



Gases and Liquid Chemicals Joint Europe TC Chapter

Meeting Summary and Minutes

SEMICON Europa 2023

November 15, 2023, 3:30 PM to 4:30 PM

International Congress Center Messe Munchen in Munich, Germany

TC Chapter Announcements

Next TC Chapter Meeting

Fall 2024. Meeting date to be announced once finalized.

Table 1 Meeting Attendees

Italics indicate virtual participants

Co-Chairs: Jochen Ruth (Pall Europe)

SEMI Staff: Kevin Nguyen

<i>Company</i>	<i>Last</i>	<i>First</i>	<i>Company</i>	<i>Last</i>	<i>First</i>
Bekaert	Claes	Raf	Applied Materials	Neuber	Andreas
George Fischer Piping System	Faryna	Kamila	Derivados Del Fluor	Saenz	Jose Miguel
Bekaert	Grossmann	Francois	Festo BV	Van den Berg	Max
Tokyo Electron	Mashiro	Supika	Bekaert	Vanderhei dam	Susana

Table 2 Leadership Changes

<i>WG/TF/SC/TC Name</i>	<i>Previous Leader</i>	<i>New Leader</i>
None		

Table 3 Committee Structure Changes

<i>Previous WG/TF/SC Name</i>	<i>New WG/TF/SC Name or Status Change</i>
None	

Table 4 Ballot Results

<i>Document #</i>	<i>Document Title</i>	<i>Committee Action</i>
None		

#1 **Passed** ballots and line items will be submitted to the ISC Audit & Review Subcommittee for procedural review.

#2 **Failed** ballots and line items were returned to the originating task forces for re-work and re-balloting or abandoning.

Table 5 Activities Approved by the GCS between meetings of the TC Chapter

<i>#</i>	<i>Type</i>	<i>SC/TF/WG</i>	<i>Details</i>
None			



Table 6 Authorized Activities

Listing of all revised or new SNARF(s) approved by the Originating TC Chapter.

#	Type	SC/TF/WG	Details
None			

#1 SNARFs and TFOFs are available for review on the SEMI Web site at:

<http://downloads.semi.org/web/wstdsbal.nsf/TFOFSNARE>

Table 7 Authorized Ballots

#	When	TF	Details
None			

Table 8 SNARF(s) Granted a One-Year Extension

#	TF	Title	Expiration Date
None			

Table 9 SNARF(s) Abolished

#	TF	Title
None		

Table 10 Standard(s) to receive Inactive Status

Standard Designation	Title
None	

Table 11 New Action Items

Item #	Assigned to	Details
None		

Table 12 Previous Meeting Action Items

Item #	Assigned to	Details
None		

1 Welcome, Reminders, and Introductions

Jochen Ruth called the meeting to order at 3:30 PM. The meeting reminders on antitrust issues, intellectual property issues and holding meetings with international attendance were reviewed. Attendees introduced themselves.

2 Revitalizing EU Activities

The Europe chapters have been dormant the past few years; however, there is a desire to spool up activities once again. Additional meetings are planned in 2024.

3 Liaison Reports

3.1 Gases North America TC Chapter

Max reported for the Gases North America TC Chapter. Of note:

- Last Meeting: November 7, 2023 for NA Fall Meetings at SEMI HQ in Milpitas, California
- Next Meeting: March 26, 2024 for NA Spring Meetings at SEMI HQ in Milpitas, California
- Ballot Results
 - 6916, Replacement of SEMI F109-0212, Guide for Heater Systems Requirements, as a New Standard: Guide for Material Selection for Heater Systems
 - Failed
 - 7097, Line-Item Revision to SEMI C54-1116, Specification for Oxygen
 - Passed
 - 7098, Line-Item Revision to SEMI C56-1116, Specification for Dichlorosilane
 - Passed
 - 7152, Line-Item Revision to SEMI E27-1017, Guide for Mass Flow Controller and Mass Flow Meter Linearity
 - Passed
- Authorized Activities
 - Revision to SEMI F47-0706 (Reapproved 0812), Specification for Semiconductor Processing Equipment Voltage Sag Immunity
 - Line Item SNARFs for SEMI F69, F78 and F81
 - Line SNARFs for F28, F43, F59, F67, F68
- Authorized Ballots
 - Revision to SEMI F47-0706 (Reapproved 0812), Specification for Semiconductor Processing Equipment Voltage Sag Immunity
 - Line Item SNARFs for SEMI F69, F78 and F81
 - Line SNARFs for F28, F43, F59, F67, F68
- Materials of Construction of Gas Delivery Systems TF
 - Submitted Line-Item SNARFs for Approval and Authorization for Letter Ballot:
 - SEMI F69-1213E, Test Method for Transport and Shock Testing of Gas Delivery Systems
 - SEMI F78-0611 (Reapproved 0917), Practice for Gas Tungsten Arc (GTA) Welding of Fluid Distribution Systems in Semiconductor Manufacturing Applications
 - SEMI F81-0611 (Reapproved 0917), Specification for Visual Inspection and Acceptance of Gas Tungsten Arc (GTA) Welds in Fluid Distribution Systems in Semiconductor Manufacturing Applications
- Filters & Purifiers TF
 - Submitted Line-Item SNARFs for Approval and Authorization for Letter Ballot:
 - SEMI F28-1103 (Reapproved 0815), Test Method for Measuring Particle Generation from Process Panels
 - SEMI F43-0308 (Reapproved 0613), Test Method for Determination of Particle Contribution by Point-of-Use Gas Purifiers and Gas Filters



- SEMI F59-0302 (Reapproved 0613), Test Method for Determination of Filter or Gas System Flow Pressure Drop Curves
- SEMI F67-1101 (Reapproved 0713), Test Method for Determining Inert Gas Purifier Capacity
- SEMI F68-1101 (Reapproved 0713), Test Method for Determining Purifier Efficiency
- Mass Flow Controller TF
 - Five-Year Reviews to be addressed: SEMI E56, E66
- Gases Specification TF
 - Five-Year Reviews to be addressed: SEMI C70, C58
- Heater Jacket TF
 - Reviewed ballot results 6916A, Replacement of SEMI F109-0212, Guide for Heater Systems Requirements, as a New Standard: Guide for Material Selection for Heater Systems
 - Authorized Ballot for Cycle 9-2023, 1 or 2-2024

Attachment: 01, NA F&G Liaison Report Nov2023 v1

3.2 *Liquid Chemicals North America TC Chapter*

Max reported for the Liquid Chemicals North America TC Chapter. Of note:

- Last Meeting: November 7, 2023 for NA Fall Meetings at SEMI HQ in Milpitas, CA
- Next meeting: March 27, 2024 for NA Spring Meetings 2024, Milpitas, California
- Ballot Results
 - (6828D) Revision to SEMI F31-0313, Guide for Bulk Chemical Distribution Systems → Passed with Technical changes
- Authorized Ballots
 - 6601, New Standard: Guide for Reporting Performance Parameters of the Retaining Rings for Chemical Mechanical Planarization (CMP) used in Semiconductor Manufacturing
 - 6904, New Standard: Guide for Reporting Performance Parameters of the Retaining Rings for Chemical Mechanical Planarization (CMP) used in Semiconductor Manufacturing
 - 7006, Revision to SEMI C69-1015 (Reapproved 1220), Test Method for the Determination of Surface Areas of Polymer Pellets
 - 7087, Revision to SEMI F63-0521, Guide for Ultrapure Water Used in Semiconductor Processing
 - 7091, Revision to SEMI C90-1015, Test Method and Specification for Testing Perfluoroalkoxy (PFA) Materials Used in Liquid Chemical Distribution Systems, with title change to: Test Method and Specification for Testing of Perfluoroalkoxy (PFA) and Other Fluorinated Materials Used in Liquid Chemical Distribution Systems
 - 7141-7149, Revision Ballots for SEMI C21, C28-29, C35, C40-41, C45, C62-63
- UPW TF
 - Recently published
 - SEMI F121-0923, Guide for Evaluating Metrology for Particle Precursors in Ultrapure Water

- Authorized Ballot
 - 7087: Revision to SEMI F63-0521, Guide for Ultrapure Water Used in Semiconductor Processing
- Water Management TF
 - No report.
- CMP-C TF
 - Authorized Ballot
 - 6904A, New Standard: Guide for Reporting Performance Parameters of the Retaining Rings for Chemical Mechanical Planarization (CMP) used in Semiconductor Manufacturing
 - Currently drafting, Doc 6970: Guide for Reporting Performance Parameters of Pressure Sensitive Adhesives (PSA) for Chemical Mechanical Planarization (CMP) pads used in Semiconductor Manufacturing
- HPLAS TF
 - 6828D (F31): passed with technical changes. Ratification Ballot to be issued.
 - Five-Years to be reviewed: F41
- HPPMC TF
 - Authorized Ballots
 - 6601: New Standard, Guide to Meet IRDS Yield Table Recommendations for High Purity Polymer Materials and Components Used in Ultrapure Water
 - 6917: Revision to SEMI C90-1015, Test Method and Specification for Testing Perfluoroalkoxy (PFA) Materials Used in Liquid Chemical Distribution Systems
- CAM TF
 - Authorized Ballots
 - 7141-7149: Revision Ballots for SEMI C21, C28-29, C35, C40-41, C45, C62-63
 - Five-Years to be reviewed: C20, C27, C34

Attachment: 02, NA LChem Liaison Report Nov2023 v1

3.3 *Gases Japan TC Chapter*

Kevin Nguyen reported for the Gases Japan TC Chapter. Of note:

- Last meeting: October 20, 2023 via Official Virtual TC Chapter Meeting (OVTCCM)
- Next meeting: Jan 26, 2024 via SEMI Japan office + Official Virtual TC Chapter Meeting (OVTCCM) (Hybrid)
- No major updates

Attachment: 03, G+F_JA TC Chapter Liaison Report_Nov 2023_R0

3.4 *Liquid Chemicals Japan TC Chapter*

Kevin Nguyen reported for the Liquid Chemicals Japan TC Chapter. Of note:

- Last meeting: May 26, 2022 → SEMI Japan Office / Official Virtual TC Chapter Meeting (Hybrid)

- Next meeting: December 8, 2023 → SEMICON Japan @ Tokyo Big Sight / Official Virtual TC Chapter Meeting (Hybrid) *Tentative*
- Ballot Results
 - 6820A, New Standard: Guide for Trace Iron Analysis in High Purity 2-Propanol (IPA), published as C105-0923
 - 6979, Revision to C77-0912, TEST METHOD FOR DETERMINING THE COUNTING EFFICIENCY OF LIQUID-BORNE PARTICLE COUNTERS FOR WHICH THE MINIMUM DETECTABLE PARTICLE SIZE IS BETWEEN 30 nm AND 100 nm with title change to TEST METHOD FOR DETERMINING THE COUNTING EFFICIENCY OF LIQUID-BORNE PARTICLE COUNTERS FOR WHICH THE MINIMUM DETECTABLE PARTICLE SIZE IS BETWEEN 20 nm AND 100 nm
 - Failed.
- Liquid Filter TF
 - 6883: Re-approval of SEMI C89-0116
- Liquid-Borne Particle Counter TF
 - 5-Year Review: C77-0912 is ongoing
- Trace Metal Analysis for High Pure IPA TF
 - Doc#6820A: New Standard: Guide for Trace Iron Analysis in High Purity 2-Propanol (IPA), published as C105.

Attachment: 04, JA_LC_Liaison_20230616v2

4 Staff Report

Kevin Nguyen gave the SEMI Staff Report. Of note:

- SEMI upcoming event
 - Upcoming Meetings
 - SEMICON Japan
 - Dec 13-15
 - Tokyo, Japan
- 2023 & 2024 Critical Dates for SEMI Standards Ballots
 - <https://www.semi.org/en/collaborate/standards/ballots>
- New Online Ballot System
 - User Data Quality
 - Problem – User Data in SVM shows incorrect information
 - Cause – The SVM Login process has a separate User Database than the existing Online Ballot System and requires ongoing synchronization. Also affects <https://connect.semi.org>
 - Progress
 - Completed internal testing
 - Documentation and Training in development
 - Open Community Preview of the New Online Ballot System during Cycle 9, 2023
 - Committee Members to become familiar with new interface and provide feedback



- Open New Online Ballot System for Live Ballot voting for Cycle 1, 2024
- SEMI Standards Publications
 - Total SEMI Standards in portfolio: 1,085
 - Includes 335 Inactive Standards

Attachment: 05, Staff Report Nov 2023 v3

5 IRDS YE Overview

Andreas Neuber gave an overview of the IRDS YE updates that would be attached to the meeting minutes.

Attachment: 06, IRDS YE Report

6 Old Business

None

7 New Business

7.1 Standards due for 5-Year Review

Kevin Nguyen reported that the following documents are due for 5-year review:

- SEMI C81-0113 (Reapproved 0618), Guide for Tris(Dimethylamino) Silane (3DMAS)
- SEMI C80-0214, Guide for Tetrakis(Dimethylamino) Silane (TDMAS)
- SEMI C66-0317, Guide for Trimethylaluminium (TMAI), 99.5% Quality
- SEMI C65-0317, Guide for Trimethylsilane (3MS), 99.995% Quality
- SEMI C52-0301 (Reapproved 0618), Specification for the Shelf Life of a Specialty Gas
- SEMI C3.57-0312 (Reapproved 0618), Specification for Carbon Dioxide, CO₂, Electronic Grade in Cylinders
- SEMI C3.56-0312 (Reapproved 0618), Specification for Diborane Mixtures

Discussions:

- C3.57 and C52 are currently used by the industry. Jochen Ruth said we should review them now rather than wait until the next meeting.
- Andreas Neuber can also check with his group to conduct further review. He is also happy to forward the NA Gases standards to his group as well. Kevin Nguyen will forward these slides to Andreas.

8 Next Meeting and Adjournment

The next meeting will be announced once finalized.

Adjournment: 4:30 PM.

Respectfully submitted by:

Kevin Nguyen



Standards Operation Manager,

SEMI

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Minutes tentatively approved by:

Jochen Ruth (Pall), Co-chair	<Date approved>

Table 13 Index of Available Attachments#1

<i>Attachment #</i>	<i>Title</i>
01	NA F&G Liaison Report Nov2023 v1
02	NA LChem Liaison Report Nov2023 v1
03	G+F_JA TC Chapter Liaison Report_Nov 2023_R0
04	JA_LC_Liaison_20230616v2
05	Staff Report Nov 2023 v3
06	IRDS YE Report (pending, request was made to Andreas)

#1 Due to file size and delivery issues, attachments must be downloaded separately. A .zip file containing all attachments for these minutes is available at www.semi.org. For additional information or to obtain individual attachments, please contact Paul Trio at the contact information above.