IDENTICAL-IN-SUBSTANCE RULEMAKING ADDENDUM
TO THE OPINION AND ORDER OF THE BOARD

Definition of VOM Update, USEPA Amendments
(July 1, 2018 through December 31, 2018), R19-15

This addendum includes the following tables:

The tables included in this addendum supplement the Board's May 21, 2020 proposed opinion and order in the above-cited identical-in-substance rulemaking.

Table 1:
Federal Amendments That Are Not Necessary in This Docket

Chemical name: 3-Ethoxy-1,1,1,2,3,4,4,5,5,6,6,6-dodecafluoro-2-(trifluoromethyl)hexane

Amendment omitted: USEPA inappropriately added spaces after "3-ethoxy-" and before "hexane."

Explanation: No hyphen is added before a non-annotated moiety when not needed for a line break.

Chemical name: 1,1,1,2,2,3,3,4,4-nonafluoro-4-methoxybutane

Amendment omitted: Retaining a hyphen between "methoxy" and "butane" after amendments eliminated a line break between the moieties.

Explanation: No hyphen is added before a non-annotated moiety when not needed for a line break.

Chemical name: 1,1,1,2,2,3,3,4,4-nonafluoro-4-methoxybutane

Amendment omitted: Retaining a hyphen between "methoxy" and "butane" after amendments made it no longer necessary for a line break between moieties.

Explanation: No hyphen is added before a non-annotated moieties when not needed for a line break.

Table 2:
Deviations from the Text of the Federal Amendment

Chemical name: (Z)-1,1,1,4,4,4-hexa¬fluorobut-2-ene (HFO-1336mzz-Z, CAS No. 692-49-9)

Revisions to amendment: Changed "*cis*-" to the IUPAC-preferred notation "(*Z*)-"; added "CAS No. 692-49-9" offset by a comma within the parenthetical.

Explanation: The Board prefers the more precise IUPAC naming scheme. The IUPAC-preferred notation, "(*Z*)," potentially conveys more information that "*cis*" in use. CAS numbers precisely identify compounds and mixtures more effectively than common chemical names alone.

Table 3:
Board Housekeeping Amendment

Chemical name: 1,1,1,2,3,4,4,5,5,5-decafluoropentane

Amendment: Corrected the HFC code "HFC 43-10mee" to "HFC-4310mee."[1]

Note: The incorrect HFC code derives from and still exists in USEPA's text.

Table 4:
Observed Format Errors in Chemical Names and Identifiers in USEPA's Rule

The Board observes format errors in chemical names and identifiers in USEPA's rules. The following table ignores what does not appear in 40 C.F.R. § 51.100(s) and the present amendments. The table does not include Board corrections to the USEPA text that the Board makes or does not make in the present rulemaking. Those are listed in Tables 1 and 2 above. The purpose is to inform USEPA of these errors.

Chemical Name/Code Error in Text	**Corrected Text As It Should Appear**
1,2-dichloro 1,1,2,2-tetrafluoroethane Error: missing hyphen before an annotated moiety	1,2-dichloro-1,1,2,2-tetrafluoroethane
1,1,1-trifluoro 2,2-dichloroethane Error: missing hyphen before an annotated moiey	1,1,1-trifluoro-2,2-dichloroethane[2]
1,1-dichloro 1-fluoroethane Error: missing hyphen before an annotated moiety	1,1-dichloro 1-fluoroethane

[1] See "HFC-4310mee." *Substance Registry Services, USEPA,* https://iaspub.epa.gov/sor_internet/registry/substreg/searchandretrieve/advancedsearch/externalSearch.do?p_type=CASNO&p_value=138495-42-8. Accessed May 13, 2020.

[2] This appears as "1,1-Dichloro-2,2,2-trifluoroethane" in the Illinois rule, using the IUPAC name. *See PubChem Compound*, "306-83-2," https://www.ncbi.nlm.nih.gov/pccompound/?term=306-82-2. Accessed May 15, 2020.

1-chloro 1,1-difluoroethane	1-chloro 1,1-difluoroethane
Error: missing hyphen before an annotated moiety	
1,1,1,2,2,3,3-heptafluoro-3-methoxy-propane (n-C3F7OCH3)	1,1,1,2,2,3,3-heptafluoro-3-methoxy-propane (n-$C_3F_7OCH_3$)[3]
Error: atomic quantities must appear subscripted in molecular formulae	
3-ethoxy- 1,1,1,2,3,4,5,5,6,6,6-dodecafluoro-2-(trifluoromethyl) hexane	3-ethoxy-1,1,1,2,3,4,5,5,6,6,6-dodecafluoro-2-(trifluoromethyl)hexane
Errors: erroneous spaces after a hyphen and between moieties	
methyl formate (HCOOCH3)	methyl formate ($HCOOCH_3$)[4]
Error: Atomic quantities must appear subscripted in molecular formulae	
1,1,1,2,2,3,4,5,5,5-decafluoro-3-methoxy-4-trifluoromethyl-pentane	1,1,1,2,2,3,4,5,5,5-decafluoro-3-methoxy-4-trifluoromethylpentane
Error: erroneous hyphen before an non-annotated moieties	
trans 1-chloro-3,3,3-trifluoroprop-1-ene	*trans*-1-chloro-3,3,3-trifluoroprop-1-ene
Error: missing hyphen after the prefix structural annotation	
1,1,2,2- Tetrafluoro -1-(2,2,2-trifluoroethoxy) ethane	1,1,2,2-tetrafluoro-1-(2,2,2-trifluoroethoxy)-ethane
Errors: erroneous spaces after and before hyphens and between moieties[5]	
1,1,1,2,2,3,3,4,4-Nonafluoro-4-methoxy-butane	1,1,1,2,2,3,3,4,4-Nonafluoro-4-methoxybutaneethane
Errors: erroneous hyphen retained between moieties where not needed for a line break	

[3] The Illinois rule does not include the molecular formula.

[4] *See supra* note 3.

[5] This is the only entry in 40 C.F.R. § 51.100(s)(1) (2019) that USEPA capitalized. While not an error, it is inconsistent.