



**Final Agenda -1/21/2018**  
**TOXICITY SUBCOMMITTEE**  
**SSPC-34: Designation & Safety Classification of Refrigerants**  
 Palmer House – Salon 7/8 – Chicago, IL  
 Sunday, January 21, 2018; 6:30 PM - 10:00 PM

Name	Affiliation	Present
<b>Toxicity Subcommittee Voting Members (PSVM)</b>		
Steve Kujak-Chair (C 2018)	Ingersoll Rand	
Paul Dugard (S 2019)	PHD Consulting	
Gary W. Jepson (C 2019)	Chemours	
George M. Rusch (S 2018)	Consultant	
Jay Kohler (C 2021)	JCI	
Eric Smith (C 2018)	IIAR	
Tatsuro Kobayashi (S 2019)	Daikin	
Valerie Shultz (S 2019)	Arkema	
Sandeep Mukhi (S 2021)	Honeywell	
<b>Toxicity Subcommittee Non-voting Members</b>		
David Rule (S 2018)	IIAR (alternate)	
<b>Other Guest</b>		

**1. CALL TO ORDER**

- a. Introduction of Members and Guests
- b. Quorum Determination
- c. Announcements
- d. ASHRAE Code of Ethics Review – Attachment 1 in agenda

**2. AGENDA REVIEW**

**ACTION:** *Approve/revise the agenda for the meeting.*

**3. MINUTES OF LAST MEETINGS**

**ACTION:** *Approve/revise the minutes of the Atlanta meeting.*

**4. ROSTER CHANGES**

The Chair will review the current roster.

Toxicity Subcommittee (10) [4 PCVM, 5 PSVM, 1 Alternate]

<i>Producer/Refrigerant</i> (6)	<i>User/Systems</i> (2)	<i>User/Components</i> (0)	<i>General</i> (2)
Paul Dugard (S 2019)	Steve Kujak <i>Chair</i> (C 2018)		George Rusch (S 2018)
Gary Jepson (C 2019)	Jay Kohler (C 2021)		IIAR <sup>1</sup> , Eric Smith (C 2018) / David Rule (alternate - 2018)
Tatsuro Kobayashi (S 2019)			
Michael Maynard (S 2019) <sup>2</sup>			
Sandeep Mukhi (S 2021)			
Valerie Shultz (S 2019)			

**ACTION:** For information only.

**5. APPLICATIONS FOR REFRIGERANT DESIGNATION AND SAFETY CLASSIFICATION**

No new applications have been received for action. Only one past application needs review.

5.1. **R0091-16-12** from Yingxia Qi, Jiangsu Freeze Environmental Protection and New Material Co, Ltd, for the proposed zeotropic refrigerant blend R-290 / 600a (95.0 / 5.0 by mass % with composition tolerances of ±2.0 / ±2.0 by mass %).

**Action:** Last meeting the PC identified potential contaminants that might affect the toxicity RCL values, the Classification. SC to review if these small contaminants are a concern and modify the motion from Long Beach meeting. Motion below from Long Beach that was sent to the SPC.

<b>Motion:</b>	
Recommend to SSPC 34 to accept this application as meeting the toxicity requirements of standard 34 and assign the following values	
<b>Safety Classification</b>	A
<b>OEL (ppm)</b>	990
<b>ATEL (ppm)</b>	48,000
<b>(lbs/mcf)</b>	5.5
<b>(g/m3)</b>	88

<b>Made By</b>	Paul
<b>Second</b>	Gary
<b>For</b>	7
<b>Against</b>	0
<b>Abstain</b>	0
<b>CNV</b>	0

**Discussion/Deficiencies:**

None

**Following 4 Applications are still on Hold/Tabled per Applicants request**

5.2. **R0064-15-05** from Evan Laganis, Asahi Glass Company, for the proposed single component refrigerant 1,1,2-trifluoroethene (R-1123). Note that this was tabled during the JUN 2015 ASHRAE Conference meeting and a summary of the Subcommittee / Project Committee motions is found in Attachment 7A.

From June 2015 Project Committee Motion:

Table this application until next Society Meeting. Safety Classification is contingent on WEEL limit being assigned by TERA-OARS and Flammability Subcommittee making a recommendation to the PC (Interim Meeting to be scheduled by the Flammability Chair) regarding known or insufficient information related to safety concerns for disproportionation / energetic polymerization.

The motion passed: 5 -0-4-2 (CNV).

Abstentions:

Sundaresan – we can do better

Senediak – going to require footnote or change to the Standard to accomplish this refrigerant approval

MacLeod – issue of no intention to commercialize this single refrigerant, Standard 34 rule is prohibiting the refrigerant blend from moving forward

Takizawa – helped prepare the application

Wilson abstained - CNV.

O'Leary, Zheng absent.

**ACTION:** For information only. *Placed on hold at request of applicant. Still tabled per rules.*

5.3. **R0065-15-05** from Evan Laganis, Asahi Glass Company, for the proposed zeotropic refrigerant blend R-1123 / 32 (45.0 / 55.0 by mass% with composition tolerances of  $\pm 2.0$  /  $\pm 2.0$  by mass %). Note that this was tabled during the JUN 2015 ASHRAE Conference meeting due to the R-1123 classification issue and a summary of the Subcommittee / Project Committee motions is found in Attachment 7B.

From June 2015 Project Committee motion:

Motion by Kujak / seconded by Senediak to **table this application** until next Society Meeting. Safety Classification is contingent on WEEL limit being assigned to HFO-1123 by TERA-OARS and Flammability Subcommittee making a recommendation to the PC (Interim Meeting to be scheduled by the Flammability Chair) regarding insufficient data / information addressing safety concerns for disproportionation / energetic polymerization.

The Motion passed: 9-0-0-2 (CNV). Wilson abstained - CNV. O'Leary, Zheng absent.

**ACTION:** For information only. *Placed on hold at request of applicant. Still tabled per rules*

- 5.4. **R0066-15-05** from Evan Laganis, Asahi Glass Company, for the proposed zeotropic refrigerant blend R-1123 / 32 (40.0 / 60.0 by mass% with composition tolerances of  $\pm 2.0$  /  $\pm 2.0$  by mass %). Note that this was tabled during the JUN 2015 ASHRAE Conference meeting due to the R-1123 classification issue and a summary of the Subcommittee / Project Committee motions is found in Attachment 7C.

From June 2015 Project Committee motion:

Motion by Kujak / seconded by Senediak to **table this application** until next Society Meeting. Safety Classification is contingent on WEEL limit being assigned to HFO-1123 by TERA-OARS and Flammability Subcommittee making a recommendation to the PC (Interim Meeting to be scheduled by the Flammability Chair) regarding insufficient data / information addressing safety concerns for disproportionation / energetic polymerization.

The Motion passed: 9-0-0-2 (CNV). Wilson abstained - CNV. O'Leary, Zheng absent.

**ACTION:** For information only. *Placed on hold at request of applicant. Still tabled per rules*

- 5.5. **R0089-16-12** from Evan Laganis, AGC Chemicals Americas, Inc. on behalf of Asahi Glass Co., Ltd., for the proposed zeotropic refrigerant blend R-1123 / 32 / 1234yf (19.0 / 55.0 / 26.0 by mass% with composition tolerances of  $\pm 2.0$  /  $\pm 2.0$  /  $\pm 2.0$  by mass %).

**ACTION:** For information only. *Placed on hold at request of applicant. Still tabled per rules*

## 6. PUBLICATION PUBLIC REVIEWS

- 6.1 None pertaining to toxicity.

**ACTION:** For information only. Information below is provided as reference information for the toxicity committee

- 6.2 Standard 34-2016 Status – an informative summary table for addenda to ASHRAE Standard 34-2016 is in ATTACHMENT 2.

- 6.3 There were no comments received on the public review drafts of the following addenda. They will be voted on by the Standards Committee and the Board of Directors (BOD) in January 2018. Formal publication will follow an ANSI review

*34h-2016* This addendum removes the application fee from Standard.34.

*34j-2016* This addendum adds the zeotropic blend R-460C [R-32 / 125 / 134a / 1234ze(E) (2.5 / 2.5 / 46.0 / 49.0 by mass %)] to Table 4-2 and Table D-2 as A1.

*34k-2016* This addendum adds the zeotropic blend R-464A [R-32 / 125 / 1234ze(E) / 227ea (27.0 / 27.0 / 40.0 / 6.0 by mass %)] to Table 4-2 and Table D-2 as A1.

*34l-2016* This addendum adds the zeotropic blend R-407I [R-32 / 125 / 134a (19.5 / 8.5 / 72.0 by mass %)] to Table 4-2 and Table D-2 as A1.

*34m-2016* This addendum adds the zeotropic blend R-465A [R-32 / 290 / 1234yf (21.0 / 7.9 / 71.1 by mass %)] to Table 4-2 and Table D-2 as A2.

*34n-2016* This addendum makes changes to the toxicity classification procedure (to be based on the nominal formulation of the blend) with the intent to harmonize ASHRAE Standard 34 and ISO.

## **7. CONTINUOUS MAINTENANCE PROPOSALS AND MISCELLANEOUS ITEMS**

### **7.1 Updates to ATEL table and Application Guideline**

These are standing agenda items for the committee to review and recommend any updates to these items.

- a. Updates of ATEL table and spreadsheet calculator (Steve Kujak)

Latest calculator is on the website.

**ACTION:** Review calculator and approve latest updated addition to be added to the SSPC34 website

- b. Update of Application toxicity guideline (Steve Kujak)

**ACTION:** None, latest update has been posted to SSPC34 website

### **7.2 RCL Inconsistencies in the Standard.**

The previous version of the calculator was driving inconsistency because of a calculation error. A small group (Steve, Sean, Gary) per Long Beach actions, was formed and reviewed list and is proposing the following changes. See accompanying excel spreadsheet. Steve to create summary of changes for the meeting.

**ACTION:** Review proposed changes and potentially take actions to recommend changes to SPC.

### **7.3 Continuous Maintenance (Gary Jepson) CM 34-17-12 0003/001**

**Proposed change – Section 6.1.2**



**FORM FOR SUBMITTAL OF PROPOSED CHANGE TO AN  
ASHRAE STANDARD UNDER CONTINUOUS MAINTENANCE**

NOTE: Use a separate form for each comment. Submittals (Microsoft Word preferred) may be attached to e-mail (preferred), or submitted in paper by mail or fax to ASHRAE, Senior Manager of Standards, 1791 Tullie Circle, NE, Atlanta, GA 30329-2305. E-mail: change.proposal@ashrae.org. Fax: +1-404/321-5478.

**1. Submitter: Gary Jepson** **Proposal Number 34-17-12-0003/001**  
 Affiliation: Chemours Co., SSPC34 Project Committee, SSPC34 Toxicity Subcommittee  
 Address: 1007 Market St. City: Wilmington State: DE Zip: 19702 Country: USA  
 Telephone: 302-650-4720 Fax: E-Mail: Gary.w.jepson-1@chemours.com

I hereby grant ASHRAE the non-exclusive royalty rights, including non-exclusive rights in copyright, in my proposals. I understand that I acquire no rights in publication of the standard in which my proposals in this or other analogous form is used. I hereby attest that I have the authority and am empowered to grant this copyright release.

Submitter's signature:  Date: 19 January 2017 **Rec'd: 1/19/17**

*All electronic submittals must have the following statement completed:*

I, Gary Jepson, through this electronic signature, hereby grant ASHRAE the non-exclusive royalty rights, including non-exclusive rights in copyright, in my proposals. I understand that I acquire no rights in publication of the standard in which my proposals in this or other analogous form is used. I hereby attest that I have the authority and am empowered to grant this copyright release.

**2. Number and year of standard: ANSI/ASHRAE Standard 34-2016**

**3. Page number and clause (section), subclause, or paragraph number:**

**4. I propose to:**  Change to read as follows  Delete and substitute as follows  
 Add new text as follows  Delete without substitution  
*(check one)*

Use underscores to show material to be added (added) and strike through material to be deleted (deleted). Use additional pages if needed.

**5. Proposed change: 6.1.2 Toxicity Classification.** Refrigerants shall be assigned to one of two classes, A or B, based on allowable exposure based on an Occupational Exposure Limit (OEL) derived by TERA WEEL or ACGIH TLV.  
~~Class A~~ refrigerants have an OEL of 400 ppm or greater.  
~~Class B~~ refrigerants have an OEL of less than 400 ppm.

Note: If the proposal is adopted, the refrigerant application instructions would change as follows.

<b>9.6.2</b>	<b>Occupational Exposure Limit (OEL)</b>	
<b>9.6.2.b</b>	ACGIH TLV-TWA, if assigned	Provide value and source
<b>9.6.2.c</b>	TERA WEEL, if assigned	Provide value and source
<b>9.6.2.d</b>	OSHA PEL, if assigned	Provide value and source
<b>9.6.2.d</b>	8-hr Time-Weighted Average (TWA) Occupational Exposure Limit (OEL), if available. Otherwise provide the applicant recommended 8-hr TWA OEL, with a detailed explanation of how the OEL was determined. If the refrigerant is a blend, the OEL should be calculated for the entire blend.	Provide value and source of OEL. If OEL is generated by applicant, details and assumptions used to generate the recommended OEL should be provided.

**6. Reason and substantiation:** The reason for the proposed change is to better reflect the international relevance and focus of ASHRAE 34 and to minimize conflict between ASHRAE 34 and ISO 817. Further the change would improve clarity and diminishes the opportunity for misuse of ASHRAE 34 by organizations advancing a self-serving agenda or political position. For example, the ASHRAE 34 refrigerant application instructions mention the OEL sources of the WEEL, TLV and OSHA PEL. The PEL is an official value derived by a United States government organization and should be removed to eliminate the perception that ASHRAE 34 is US centric. Both the WEEL and the TLV values are derived by independent organizations composed of qualified experts from varied organizations and backgrounds. Membership in these organizations is open to qualified experts from any country or affiliation, which is in direct contrast to local, regional or government derived OEL values. Another benefit to adopting the proposal is that it would better reconcile the safety classification scheme between ASHRAE 34 and ISO 817, which currently possess the potential to offer different safety classifications using the same dataset. A similar proposal has been made to ISO 817 WG5 to remove local, regional and country OELs as the basis for safety classification. For example, in ISO 817 refrigerant application instructions, the OEL sources are the WEEL, TLV or MAK. The MAK is a German OEL and there is no mention of the PEL. By removing the PEL from ASHRAE 34 and the MAK from ISO 817 and adopting the proposed change, both ASHRAE 34 and ISO 817 will better serve the international community and be less prone to manipulation by special interests.

**7. Will the proposed change increase the cost of engineering or construction? If yes, provide a brief explanation as to why the increase is justified. No.**

[ ] Check if additional pages are attached. Number of additional pages: \_\_\_\_\_

[ ] Check if attachments or referenced materials cited in this proposal accompany this proposed change. Please verify that all attachments and references are relevant, current, and clearly labeled to avoid processing and review delays. *Please list your attachments here:*

**ACTION:** Continue discussion from Long Beach. *Review relevant content of the application and develop a recommendation for the PC*

## **8. WS 1797 DEVELOPMENT OF AN A/B ACUTE TOXICITY CLASSIFICATION FOR REFRIGERANTS**

1797 Work statement was to be sent to RAC from TC 3.1 for consideration and should get feedback at this meeting on acceptability. RAC feedback in St. Louis was to return with comments.

PES is Kujak (lead), Kennoy, Rusch, Jepson, Seeton

**ACTION:** Informational only, no action needed by toxicity committee directly. Work statement has been updated based on comments from RAC (Thanks Gary) and TC 3.1 has reapproved the work statement and sent it on to RAC for review again. RAC to review in Chicago.

## **9. WS 1792 ASHRAE 34 TOXICITY DATA DOCUMENTATION AND MIXTURE CALCULATIONS**

Since the calculator was updated by Ingersoll Rand (Ken Schultz) and improved to allow for better flexibility and calculation, it was decided by toxicity committee to withdraw this work statement. Steve Kujak asked RAC to withdraw and RAC agreed to withdraw.

**ACTION:** Informational only, no action needed.

## **10. OLD BUSINESS**

### **10.1 Rounding and Reporting of Toxicity data**

At Atlanta meeting, it was determined that Steve Kujak should develop a CM to consider at the Orlando meeting to resolve in the standard how to round toxicity data. Need to add the method of rounding toxicity data. Practice has been <4 ppm round down >4 ppm round up, plus identify the amount of significant digits to report which is 2. Language around OEL 400 ppm limit will need to be carefully considered. More rounding errors in the standard were found with the ATEL with a number of pure refrigerants and blends.

**ACTION:** For information only Suggested language: The ATEL, FCL, OEL, and RCL concentrations are rounded to two significant figures, with the second significant figure rounded up when the value is  $\geq 5$ , and rounded down when the value is  $< 5$ .

Steve will work with Debbie and ASHRAE committee to determine the path forward for updating the language to be code specific language; also need to work with the flammability subcommittee for verification of the proposed change to FCL, etc.

## 10.2 Posting of Toxicity Information for Commonly Used Refrigerants

At Atlanta meeting, Sandi Murphy asked what has to be done to post information based on recent, well-reviewed applications on commonly used refrigerants. A small working group was proposed to make templates of relevant information. ASHRAE needs to answer the question on whether or not information submitted in an application is in the public domain. Steve will bring this up to the main SSPC 34 committee.

**ACTION:** Continue discussion of best path forward. From Orlando: Steve will work with Debbie through ASHRAE to get a ruling for posting this information.

## 11. NEW BUSINESS

11.1 Tom Lewandowski (Chair of the WEEL committee) will give a presentation and be available to answer questions regarding the WEEL process

## 12. NEXT MEETING

### January 20 -24 (2018), Chicago, IL

D&N	Saturday, June 23	7:30 am – 10:00 am
Flammability	Saturday, June 23	10:00 am – 3:00 pm
Toxicology	Sunday, June 24	6:30 pm – 10:00 pm
SSPC 34	Monday, June 25	6:30 pm – 10:00 pm

## 13. ADJOURNMENT

**ACTION:** Motion for Adjournment



## **Attachment 1**

### **ASHRAE Code Of Ethics**

(Approved by ASHRAE Board of Directors January 30, 2013)

1.140.001.1 As members of ASHRAE or participants in ASHRAE committees, we pledge to act with honesty, fairness, courtesy, competence, integrity and respect for others in our conduct.

A. Efforts of the Society, its members, and its bodies shall be directed at all times to enhancing the public health, safety and welfare.

B. Members and organized bodies of the Society shall be good stewards of the world's resources including energy, natural, human and financial resources.

C. Our products and services shall be offered only in areas where our competence and expertise can satisfy the public need.

D. We shall act with care and competence in all activities, using and developing up-to-date knowledge and skills.

E. We shall avoid real or perceived conflicts of interest whenever possible, and disclose them to affected parties when they do exist.

F. The confidentiality of business affairs, proprietary information, intellectual property, procedures, and restricted Society discussions and materials shall be respected.

G. Each member is expected and encouraged to be committed to the code of ethics of his or her own professional or trade association in their nation and area of work.

H. Activities crossing national and cultural boundaries shall respect the ethical codes of the seat of the principal activity.

## ATTACHMENT 2

### Summary of New Refrigerants to Standard 34 - Informative

ID	applicant	composition	R-name class	conference	notes	status
R0068-15-05	Daikin	R-32 / 125 / 134a (32.5 / 15.0 / 52.5 mass %)	R-407H A1	JUN 2015	Addendum <b>34w</b> to 34-2013 / 34-2016 Comment received PC finalized	Posted as addendum on ASHRAE website
R0064-15-05	AGC (Asahi Glass)	1,1,2-trifluoroethene (HFO-1123)	---	JUN 2015	Toxicity data being generated	Tabled until JUN 2017
R0065-15-05	AGC (Asahi Glass)	HFO-1123 / R32 (45.0 / 55.0 mass %)	---	JUN 2015	HFO-1123 tox data needed	Tabled until JUN 2017
R0066-15-05	AGC (Asahi Glass)	HFO-1123 / R32 (40.0 / 60.0 mass %)	---	JUN 2015	HFO-1123 tox data needed	Tabled until JUN 2017
R-0081-16-05	Arkema	R-32 / 1234yf / 1234ze(E) (68.0 / 26.0 / 6.0 mass %)	R-459A A2L	JUN 2016	Addendum <b>34ak</b> to 34-2013 / 34-2016 PPR posting 8/26/16 – 9/25/16 0 comments	Posted as addendum on ASHRAE website
R-0082-16-05	Arkema	R-1234yf / 134a / 152a (77.5 / 8.5 / 14.0 mass %)	R-516A A2L	JUN 2016	Addendum <b>34b</b> to 34-2016 PPR posting 4/14/17 – 5/14/17 0 comments	Posted as addendum on ASHRAE website
R-0083-16-05	Mexichem	R-32 / 1234yf / 1234ze(E) (77.5 / 8.5 / 14.0 mass %)	R-459B A2L	JUN 2016	Addendum <b>34al</b> to 34-2013 / 34-2016 PPR posting 8/26/16 – 9/25/16 0 comments	Posted as addendum on ASHRAE website
R-0084-16-05	Mexichem	R-32 / 125 / 134a / 1234ze(E)	R-460A A1	JUN 2016	Addendum <b>34am</b> to 34-2013 / 34-2016	Posted as addendum on

		(12.0 / 52.0 / 14.0 / 22.0 mass %)			PPR posting 8/26/16 – 9/25/16 0 comments	ASHRAE website
R-0085-16-05	Mexichem	R-32 / 125 / 134a / 1234ze(E) (28.0 / 25.0 / 20.0 / 27.0 mass %)	R-460B A1	JUN 2016	Addendum <b>34an</b> to 34-2013 / 34-2016 PPR posting 8/26/16 – 9/25/16 0 comments	Posted as addendum on ASHRAE website
R-0086-16-05	Behr Refrigerants	R-125 / 143a / 134a / 227ea / 600a) (55.0 / 5.0 / 32.0 / 5.0 / 3.0 mass %)	R-461A A1	JUN 2016	Addendum <b>34a</b> to 34-2016 PPR posting 4/14/17 – 5/14/17 0 comments	Posted as addendum on ASHRAE website
R-0087-16-12	Mexichem	1,1-difluoroethylene	R-1132a A2	JAN 2017	Addendum <b>34f</b> to 34-2016 PPR posting 8/26/16 – 9/25/16 0 comments	Posted as addendum on ASHRAE website
R0088-16-12	AGC (Asahi Glass)	(Z)-1-chloro-2,3,3,3-tetrafluoropropene (HFO-1224yd(Z))		JAN 2017	Addendum <b>34c</b> to 34-2016 PPR posting 8/26/16 – 9/25/16 0 comments	Posted as addendum on ASHRAE website
R0089-16-12	AGC (Asahi Glass)	HFO-1123 / R32 / 1234yf (19.0 / 55.0 / 26.0 mass %)	---	JAN 2017	HFO-1123 tox data needed	Tabled until JUN 2017
R0090-16-12	ICOOL Ningbo	R-32 / 125 / 143a / 134a / 600 (9.0 / 42.0 / 2.0 / 44.0 / 3.0 mass %)	R-462A A2	JAN 2017	Addendum <b>34d</b> to 34-2016 PPR posting 4/14/17 – 5/14/17 0 comments	Posted as addendum on ASHRAE website
R0091-16-12	Jiangsu Freeze Environmental Protection and New Material Co, Ltd	R-290 / 600a (95.0 / 5.0 mass %)		JAN 2017		Tabled
R0092-17-05	Chemours	R-744 / 32 / 125 / 1234yf / 134a (6.0 / 36.0 / 30.0 / 14.0 / 14.0 mass%)	R-463A (tentative) A1 (tentative)	JUN 2017	Addendum <b>34i</b> to 34-2016 PPR posting 4/14/17 – 5/14/17 1 comment	To be addressed during SSPC 34 meeting in Chicago (JAN 2018)

R0093-17-05	Arkema	R-32 / 290 / 1234yf (21.0 / 7.9 / 71.1 mass%)	R-465A (tentative) A2 (tentative)	JUN 2017	Addendum <b>34m</b> to 34-2016 PPR posting 4/14/17 – 5/14/17 0 comments	Move to ASHRAE Standards Committee / Board of Directors for approval vote in JAN 2018
R0094-17-05	Trio Gas Products	R-32 / 125 / 134a / 1234ze(E) (2.5 / 2.5 / 46.0 / 49.0 mass %)	R-460C (tentative) A1 (tentative)	JUN 2017	Addendum <b>34j</b> to 34-2016 PPR posting 4/14/17 – 5/14/17 0 comments	Move to ASHRAE Standards Committee / Board of Directors for approval vote in JAN 2018
R0095-17-05	Refrigerant Solutions	R-32 / 125 / 1234ze(E) / 227ea (27.0 / 27.0 / 40.0 / 6.0 mass %)	R-464A (tentative) A1 (tentative)	JUN 2017	Addendum <b>34k</b> to 34-2016 PPR posting 4/14/17 – 5/14/17 0 comments	Move to ASHRAE Standards Committee / Board of Directors for approval vote in JAN 2018
R0096-17-05	Daikin	R-32 / 125 / 134a (19.5 / 8.5 / 72.0 mass %)	R-407I (tentative) A1 (tentative)	JUN 2017	Addendum <b>34l</b> to 34-2016 PPR posting 4/14/17 – 5/14/17 0 comments	Move to ASHRAE Standards Committee / Board of Directors for approval vote in JAN 2018
R0097-17-05	Honeywell	R-1234ze(E) / 227ea (91.1 / 8.9 mass %) azeotrope		JUN 2017		Tabled