

IEEE P2520.1 Working Group #18

Meeting Minutes

31 October 2022

WG Chair: James Covington

WG Secretary: H. Troy Nagle

Meeting link:

<https://ieeesa.webex.com/ieeesa/j.php?MTID=m066345339e8688a83e824e04382fa788>

1. Call to Order

Chair called meeting to order at 10:10 AM EDT. He announced that the meeting was being recorded for the purpose of preparing minutes.

2. Roll Call and Disclosure of Affiliation

Affiliation FAQs: <http://standards.ieee.org/faqs/affiliation.html>

The Chair announced that participants can sign-in at this link:

https://docs.google.com/spreadsheets/d/1x3Le7jd_5h3bgiNcYMZIfjIbzE2XdE0U8Daon00O8Ks/edit#gid=0.

The Chair asked the Secretary to check for a quorum. No new members were participating. The List of Participants is shown in **Attachment A**. A quorum was achieved (11 of the 18 voting members were present).

3. Approval of Agenda

The Chair asked for approval of the agenda. Troy Nagle made the motion; Christopher Jensen seconded. Without objection to unanimous consent, the motion was adopted.

4. Approval of Previous Meeting Minutes

The Chair asked for approval of the September 26 Meeting Minutes as circulated with four typographical corrections. Christopher Jensen made the motion; Susana Palma seconded. Without objection to unanimous consent, the motion was adopted.

5. IEEE-SA Patent & Copyright Policies

a. Call for Patents

<https://development.standards.ieee.org/myproject/Public/mytools/mob/slideset.pdf>

Per standard IEEE SA WG meeting practice, the Chair displayed the required policy regarding potentially essential patents. No one raised concerns for consideration.

b. Copyright Policy <https://standards.ieee.org/ipr/copyright-materials.html>

Per standard IEEE-SA WG meeting practice, the Chair displayed the required policy regarding copyrights. There were no questions or concerns.

6. Technical Presentation:

There was no technical presentation. Instead, the major focus for this meeting was:

- Updates and discussion of chemicals list
- Possible criteria for chemical list
- Review each group

7. Discussion of Chemical Options

[Our Goals for Appendix A:](#)

APPENDIX A: CHEMICAL LIST

- Five groups – with potentially 2 to be from available from standard cylinders.
- Must be available to 200% of defined concentration
- Potential criteria...
 1. Any cylinder should use air as the make up
 2. All the ODTs should be of a similar magnitude
 3. Concentrations should be x10 to x1000 of ODT
 4. Concentrations should be similar – though not identical
 5. Chemical choices should make some sense – though does not need to be application specific

[Review of the five Chemical Groups:](#)

The Chair reminded the WG that the availability of appropriate test gases is very limited.

- Cylinder options from standard lists are VERY limited!.

Potential List of test chemicals in cylinders for the P2520 Standards Series

Chemical/SDS link	Odor Thresholds (ppm)	Calgas Available Cylinder Concentrations (ppm)
Acetone (C3H6O)	42	5, 10, 100
Ammonia (NH3)	1.5	10, 100
Ethanol (C2H6O)	0.52	10, 100
Hexane (C6H14)	1.5	25
Hydrogen Sulfide (H2S)	0.00041	0.5, 25
Isobutylene (C4H8)	10	10, 20, 50, 100
Isopropanol (C3H8O)	26	100
Methyl Mercaptan (CH3SH)	0.000070	1
Sulfur Dioxide (SO2)	0.87	5, 10, 25

Group 1 and Group 2: The WG reviewed the current Group 1 and Group 2 chemical lists and suggested changes. It was decided that the following would be examined in more detail at our next meeting.

GROUP 1

Group 1 – GAS Bottle	Chemical	Concentration (ppm)	CAS	ODT (ppm/v)	Exposure limit	Cylinder	Supplier
Chemical A	Acetone	50		42			Linde air
Chemical B	Isopropanol	50		26			Linde air
Chemical C	Isobutylene (C4H8)	50	115-11-7	10	N/A	100 ppm in air	Linde air

GROUP 2

Group 1 – GAS Bottle & liquid	Chemical	Concentration (ppm)	CAS	ODT (ppm/v)	Exposure limit	Cylinder	Supplier
Chemical A	N-Hexane (C6H14)	20	7664-41-7	1.2	25-50 ppm	100 or 500 ppm in Air	Linde air
Chemical B	Ethanol (C2H6O)	20	64-17-5	0.52	1000 ppm	191 ppm in air	BOC
Chemical C	Toluene (C7H8)	20	108-88-3	0.33	100-200 ppm	100 or 200 ppm in Air	Linde air

Group 3: This chemical list was discussed in detail.

GROUP 3

Group 1 – Liquid	Chemical	Concentration (ppm)	CAS	ODT (ppm/v)	Exposure limit	Supplier?
Chemical A	n-butanol	0.02	71-36-3	0.038		
Chemical B	Propanoic Acid	0.006	79-09-4	0.0057		
Chemical C	Dimethyl Sulfide	0.006	75-18-3	0.0030		

This Group was well received by the WG members. These chemicals are used in other standards and their recovery rates have been documented in archival journal papers by Pernille Kasper, Department of engineering, Aarhus University, Denmark.

Group 4: No recommendations for change were noted.

GROUP 4

Group 1 – Liquid	Chemical	Concentration (ppm)	CAS	ODT (ppm/v)	Exposure limit	Supplier?
Chemical A	n-butanol	4-250	141-78-6	0.38		
Chemical B	Nonane	200-4700	67-64-1	2.2		
Chemical C	Propyl acetate	25-60	64-19-5	0.24		

✦

Group 1 – Liquid	Chemical	Concentration (ppm)	CAS	ODT (ppm/v)	Exposure limit	Supplier?
Chemical A	Ethyl Acetate	50	141-78-6	0.87		
Chemical B	Acetone	50	67-64-1	42		
Chemical C	Acetic Acid	50	64-19-5	0.0060		

Group 5: Discussions within this subgroup are still underway. This is the current working list.

GROUP 5

Group 1 – Liquid	Chemical	Concentration (ppm)	CAS	ODT (ppm/v)	Exposure limit	Supplier?
Chemical A	Isoamyl acetate		123-92-2	2		
Chemical B	Isoamyl alcohol		123-51-3	250-300		
Chemical C	Phenylethyl alcohol		60-12-8	750-1100		

8. New Business/Activities for the Next Meeting

There was no New Business.

9. Future Meetings

The Chair announced the next meeting of the WG will take place on November 28 at 10:00 AM EST.

10. Adjourn

The one-hour meeting time-period having expired and without objection to unanimous consent, the Chair adjourned the meeting at 11:04 AM.

Attachment A: Participants (13)

NAME	AFFILIATION
Carlos Diaz	Ambiente et Odora
Christopher Jensen	Self
Duke Oeba	Egerton University, Kenya
Ehsan Danesh	Advanced Sensing Technologies Ltd.
Fengchun Tian	Chongqing University
Hua-Yao Li	Huazhong University of Science and Technology
James Covington	University of Warwick
Paul Kagan	AWLDM Systems
Sandrine Isz	Alpha-MOS
Saverio De Vito	ENEA
Susan Schiffman	North Carolina State University
Susana Palma	NOVA University of Lisbon
Troy Nagle	North Carolina State University