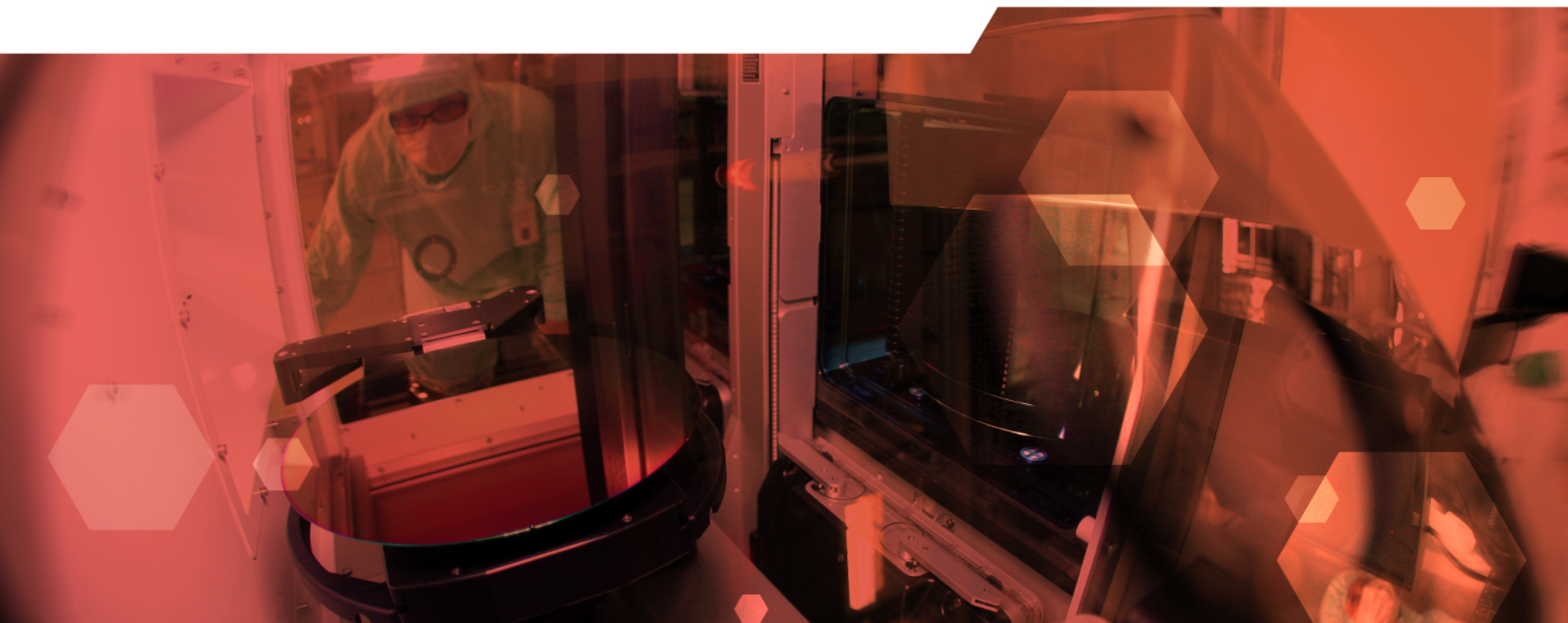


North America Liquid Chemicals Technical Committee Chapter

Liaison Report

April 2017



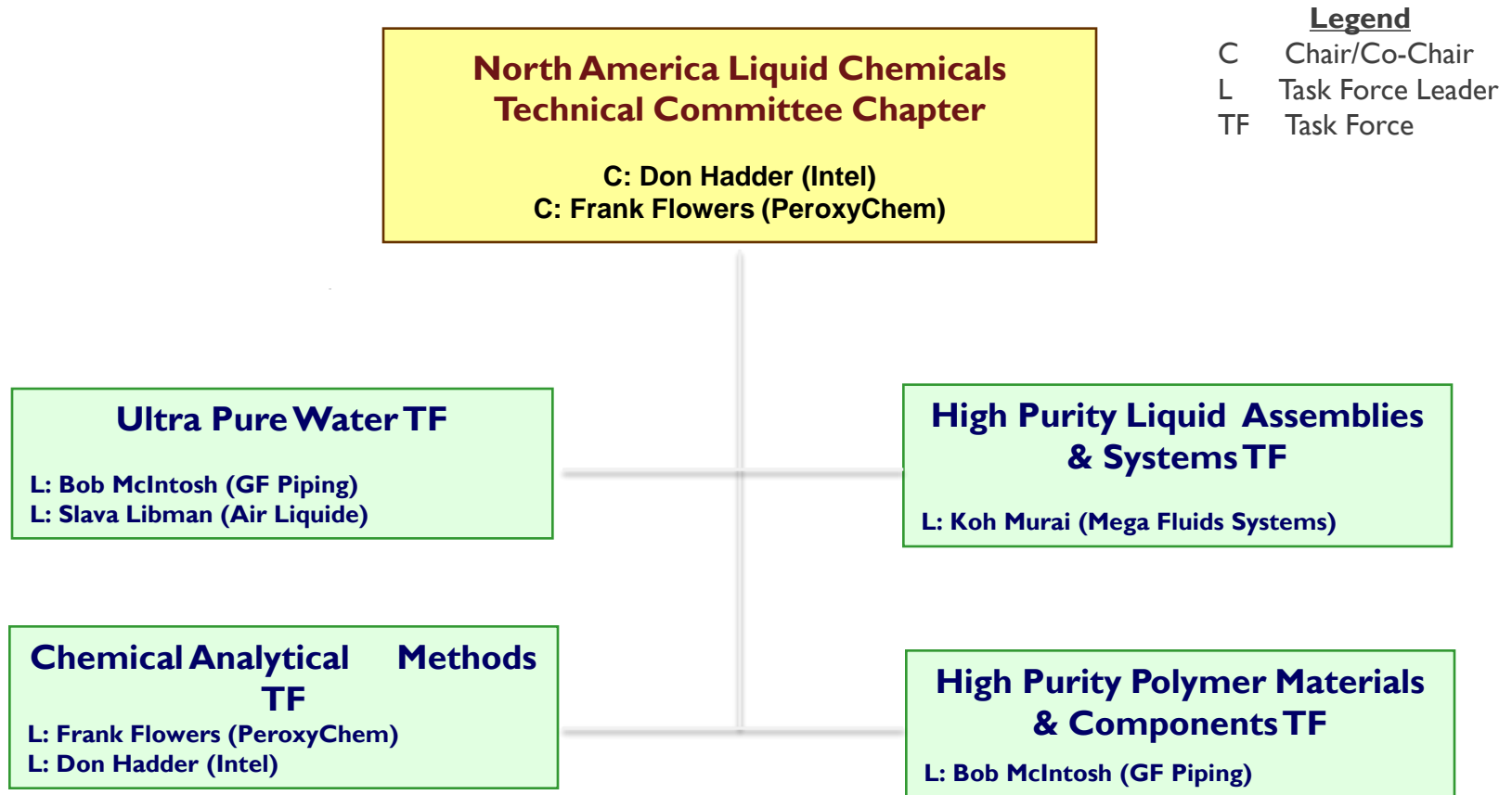
Outline

- Leadership
- Organization Chart
- Meetings Information
- Ballot Results
- Upcoming Ballots
- Old Business (5 Year Review and 3 Year SNARFs)
- TF Status Update
- Proposed Meeting Schedule

Leadership

- N.A. Liquid Chemicals TC Chapter Cochair
 - Don Hadder (Intel)
 - Frank Flowers (Peroxy Chemicals)
- Leadership Changes
 - None

N.A. Liquid Chemicals TC Updated Organization Chart



NOTE: *Italics* means group is currently inactive.

Meeting Information

- Last meeting
 - April 4, 2017 @ N.A. Standards Spring 2017 Meetings
 - SEMI Headquarters, Milpitas California
- Next meeting
 - July 11, 2017 @ SEMICON West 2017 Meetings
 - San Francisco, California

Ballot Results

Cycle 1/2 2017

<i>Document #</i>	<i>Document Title</i>	<i>Committee Action</i>
5943	Revision to SEMI E49.2-1104, <i>Guideline for the Qualification of Polymer Assemblies Used in Ultrapure Water and Liquid Chemical Systems in Semiconductor Process Equipment.</i>	Passed
6086	Revision to SEMI F75-1102, <i>Guide For Quality Monitoring of Ultrapure Water Used in Semiconductor Manufacturing</i>	Passed
6129	Revision to SEMI F61-0301 (Reapproved 0309) <i>Guide for Ultrapure Water System Used in Semiconductor Processing, with title change to: Guide to Design and Operation of a Semiconductor Ultrapure Water System</i>	Passed

Ballots to be Issued for SEMICON West 2017 Meetings

Adjudication (and beyond)

#	When	Details
5831	Cycle 5-17	Revision to SEMI C27-0708, <i>Specifications and Guideline for Hydrochloric Acid with title change to: Specification and Guide for Hydrochloric Acid</i>
5642	Cycle 5-17	Revision to SEMI C35-0708, <i>Specifications and Guideline for Nitric Acid with title change to: Specification and Guide for Nitric Acid</i>
TBD	Cycle 5-17	Line Item Revision to SEMI C30-1110, <i>Specifications for Hydrogen Peroxide</i> , to correct nonconforming title to: <i>Specification for Hydrogen Peroxide</i>
6136	Cycle 7-17	Revision to SEMI F98-0305 (Reapproved 1111), <i>Guide for Treatment of Reuse Water in Semiconductor Processing</i>

5 Year Review – Inactive Standards

- **SEMI C22-0212** *Guide for Boron Tribromide*
- **SEMI C38-0212** *Guide for Phosphorus Oxychloride*
- **SEMI C25-0312** *Specification for Dichloromethane (Methylene Chloride)*
- **SEMI C46-0812** *Guide for 25% Tetramethylammonium Hydroxide*
- **SEMI C47-0812** *Guide for Trans 1,2 Dichloroethylene*
- **SEMI C48-0812** *Specification and Guide for 1,1,1-Trichloroethane, Furnace Grade*
- **SEMI C26-0912** *Specification and Guide for Hexamethyldisilazane (HMDS)*
- **SEMI C21-0708** *Specifications and Guideline for Ammonium Hydroxide*

5 Year Review Liquid Chemicals [1/2]

Name	*Due for Review	Title	Status
SEMI C41-0705	7/1/2010	Specifications and Guidelines for 2-Propanol	In review by TC member.
**SEMI C35-0708	7/1/2013	Specifications and Guideline for Nitric Acid	In review by TC member.
**SEMI C27-0708	7/1/2013	Specifications and Guidelines for Hydrochloric Acid	Revision ballot planned in Cycle 5-17
SEMI C63-1108	11/1/2013	Specification for Organosilicate Precursors Used in Low K CVD Processes	In review by TC member.
**SEMI C45-0309E	3/1/2014	Specification and Guideline for Tetraethylorthosilicate (TEOS)	In review by TC member.
SEMI C62-0309	3/1/2014	Specification for Progen Precursors Used in Low K CVD Processes	In review by TC member.
SEMI C1-0310	3/1/2015	Guide for the Analysis of Liquid Chemicals	In review by TC member.
**SEMI C29-1110	11/1/2015	Specifications and Guide for 4.9% Hydrofluoric Acid (10:1 v/v)	In review by TC member.
**SEMI C30-1110	11/1/2015	Specifications for Hydrogen Peroxide	Reapproval ballot planned in Cycle 5-17
SEMI C40-1110	11/1/2015	Specification for Potassium Hydroxide, 45% Solution	In review by TC member.
SEMI F98-0305 (Reapproved 1111)	11/1/2016	Guide for Treatment of Reuse Water in Semiconductor Processing	Revision ballot planned in Cycle 7-17

**** Subject for "Nonconforming Title" review. Please refer to the Procedure Manual Appendix 4 (page 76)**

5 Year Review Liquid Chemicals [2/2]

Name	*Due for Review	Title	Status
**SEMI F104-0312	3/1/2017	Particle Test Method Guide for Evaluation of Components Used in Ultrapure Water and Liquid Chemical Distribution Systems	Revision ballot planned in Cycle 7-17
SEMI F40-0699E	TBD	Practice for Preparing Liquid Chemical Distribution Components for Chemical Testing	Intercommittee with Facility TC?
SEMI C78-0113	1/25/2018	Test Method for Determining Roughness of Polymer Surfaces Used in Ultrapure Water and Liquid Chemical Distribution Systems by Atomic Force Microscopy	TBD
SEMI C34-0113	1/25/2018	Specification and Guide for Mixed Acid Etchants	TBD
SEMI C79-0113	1/31/2018	Guide to Evaluate the Efficacy of Sub-15 nm Filters Used in Ultrapure Water (UPW) Distribution Systems	TBD
SEMI C20-0213	2/19/2018	Specification and Guide for Ammonium Fluoride 40%	TBD

**** Subject for "Nonconforming Title" review. Please refer to the Procedure Manual Appendix 4 (page 76)**

SNARFs 3 Year Status

- **SNARF #4957**, Revision to SEMI C41-0705, *Specifications and Guidelines for 2-Propanol*, with title change to: Specifications for 2-Propanol
- **SNARF #5642**, Revision to SEMI C35-0708, *Specifications and Guideline for Nitric Acid* with title change to: *Specification and Guide for Nitric Acid for Nitric Acid*

Task Force Status Updates [1/2]

High Purity Liquid Assemblies & Systems (E49.2/7 and E49.4/5) TF

E49.2

- Balloted in Cycle 1-17.
- Approved with minor editorial changes.
- Needs to be processed through NALLC committee and then sent on for final approval.

E49.4

- Ready to submit for letter ballot
- Holding on submittal until most of E49.5 is reviewed so the two standards will be consistent with each other.

E49.4

- Currently under review and revision.
- 33% complete
- Expected ready for ballot 10/17

E49.5

- Currently under review and revision.
- 60% complete
- Expected ready for ballot 7/17

Task Force Status Updates [2/2]

High Purity Polymer Materials & Components TF

- Determined that will need to include updating SEMI F104 for particle measurement of components. It is a methods standard.
 - New SNARF for SEMI F104
 - Convened two tests to support making changes to standards for PVDF pipe and PFA Tubing. This will be completed in late May and ready for review.
 - Made changes to the existing tables already to adjust the scope of components covered
 - Report results to SCIS.
 - On track for on track to have document ready for Fall Standards face meetings.

Chemical Analytical Methods TF

- Activities resumed in Spring 2017
- Work on revision to SEMI C45, SEMI C30, SEMI C27, and SEMI C35

Ultrapure Water TF

- **SEMI F63**
 - To discuss for the need of next revision pending IRDS (former ITRS) resolutions regarding particles, metals, and H2O2. Currently the plan is to discuss this along with F61 and F75 ballot outcomes in July 2017. This is going to be a good timing to align all three documents.
- **SEMI F98**
 - New document approaching 5 year revision cycle. New SNARF authorized by GCS

Next Meeting Schedule

The next N.A. Liquid Chemicals Standards Meetings are tentatively scheduled* for July 10-11, 2017 at San Francisco, California in conjunction with SEMICON West 2017. Exact meeting date and details will be announced when finalized and available at <http://www.semi.org/en/standards-events>

- **Monday, July 10 2017; SEMI HQ office**

- High Purity Polymer Materials & Components (8AM – 9:30AM)
- UPW Task Force (9:30AM - 11AM)
- High Purity Liquid Assemblies and Systems TF (1PM - 3PM)

*All times are in Pacific Time. Times and dates are subject to change without notice.

Thank you!

For more information or to participate in any N.A. Liquid Chemicals activities, please contact Inna Skvortsova at SEMI
(iskvortsova@semi.org)