	1	Total Voters with Rejects		1
Voting Interest Accept(s)	34			

Note: See *Regulations* § 3.2.1 for definition of Voting Interest.

III. Rejects

Voting Interest Reject 1 (Voting Interest Name: **Guru**)

Voter Reject 1 (Voter: **Eric Sklar / Safety Guru**)

Negative 1 (SG2-2)

Negative	Referenced Section/ Paragraph	1.1		
		1.1 The purpose of this Standard is to provide a series of specifications for different grades of dichlorosilane (SiH ₂ Cl ₂) that are used in the semiconductor industry.		
	Negative Text	<p><i>Negative:</i> Replace “Standard” with “Specification”.</p> <p><i>Reason/Justification:</i> Although SEMI does permit using “Standard” to refer to a document within itself, it is more “reader-friendly” to use “Specification”, as that’s part of the title of the document. Also, “Specification” is used in ¶2.1 to refer to the same thing and, in technical writing, one should use each term to mean only one thing and only one term to mean each thing, so ¶¶1.1 and 2.1 should be consistent.</p>		
	Withdrawal (check one)	<input checked="" type="checkbox"/>	No Negative withdrawal made by Voter. GO TO “Related” subsection	
Related	Motion and Reason (check one)	<input checked="" type="checkbox"/>	‘Related’ is mutually agreed upon. (Needs no motion.) GO TO “Persuasive” subsection	
Persuasive	Motion and Reason (check one)	<input checked="" type="checkbox"/>	Negative is related and not persuasive. (Needs ≥2/3 votes to pass.)	
		Reason	Editorial, per Style Manual (The sentence should actually read “This Standard provides a series of...” otherwise it would be redundant and say “specification” twice in the same sentence.)	
	Motion by/ 2 nd by	By: Thomas Fritz / WIKA Instrument Corporation Second: Max van den Berg / Festo SE & Co. KG		
	Discussion	None		
	Result of Vote (check one)	11 Y-0 N; Motion passed.		
	<input checked="" type="checkbox"/>	$2/3 \leq [\text{Negative is related and not persuasive.}] < 90\%$	GO TO “Final” subsection → (C)	
Final	(check if applicable)	<input type="checkbox"/>	(A) Withdrawn (counted under h in disposition)	
		<input type="checkbox"/>	(B) Not related (counted under i in disposition)	
		<input checked="" type="checkbox"/>	(C) Related and not persuasive (significant)	
		<input type="checkbox"/>	(D) Not significant (counted under j in disposition)	
		<input type="checkbox"/>	Related and persuasive and not addressed by technical change	DOCUMENT FAILS
		<input type="checkbox"/>	(F) Addressed by technical change (counted under k disposition)	
	(check if applicable)	<input checked="" type="checkbox"/>	Comment generated. See Section V-(ii) Comment # NC-1.	

This table is needed for each Negative.

Negative 2 (SG2-3)

Negative	Referenced Section/ Paragraph	Table 1			
	Negative Text	<p><i>Negative:</i> There do not appear to be tags for Table Footnotes #3 through #6. <i>Reason/Justification:</i> I see the “#1” superscript after “Maximum Acceptable Level” and the “#2” superscript after “1% liquid phase”, but I don’t see similar superscript tags for the remaining Table Footnotes. Either insert them in the appropriate places or delete the unneeded Table Footnotes.</p>			
	Withdrawal (check one)	X	No Negative withdrawal made by Voter.	GO TO “Related” subsection	
Related	Motion and Reason (check one)	X	‘Related’ is mutually agreed upon. (Needs no motion.)	GO TO “Persuasive” subsection	
Persuasive	Motion and Reason (check one)	X	Negative is related and not persuasive. (Needs ≥2/3 votes to pass.)		
			Reason	Editorial in nature. Specifying where the footnote notations go.	
	Motion by/ 2 nd by	By: Thomas Fritz / WIKA Instrument Corporation Second: Max van den Berg / Festo SE & Co. KG			
	Discussion	None			
	Result of Vote (check one)	11 Y-0 N; Motion passed.			
		2/3 ≤ [Negative is related and not persuasive.] < 90%	GO TO “Final” subsection → (C)		
Final	(check if applicable)		(A)	Withdrawn (counted under h in disposition)	
			(B)	Not related (counted under i in disposition)	
		X	(C)	Related and not persuasive (significant)	
			(D)	Not significant (counted under j in disposition)	
			(E)	Related and persuasive and not addressed by technical change	DOCUMENT FAILS
			(F)	Addressed by technical change (counted under k disposition)	
	(check if applicable)	X	Comment generated. See Section V-(ii) Comment # NC-2.		

Negative 3

Negative	Referenced Section/ Paragraph	Table Footnote #3 to Table 1		
	Negative Text	<p><i>Negative:</i> Delete this Table Footnote. <i>Reason/Justification:</i> As the phase is stated for each of the impurities, I see no need for this Table Footnote.</p>		
	Withdrawal (check one)	X	No Negative withdrawal made by Voter.	GO TO “Related” subsection
Related	Motion and Reason (check one)	X	‘Related’ is mutually agreed upon. (Needs no motion.)	GO TO “Persuasive” subsection
	Motion and Reason	X	Negative is related and not persuasive. (Needs ≥2/3 votes to pass.)	

Persuasive	(check one)	Reason	Editorial in nature. Footnote #3 is redundant, therefore was removed and renumbered accordingly.			
	Motion by/ 2nd by	By: Thomas Fritz / WIKA Instrument Corporation Second: Max van den Berg / Festo SE & Co. KG				
	Discussion	None				
	Result of Vote (check one)	11 Y-0 N; Motion passed.				
	<input type="checkbox"/>	2/3 ≤ [Negative is related and not persuasive.] < 90%	GO TO "Final" subsection → (C)			
Final	(check if applicable)	<input type="checkbox"/>	(A)	Withdrawn (counted under h in disposition)		
		<input type="checkbox"/>	(B)	Not related (counted under i in disposition)		
		<input checked="" type="checkbox"/>	(C)	Related and not persuasive (significant)		
		<input type="checkbox"/>	(D)	Not significant (counted under j in disposition)		
		<input type="checkbox"/>	(E)	Related and persuasive and not addressed by technical change	DOCUMENT FAILS	
		<input type="checkbox"/>	(F)	Addressed by technical change (counted under k disposition)		
	(check if applicable)	<input checked="" type="checkbox"/>	Comment generated. See Section V-(ii) Comment # NC-3.			

Disposition of Voting Interest Reject 1

Check only when the Document has not been failed.

3	Original number (#) of Negatives	(g)	
0	Number of Negatives withdrawn	(h)	
0	Number of Negatives found not related	(i)	
0	Number of Negatives found not significant	(j)	
0	Number of Negatives addressed by technical change (Negative becomes not significant)	(k)	
Final	<input type="checkbox"/>	$g - (h + i + j + k) = 0$	Reject is Not Valid and is not included in the denominator of § VI. Approval Conditions Check
	<input checked="" type="checkbox"/>	$g - (h + i + j + k) > 0$	Reject is included in the denominator of § VI. Approval Conditions Check
	<input type="checkbox"/>	Reject without a Negative	Not Valid

Note: If all of the Negatives included with a Reject Vote are withdrawn, determined to be not related, or determined to be not significant, the Reject Vote is not valid. (Regulations ¶ 9.4.3.3)

Note: A Negative addressed by a technical change is automatically considered to be not significant. (Regulations ¶ 9.6.1.4.5.2)

IV. Other Technical Issues

None

V. Comments

V- (i) Voters' Comments

Commenter 1 (Eric Sklar / Safety Guru) - Comment 1 (SG2-1)

Comment	*TF/TC Chapter to fill in section/paragraph #, if necessary.	
	<p><i>Comment:</i> This line refers to “oxygen”, but that appears to be a ballot preparation error, as C56 is the Specification for DCS.</p> <p><i>Reason/Justification:</i> I’m not claiming this has any effect on the ballot, but if this document is sent for a rebalot, I suggest fixing this.</p>	
Action	The TC Chapter agreed to do one of the following actions.	
	*No motion is required in this step.	
	<input type="checkbox"/>	Already addressed by Commenter #, Comment #
	<input checked="" type="checkbox"/>	No further action was taken by the TC Chapter.
	<input type="checkbox"/>	Refer to the TF for more consideration.
	<input type="checkbox"/>	New Business
<input type="checkbox"/>	Editorial Change	

V-(ii) Comments Created by Handling Negative

Comment (Created by Handling Negative) NC – 1

Comment	*TF/TC Chapter to fill in	
	<p><i>Negative:</i> Replace “Standard” with “Specification”.</p> <p><i>Reason/Justification:</i> Although SEMI does permit using “Standard” to refer to a document within itself, it is more “reader-friendly” to use “Specification”, as that’s part of the title of the document. Also, “Specification” is used in ¶2.1 to refer to the same thing and, in technical writing, one should use each term to mean only one thing and only one term to mean each thing, so ¶¶1.1 and 2.1 should be consistent.</p>	
Action	The TC Chapter agreed to do one of the following actions.	
	*No motion is required in this step.	
<input checked="" type="checkbox"/>	Editorial change	
Options for editorial change (check one)	<input type="checkbox"/>	Case 1: No vote in this section: To be included and voted on as a group in § VI. Editorial Changes Other than Those Voted on in § V.
	<input checked="" type="checkbox"/>	Case 2: Voted in this section: Original section number and at least one full sentence are required in “FROM” and “TO” fields.
Editorial	1	FROM: Section/Paragraph 1.1 1.1 The purpose of this Standard is to provide a series of specifications for different grades of dichlorosilane (SiH ₂ Cl ₂) that are used in the semiconductor industry.

TO: Section/Paragraph 1.1	
1.1 The purpose of t This Standard is to provides a series of specifications for different grades of dichlorosilane (SiH ₂ Cl ₂) that are used in the semiconductor industry.	
Justification (if necessary) Editorial, per Style Manual #4-4 (1) and #4-6 (13): The sentence should actually read "This Standard provides a series of..." otherwise it would be redundant and say "specification" twice in the same sentence.	
Motion	To approve above editorial change(s)
Motion by/2nd by	By: John Zawada / Swagelok Second: Thomas Fritz / WIKA Instrument Corporation
Discussion	None
Vote	14 Y-0 N; Motion passed.

This table is needed for each Comment created by handling Negative.

Comment (Created by Handling Negative) NC – 2

Comment	*TF/TC Chapter to fill in		
	<i>Negative:</i> There do not appear to be tags for Table Footnotes #3 through #6. <i>Reason/Justification:</i> I see the "#1" superscript after "Maximum Acceptable Level" and the "#2" superscript after "1% liquid phase)", but I don't see similar superscript tags for the remaining Table Footnotes. Either insert them in the appropriate places or delete the unneeded Table Footnotes.		
Action	The TC Chapter agreed to do one of the following actions.		
	*No motion is required in this step.		
	<input checked="" type="checkbox"/>	Editorial change	
	Options for editorial change (check one)	<input type="checkbox"/>	Case 1: No vote in this section: To be included and voted on as a group in § VI. Editorial Changes Other than Those Voted on in § V.
		<input checked="" type="checkbox"/>	Case 2: Voted in this section: Original section number and at least one full sentence are required in "FROM" and "TO" fields.

Editorial Changes	1	FROM: Section/Paragraph Table 1		
		<i>Previous SEMI Reference #</i>	<i>SEMI C3.18 (Specification)</i>	<i>SEMI C3.31 (Specification)</i>
		Purity	97%	99%
		Impurities	Maximum Acceptable Level ^{#1}	
		All Other Chlorosilanes (Monochlorosilane, Silicon Tetrachloride, Trichlorosilane)	3% (liquid phase)	1% (liquid phase) ^{#2}
		Aluminum	1.0 ppbw (vapor phase derived)	1.0 ppbw (vapor phase derived)
		Arsenic	0.5 ppbw (vapor phase derived)	0.2 ppbw (vapor phase derived)
		Boron	0.3 ppbw (vapor phase derived)	0.1 ppbw (vapor phase derived)
		Carbon	10 ppmw (vapor phase derived)	1 ppmw (vapor phase derived)
		Iron	50 ppbw (liquid phase)	50 ppbw (liquid phase)
Phosphorus	0.3 ppbw (vapor phase derived)	0.3 ppbw (vapor phase derived)		
TO: Section/Paragraph Table 1				
<i>Previous SEMI Reference #</i>	<i>SEMI C3.18 (Specification)</i>	<i>SEMI C3.31 (Specification)</i>		
Purity	97%	99%		
Impurities ^{#3-6}	Maximum Acceptable Level ^{#1}			
All Other Chlorosilanes (Monochlorosilane, Silicon Tetrachloride, Trichlorosilane)	3% (liquid phase)	1% (liquid phase) ^{#2}		
Aluminum	1.0 ppbw (vapor phase derived)	1.0 ppbw (vapor phase derived)		
Arsenic	0.5 ppbw (vapor phase derived)	0.2 ppbw (vapor phase derived)		
Boron	0.3 ppbw (vapor phase derived)	0.1 ppbw (vapor phase derived)		
Carbon	10 ppmw (vapor phase derived)	1 ppmw (vapor phase derived)		
Iron	50 ppbw (liquid phase)	50 ppbw (liquid phase)		
Phosphorus	0.3 ppbw (vapor phase derived)	0.3 ppbw (vapor phase derived)		
Justification (If necessary) Editorial in nature. Specifying where the footnote notations go.				
Motion	To approve above editorial change(s)			
Motion by/2nd by	By: John Zawada / Swagelok Second: Thomas Fritz / WIKA Instrument Corporation			
Discussion	None			
Vote	14 Y-0 N; Motion passed.			

Comment (Created by Handling Negative) NC – 3

Comment	*TF/TC Chapter to fill in	
	<i>Negative:</i> Delete this Table Footnote. <i>Reason/Justification:</i> As the phase is stated for each of the impurities, I see no need for this Table Footnote.	
Action	The TC Chapter agreed to do one of the following actions.	
	*No motion is required in this step.	
	X	Editorial change

	Options for editorial change (check one)		Case 1: No vote in this section:																															
			To be included and voted on as a group in § VI. Editorial Changes Other than Those Voted on in § V.																															
		X	Case 2: Voted in this section:																															
			Original section number and at least one full sentence are required in "FROM" and "TO" fields.																															
Editorial Changes	1	FROM: Section/Paragraph Table 1																																
		<table border="1"> <thead> <tr> <th><i>Previous SEMI Reference #</i></th> <th><i>SEMI C3.18 (Specification)</i></th> <th><i>SEMI C3.31 (Specification)</i></th> </tr> </thead> <tbody> <tr> <td>Purity</td> <td>97%</td> <td>99%</td> </tr> <tr> <td>Impurities^{#3-6}</td> <td colspan="2" style="text-align: center;">Maximum Acceptable Level^{#1}</td> </tr> <tr> <td>All Other Chlorosilanes (Monochlorosilane, Silicon Tetrachloride, Trichlorosilane)</td> <td>3% (liquid phase)</td> <td>1% (liquid phase)^{#2}</td> </tr> <tr> <td>Aluminum</td> <td>1.0 ppbw (vapor phase derived)</td> <td>1.0 ppbw (vapor phase derived)</td> </tr> <tr> <td>Arsenic</td> <td>0.5 ppbw (vapor phase derived)</td> <td>0.2 ppbw (vapor phase derived)</td> </tr> <tr> <td>Boron</td> <td>0.3 ppbw (vapor phase derived)</td> <td>0.1 ppbw (vapor phase derived)</td> </tr> <tr> <td>Carbon</td> <td>10 ppmw (vapor phase derived)</td> <td>1 ppmw (vapor phase derived)</td> </tr> <tr> <td>Iron</td> <td>50 ppbw (liquid phase)</td> <td>50 ppbw (liquid phase)</td> </tr> <tr> <td>Phosphorus</td> <td>0.3 ppbw (vapor phase derived)</td> <td>0.3 ppbw (vapor phase derived)</td> </tr> </tbody> </table>			<i>Previous SEMI Reference #</i>	<i>SEMI C3.18 (Specification)</i>	<i>SEMI C3.31 (Specification)</i>	Purity	97%	99%	Impurities ^{#3-6}	Maximum Acceptable Level ^{#1}		All Other Chlorosilanes (Monochlorosilane, Silicon Tetrachloride, Trichlorosilane)	3% (liquid phase)	1% (liquid phase) ^{#2}	Aluminum	1.0 ppbw (vapor phase derived)	1.0 ppbw (vapor phase derived)	Arsenic	0.5 ppbw (vapor phase derived)	0.2 ppbw (vapor phase derived)	Boron	0.3 ppbw (vapor phase derived)	0.1 ppbw (vapor phase derived)	Carbon	10 ppmw (vapor phase derived)	1 ppmw (vapor phase derived)	Iron	50 ppbw (liquid phase)	50 ppbw (liquid phase)	Phosphorus	0.3 ppbw (vapor phase derived)	0.3 ppbw (vapor phase derived)
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<p>#1 An analysis of significant figures has not been considered. The number of significant figures will be based on analytical accuracy and the precision of the provided procedure.</p> <p>#2 Monochlorosilane not to exceed 0.5%.</p> <p>#3 The liquid phase purity is to be based on the chlorosilane determination. In addition, argon + helium are to be controlled in the vapor phase to less than 0.5%. This argon + helium determination will not affect the percent purity determination.</p> <p>#4 Initial purging of the vapor phase is recommended to reduce inert gas content used in the cylinder fill procedure.</p> <p>#5 Analytical procedures for the doping elements, metals and selected impurities are to be determined between the user and supplier at the present time.</p>																																		

TO: Section/Paragraph Table 1		
<i>Previous SEMI Reference #</i>	<i>SEMI C3.18 (Specification)</i>	<i>SEMI C3.31 (Specification)</i>
Purity	97%	99%
Impurities ^{#3-#6}	Maximum Acceptable Level ^{#1}	
All Other Chlorosilanes (Monochlorosilane, Silicon Tetrachloride, Trichlorosilane)	3% (liquid phase)	1% (liquid phase) ^{#2}
Aluminum	1.0 ppbw (vapor phase derived)	1.0 ppbw (vapor phase derived)
Arsenic	0.5 ppbw (vapor phase derived)	0.2 ppbw (vapor phase derived)
Boron	0.3 ppbw (vapor phase derived)	0.1 ppbw (vapor phase derived)
Carbon	10 ppmw (vapor phase derived)	1 ppmw (vapor phase derived)
Iron	50 ppbw (liquid phase)	50 ppbw (liquid phase)
Phosphorus	0.3 ppbw (vapor phase derived)	0.3 ppbw (vapor phase derived)

#1 An analysis of significant figures has not been considered. The number of significant figures will be based on analytical accuracy and the precision of the provided procedure.

#2 Monochlorosilane not to exceed 0.5%.

#3 This Specification applies to the appropriate phase of the cylinder as delivered.

#4#3 The liquid phase purity is to be based on the chlorosilane determination. In addition, argon + helium are to be controlled in the vapor phase to less than 0.5%. This argon + helium determination will not affect the percent purity determination.

#5#4 Initial purging of the vapor phase is recommended to reduce inert gas content used in the cylinder fill procedure.

#6#5 Analytical procedures for the doping elements, metals and selected impurities are to be determined between the user and supplier at the present time.

Justification (If necessary)
 Editorial in nature. Footnote #3 is redundant, therefore was removed and renumbered accordingly.

Motion	To approve above editorial change(s)
Motion by/2nd by	By: John Zawada / Swagelok Second: Thomas Fritz / WIKA Instrument Corporation
Discussion	None
Vote	14 Y-0 N; Motion passed.

VI. Editorial Changes Other than Those Voted on in § V None

VII. Approval Conditions Check

VII. - (i). Approval Rate

APPROVAL CONDITION 1: All Negatives have been discussed and were withdrawn, found not related, found not persuasive, or addressed by a technical change. (Regulations ¶ 9.6.2.1.2)

APPROVAL CONDITION 2: At least 90% of the sum of valid Voting Interest Accept and Voting Interest Reject Votes must be Accept. (Regulations ¶ 9.6.2.1.3)

Note: If both approval conditions are not satisfied, the Document fails.

		Accepts	(Accepts + Valid Rejects)					
Approval Rate	=	34	35	=	97.1%		≥90%	

VII. – (ii) Approval Level (check one)

Note: See *Regulations* § 9.6.2 for further information.

X	Globally Approved (No Ratification Ballot needed): Line Item 2 meets the Letter Ballot approval conditions for the global technical committee.
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Checks for Entire Document Including All Approved Line Items

VIII. Safety Check

Note: This Safety check applies to the entire Standard or Safety Guideline including all the approved Line Items. See § 15 of the *Regulations* for further information.

Motion	X	This is not a Safety Document , when all safety-related information is removed, the Document is still technically sound and complete. (<i>Regulations</i> ¶ 8.7.1)
		This is a Safety Document , when all safety-related information is removed, the Document is not technically sound and complete. (<i>Regulations</i> ¶ 8.7.2)
		Safety Checklist (<i>Regulations</i> ¶ 15.3) is complete and has been included with the Document throughout the balloting process. (<i>Regulations</i> ¶ 15.1.2)
Motion by/2nd by		By: Thomas Fritz / WIKA Instrument Corporation Second: Max van den Berg / Festo SE & Co. KG
Discussion		None.
Vote		12 Y- 0 N; Motion passed.

IX. Intellectual Property (IP) Check

Note: This Letter Ballot may cover all or part of a Standard or Safety Guideline. Regardless of the coverage, this IP check applies to the entire Standard or Safety Guideline including all the approved Line Items*. See *Regulations* § 16 for further information.

X	The TC Chapter meeting chair asked those participating, if they were aware of any patented technology that might be relevant (see <i>Regulations</i> ¶ 16.3.1.1) to the Standard or Safety Guideline; or, any copyrighted items or trademarks that are used/reproduced (see <i>Regulations</i> ¶ 16.4.1.2) in the Standard or Safety Guideline. (Also see, <i>Regulations</i> § 8.8)	
	X	GO TO SECTION X.

X. Action for This Document

Motion (Check all applicable items)	X	Line item(s) [1] and [2] passed TC Chapter review with editorial changes and will be forwarded to the ISC A&R SC for procedural review.
Motion by/ 2nd by	By: Thomas Fritz / WIKA Instrument Corporation Second: Max van den Berg / Festo SE & Co. KG	
Discussion	None.	
Vote	15 Y- 0 N	
Final Action	X	Motion passed
		Motion failed

Note: If the use of PMPT or copyrighted item is justified by the TC Chapter, LOA or release form must be received before publication can proceed.