

**ASHRAE TC 3.1—Refrigerants and Secondary Coolants**

Atlanta, Georgia, USA & Virtual

Omni CNN Center Atlanta, Maple B (A-South)

2:30 – 4:30 p.m. EST

Login information is provided below for virtual attendees

Name	Affiliation
Voting Members	
Dennis Dawe (2025)	CBRE
Lydia Dobler (2024)	Calumet
Josh Hughes (2025)	Chemours
Sarah Kim (2025)	Koura
Valerie Lisi – Research SC (2024)	Carrier
Julie Majurin – Chair (2023)	AHRI
Mark McLinden (2025)	NIST
Alice Riemer (non-quorum) (2023)	Danfoss
Rosine Rohatgi (2025)	Spauschus
Casey Scruggs – Standards SC (2024)	Metalloid
Marc Scancarello (2024)	Emerson
Steve Kujak – Webmaster (2025)	Trane
Samuel Yana Motta – Vice Chair (2025)	ORNL
Non-Voting Members	
Michael Petersen – Handbook SC	Trane
Chris Seeton – Programs SC	Koura

Liaisons & Other:

Tina Brueckner - Section 3 Head
 CheeSheng Ow - RAC Liaison
 Steve Hammerling - ASHRAE Staff Liaison
 Eric Granzow - Handbook Liaison
 Gerald Kettler - Standards Liaison

Virtual Meetings and Conference Log-in Information:TC 3.1 Meeting – February 6th, 2023, 2:30 – 4:30 p.m. EST**Access Info:**Link for Attendees: <https://events.rdmobile.com/Sessions/Details/1612458>

Join by phone 18662994153 United States of America Toll Free +14702385742 US Toll

Access code: 2343 146 9603

TC 3.1, TC 3.2, TC 3.4 & TC 3.8 Combined Research and Program Virtual Meeting – January 24th, 2023
 2:00 pm – 4:00 pm (EST)

Link for Attendees:

<https://ashrae.webex.com/ashrae/j.php?MTID=m2652e962babca0535eac7cab1ff5d371>

Meeting number: 2346 652 9884 Password: S5i4wTaV8NC; Join by phone 18662994153 United States
 of America Toll Free +14702385742 US Toll

Access code: 2346 652 9884

The schedule of all virtual meetings, technical programs and other meetings can be found at online
 conference schedule with login information and instructions. You can also access via the ASHRAE
 website <http://www.ashrae.org/2023winter> which provides an overview of the meeting including
 registration.

AGENDA

ASHRAE TC 3.1—Refrigerants and Secondary Coolants

TC 3.1 is concerned with all properties and functions of refrigerants and secondary coolants, including commercial and experimental materials.

If you would like to become a member of TC 3.1:

- Go to <http://tc0301.ashraetcs.org/>
- Click on 'Membership', then 'Join TC 3.1'. Follow the prompts and you will be added as a Provisional member.
- Provisional membership lasts for 2 years. To move from Provisional member status, please contact the TC chair prior to the Winter meeting, and she or he can move you to Corresponding member status.

1. CALL TO ORDER

1.1 INTRODUCTION OF MEMBERS AND GUESTS

1.2 QUORUM DETERMINATION (13 VOTING MEMBERS)

2. ASHRAE CODE OF ETHICS

In this and all other ASHRAE meetings, we will act with honesty, fairness, courtesy, competence, inclusiveness and respect for others, which exemplify our core values of excellence, commitment, integrity, collaboration, volunteerism and diversity, and we shall avoid all real or perceived conflicts of interest.

<https://www.ashrae.org/about-ashrae/ashrae-code-of-ethics>

3. AGENDA REVIEW

4. MINUTES OF THE LAST MEETING (June 2022 Hybrid – Toronto)

5. ROSTER REVIEW AND ANNOUNCEMENTS

5.1 INTRODUCTION OF NEW MEMBERS

5.2 CHANGES

6. TC CHAIR'S MEETING REPORT

6.1 STRATEGIC VISION FOR THE TC

7. LIAISON COMMENTS (schedule may be adjusted)

8. SUBCOMMITTEE REPORTS

8.1 HANDBOOK (Michael Petersen)

8.1.1 Fundamentals Handbook – next update is for the 2025 publication.

- Chapter 29 (Refrigerants) – Michael Petersen (lead) with Ankit Sethi, Monika McNeil, and Harrison Skye as team members.
- Chapter 30 (Thermophysical Properties of Refrigerants) – Mark McLinden (lead) with Clair Skae supporting.
- Chapter 31 (Physical Properties of Secondary Coolants) – Keegan Yaroach (lead) with Mary Koban and Henna Tangri supporting.

8.2 PROGRAMS (Chris Seeton)

8.2.1 Programs/sessions at this meeting

- Sunday, February 5, 9:45 – 10:45 a.m. EST – Seminar 10: Low GWP Refrigerants and the Lessons Learned from the Past
Georgia World Congress Center, A402
- Tuesday, February 7, 8 – 9:30 a.m. EST – AHR Expo Session 1: Low GWP Refrigerant Advancements for Decarbonization Part 1
Georgia World Congress Center, B308
- Tuesday, February 7, 9:45 – 10:45 a.m. EST – AHR Expo Session 2: Low GWP Refrigerant Advancements for Decarbonization Part 2
Georgia World Congress Center, B308
- Tuesday, February 7, 11:00 a.m. – 12:30 p.m. EST – AHR Expo Session 3: Low GWP Refrigerant Advancements for Decarbonization Part 3
Georgia World Congress Center, B308
- Monday, February 6, 9:00 a.m. – 10:00 a.m. EST – Free Industry Session: Status Update on Refrigerant Classification, Specification, and Recovery Standards
Georgia World Congress Center, B311

8.2.2 New Program ideas

- Feedback from TC 3 Combined Programs Virtual Meeting on 1/24/2023
- New Program ideas from the TC

8.3 RESEARCH (Valerie Lisi)

8.3.1 Research Subcommittee Chair's Meeting Report

8.3.2 Current/Ongoing Research Activities

Number	Title	Contributors	Status/Action
1797-WS	Assessment of the A/B Toxicity Classification Used in Standard 34	Gary Jepson	
1851-WS	Electrical Properties of New Refrigerants	Ivan Rydkin, Josh Hughes	<i>TC vote at previous meeting.</i>
1884-TRP	Incorporation of Odorants in Refrigerants to Improve Leak Detection – Phase 3	Marc Scancarello	<i>Review bids at this meeting</i>
RTAR?	Re-evaluate Calibration of 200L to 12L Flammability Limits for Borderline Cases	Greg Linteris, Ivan Rydkin, Ryan Hulse, Julie Majurin	<i>TC vote at previous meeting</i>

8.3.3 Old Research ideas

- Follow-up research from 1855-RP
- Research to supplement work by Kenji Takizawa for applicability to std. development or electrical codes
- Investigating the WCFF methodology in Standard 34 and relevance to actual applications

8.3.4 New Research ideas

- Feedback from TC 3 Combined Programs Virtual Meeting on 1/24/2023
- New Research ideas from the TC

8.3.5 Executive Session – 1884-TRP

8.4 STANDARDS (Casey Scruggs)

8.4.1 Current Standards

- ANSI/ASHRAE Standard 34 (Designation & Safety Classification of Refrigerants) – Sarah Kim/Julie Majurin
- ASHRAE Guideline 6 (Refrigerant Information Recommended for Product Development and Standards) – Lauren Huffman (Chris Seeton, Casey Scruggs, Steve Kujak, Rosine Rohatgi, Dennis Dawe, Sheli Porter)
- ASHRAE Guideline 39 (Method of Test for Measuring Fractionated Compositions of Refrigerant Blends) – Ankit Sethi (Josh Hughes, Rosine Rohatgi, Julie Majurin, Sarah Kim, Dennis Dawe)

8.4.2 New Standard ideas from the TC

9. WEBSITE (Steve Kujak)

<https://tc0301.ashraetcs.org>

10. OLD BUSINESS

- ASHRAE Position Document on 'Refrigerants and their Responsible Use' - Samuel Yana Motta
- Basecamp – TC 3.1 site is in use

<https://3.basecamp.com/3106353/projects/10584516>

11. NEW BUSINESS

- ASHRAE TG 9. SPACE – inquiry on research on Refrigerants and Refrigeration Cycles in Zero Gravity

12. NEXT MEETING

- Tampa, Florida, USA – June 26, 2023

13. ADJOURNMENT