



# Gases and Liquid Chemicals JointEurope TC Chapter

## Meeting Summary and Minutes

SEMICON Europa 2022

November 16, 2022, 1:00 PM to 2:00 PM

International Congress Center Messe Munchen in Munich, Germany

### TC Chapter Announcements

*Next TC Chapter Meeting*

Spring 2023 (end of March or early April) via virtual meeting. Meeting date to be announced once finalized.

### Table 1 Meeting Attendees

*Italics indicate virtual participants*

**Co-Chairs:** Jochen Ruth (Pall Europe)

**SEMI Staff:** Paul Trio

<i>Company</i>	<i>Last</i>	<i>First</i>	<i>Company</i>	<i>Last</i>	<i>First</i>
ASML	Planting	Bert	Merck KGaA	Fingerhut	Stefanie
Bekaert	Claes	Raf	Merck KGaA	Koerber	Christoph
Mecid	Boeleus	Simon	<i>Nova Measuring Instrument</i>	<i>Shichtman</i>	<i>Alex</i>
<i>Mega Fluid Systems</i>	<i>Kandiyeli</i>	<i>David</i>	<i>WIKA Instruments</i>	<i>Fritz</i>	<i>Thomas</i>

### 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 1:17 PM. The meeting reminders on antitrust issues, intellectual property issues and holding meetings with international attendance were reviewed. Attendees introduced themselves.

**Attachment:** 01, SEMI Standards Required Meeting Elements

## 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 2023.

### 3 Liaison Reports

#### 3.1 Gases North America TC Chapter

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

- Last Meeting: November 8, 2022 for NA Fall Meetings at SEMI HQ in Milpitas, California
- Next Meeting: April 4, 2023 for NA Spring Meetings at SEMI HQ in Milpitas, California
- Authorized Ballots
  - (6394) Line-Item Revision to SEMI F74-1103 (Reapproved 0710), Test Method for the Performance and Evaluation of Metal Seal Designs for Use in Gas Delivery Systems → For Cycle 1 or 2, 2023
  - (6510) Line-Item Revision to SEMI F32-0211, Test Method for Determining of Flow Coefficient for High Purity Shutoff Valves → For Cycle 1 or 2, 2023
  - (6916) Replacement of SEMI F109-0212, Guide for Heater Systems Requirements, as a New Standard: Guide for Material Selection for Heater Systems → For Cycle 1, 2023
- Materials of Construction of Gas Delivery Systems TF
  - Appointed new TF leader, Matt Milburn of UCT
  - Open SNARFs: SEMI F74 (6394), SEMI F32 (6510), New Subordinate Standard to SEMI F32 (6612)
  - Authorized Ballots for Cycle 1, or 2-2023
  - Prepare Line Item SNARFs for: SEMI F60, F73, F77, E49
  - Five-Year Reviews to be addressed: SEMI F19, F20, F81, F78, F69
- Filters & Purifiers TF
  - Reviewed Old Business
  - Prepare new SNARFs for Line Item or Revision: SEMI F43, F59, F67, F86, F28
  - Five-Year Reviews to be addressed: SEMI C14, F36, F21
- Mass Flow Controller TF
  - Reviewed Ratification Ballots from Cycle 6, 2022 → One disapprove vote
  - Five-Year Reviews to be addressed: SEMI F62, E56, E29, E66, E16, E27, E18
- Gases Specification TF
  - Five-Year Reviews to be addressed: SEMI C54, C70, C58, C56, C60, C59, C57, C3, F24
- Heater Jacket TF
  - (6916) 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 1, 2023

**Attachment:** 02, Gases North America Liaison Report

#### 3.2 Liquid Chemicals North America TC Chapter

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



- Last Meeting: November 9, 2022 for NA Fall Meetings at SEMI HQ in Milpitas, CA
- Next meeting: April 5, 2023 for NA Spring Meetings 2023, Milpitas, California
- Ballot Results
  - (6315) Revision to SEMI C30-0218, Specification for Hydrogen Peroxide, with title change to: Specification and Guide for Hydrogen Peroxide → Failed
  - (6388A) Revision to SEMI C44-0618, Specification and Guide for Sulfuric Acid → Failed
  - (6828B) Revision to SEMI F31-0313, Guide for Bulk Chemical Distribution Systems → Failed
  - (6904) New Standard: Guide for Reporting Performance Parameters of the Retaining Rings for Chemical Mechanical Planarization (CMP) used in Semiconductor Manufacturing → Failed
- UPW TF
  - Submitted Doc 6715, New Standard: Guide for Measuring Particle Precursors in Ultrapure Water, for voting in Cycle 1 or 2, 2023.
  - Plan to align SEMI F61, F63, F75 with IRDS roadmap updates
- Water Management TF
  - Submitted new SNARF for SEMI F98, Guide for Water Reuse in Semiconductor Industry
- CMP-C TF
  - Ballot 6904, New Standard: Guide for Reporting Performance Parameters of the Retaining Rings for Chemical Mechanical Planarization (CMP) used in Semiconductor Manufacturing, failed; will rework and reballot in Cycle 1 or 2, 2023.
  - 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
  - Ballot 6828B failed (F31); will rework and reballot for Cycle 1 or 2, 2023.
  - Doc 6917 (F39) will be submitted for Cycle 2, 2023.
- HPPMC TF
  - Appointed new co-TF leadership, Per Nelson (3M)
  - New SNARF for SEMI C69 to be submitted for two-week TC Review
  - Submitted Doc 6601, New Standard: Guide to Meet IRDS Yield Table Recommendations for High Purity Polymer Materials and Components Used in Ultrapure Water, for voting in Cycle 1 or 2, 2023.
- CAM TF
  - Ballot 6315B (C30) and 6388A (C44) failed; will rework and reballot for voting in Cycle 1 or 2, 2023.
  - Several Reapprovals were approved and will be submitted of Cycle 1 or 2, 2023.
    - C21-0618 (NH<sub>4</sub>OH)
    - C28-0618 (HF)
    - C29-0618 (4.9% HF)
    - C35-0118 (HNO<sub>3</sub>)
    - C40-0110 (45% KOH)

- C41-0618 (2-Propanol)
- C45-0518 (TEOS)
- C62-0309 (Porogen Precursors)
- C63-1108 (Organosilicate Precursors)
- C81-0113 (3DMAS)

**Attachment:** 03, Liquid Chemicals North America Liaison Report

### 3.3 Gases Japan TC Chapter

Paul Trio reported for the Gases Japan TC Chapter. Of note:

- Last meeting: Thursday, September 15, 2022 via Official Virtual TC Chapter Meeting (OVTCCM)
- Next meeting: Friday, December 2nd, 2022 via SEMI Japan office + Official Virtual TC Chapter Meeting (OVTCCM) (Hybrid)
- No major updates – no ballot plans, no new activities, no leadership changes

**Attachment:** 04, Gases Japan Liaison Report

### 3.4 Liquid Chemicals Japan TC Chapter

Paul Trio reported for the Liquid Chemicals Japan TC Chapter. Of note:

- Last meeting: May 27, 2022 → SEMI Japan Office / Official Virtual TC Chapter Meeting (Hybrid)
- Next meeting: December 15, 2022 → SEMICON Japan @ Tokyo Big Sight / Official Virtual TC Chapter Meeting (Hybrid) *Tentative*
- Leadership Changes
  - Japan TC Chapter of Liquid Chemicals Global Technical Committee
    - Hiroshi Tomita (Kioxia) stepped down as TC Chapter chair
    - Fujitani Yoshiyuki (SCREEN Semiconductor Solutions) remains as chair
  - Liquid Filter TF
    - Hisashi Nakagawa as new TF co-leader from Pall
- Ballot Results
  - (6883) Reapproval of SEMI C89, Test Method for Particle Removal Performance of Liquid Filter Rated Below 30 nm with Inductively Coupled Plasma – Mass Spectroscopy (ICP-MS) → Failed, returned to TF for rework
- Liquid Filter TF
  - Ballot review of #6883: Re-approval of SEMI C89-0116
  - Result for SNARF review of (#6911) New Standard: “Test Method for Metal Removal Performance of Liquid Filter” was shared to the participants.
- Liquid-Borne Particle Counter TF
  - 5-Year Review: C77-0912 is ongoing (create SNARF and hold TF meeting in June.)



- Trace Metal Analysis for High Pure IPA TF
  - Doc#6820: New Standard: Guide for Trace Iron Analysis in High Purity 2-Propanol (IPA) → Aiming to submit letter ballot in Cycle 6 or 7

**Attachment:** 05, Liquid Chemicals Japan Liaison Report

#### 4 Staff Report

Paul Trio gave the SEMI Staff Report. Of note:

- Upcoming Events
  - SEMICON Japan (December 14-16, 2022) in Tokyo
  - SEMICON Korea (February 1-3, 2023) in Seoul
  - SEMICON China (now June 29-July 1, 2023) in Shanghai
- North America Standards Fall 2022 Meetings took place on November 7-10 at SEMI HQ in Milpitas, California
- North America Standards Spring 2023 Meetings scheduled for April 3-6 at SEMI HQ
- Critical Dates for SEMI Standards Ballots

2022	Ballot Submission Deadline	Voting Opens	Voting Closes
Cycle 8	October 4	October 18	November 17
Cycle 9	November 15	November 29	December 29
2023			
Cycle 1	January 4	January 18	February 17
Cycle 2	February 1	February 15	March 17
Cycle 3	March 8	March 22	April 21
Cycle 4	April 19	May 3	June 2

- SEMI Standards Publications
  - Total Standards in Portfolio: 1,069 (includes 320 Inactive standards)

Cycle	New	Revised	Reapproved	Withdrawn
July 2022	0	3	0	0
August 2022	0	5	0	2
September 2022	2	3	6	1
October 2022	3	8	0	0

- New Standards

<i>Cycle</i>	<i>Designation</i>	<i>Title</i>	<i>Committee</i>	<i>Region</i>
September 2022	SEMI F120	Test Method for the Electrochemical Critical Pitting Voltage Testing of Stainless Steel Used in Corrosive Gas Systems	Gases	NA
September 2022	SEMI E120.2	Specification for Protocol Buffers for Common Equipment Model (CEM)	Information & Control	NA
October 2022	SEMI E125.2	Specification for Protocol Buffers for Equipment Self Description (EqSD)	Information & Control	NA
October 2022	SEMI E134.2	Specification for Protocol Buffers of Data Collection Management	Information & Control	NA
October 2022	SEMI E142.4	Specification for SECS II Protocol for Substrate Mapping Using Item Transfer	Information & Control	NA

- New SEMI Corporate PPT Template
  - New SEMI corporate PPT template now available. TFs are encouraged to begin transitioning to the new template. Please reach out to SEMI staff if needing assistance

**Attachment:** 06, SEMI Staff Report

## 5 IRDS YE Overview

Due to the time allotted, the committee was not able to cover this topic in depth. The IRDS YE updates would be attached to the meeting minutes.

**Attachment:** 07, IRDS YE Report

## 6 Old Business

None

## 7 New Business

### 7.1 Standards due for 5-Year Review

Paul Trio reported that the following documents are due for 5-year review:

- SEMI C3.58-1011 (Reapproved 0418), Specification for Octafluorocyclobutane, C<sub>4</sub>F<sub>8</sub>, Electronic Grade in Cylinders, 99.999% Quality
- SEMI C28-0618, Specification and Guide for Hydrofluoric Acid
- 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, CO<sub>2</sub>, Electronic Grade in Cylinders
- SEMI C3.56-0312 (Reapproved 0618), Specification for Diborane Mixtures

Additional Discussions:

- Paul Trio to schedule meetings with Jochen Ruth to review standards due for 5-Year Review. Thomas Fritz offered to assist in the review process but will need some guidance on procedures.
- Bert Planting asked whether EHS considerations for PFOA/PFAS are addressed in these TC Chapters' standards including how they are reported. It was suggested to reach out to Bob McInosh (GF Piping) as a suitable contact for such topics.

**8 Next Meeting and Adjournment**

The next meeting will be announced once finalized.

Adjournment: 2:00 PM.

Respectfully submitted by:

Paul Trio  
 Director, Standards  
 SEMI  
 Phone: +1.408.943.7041  
 Email: ptrio@semi.org

Minutes tentatively approved by:

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

**Table 13 Index of Available Attachments<sup>#1</sup>**

<i>Attachment #</i>	<i>Title</i>
01	SEMI Standards Required Meeting Elements
02	Gases North America Liaison Report
03	Liquid Chemicals North America Liaison Report
04	Gases Japan Liaison Report
05	Liquid Chemicals Japan Liaison Report
06	SEMI Staff Report
07	IRDS YE Report

<sup>#1</sup> 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](http://www.semi.org). For additional information or to obtain individual attachments, please contact Paul Trio at the contact information above.