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

Definition of VOM Update, USEPA Amendments
(July 1, 2018 through December 31, 2018), R19-15
(Aug. 13, 2020)

This addendum includes the following tables:

The tables included in this addendum supplement the Board's August 13, 2020 final 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

211.7150(a) (Board unless otherwise indicated):

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.

Chemical name: 1,3-Dichloro-1,1,2,2,3-pentafluoropropane

Amendment: Moved the entry into appropriate alphabetical order.

Chemical name: fluoroethane

Amendment: Changed the common name "ethyl fluoride" to the IUPAC name "fluoroethane."

Chemical name: (Z)-1,1,1,4,4,4-hexafluorobut-2-ene

Amendment: (JCAR) Capitalized the chemical name.

Chemical name: 1,1,1,2,3-pentafluoropropane

Amendment: Moved the entry into appropriate alphabetical order.

Chemical name: 1,1,1,3,3-pentafluoropropane

Amendment: Moved the entry into appropriate alphabetical order.

Chemical name: 1,1,1,2-tetrafluoroethane

Amendment: Moved the entry into appropriate alphabetical order.

Chemical name: 1,1,2,2-tetrafluoro-1-(2,2,2-trifluoroethoxy)ethane

Amendment: Moved the entry into appropriate alphabetical order.

211.7150(b) (Board): Removed the hyphen to correct "negligibly-reactive" to "negligibly reactive."

211.7150(c) (Board): Removed the hyphen to correct "negligibly-reactive" to "negligibly reactive."

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[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.

211.7150(d) (Board): Removed the hyphen to correct "negligibly-reactive" to "negligibly reactive."

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-chloro 1,1-difluoroethane Error: missing hyphen before an annotated moiety	1-chloro 1,1-difluoroethane
1,1,1,2,2,3,3-heptafluoro-3-methoxy-propane (n-C3F7OCH3) Error: atomic quantities must appear subscripted in molecular formulae	1,1,1,2,2,3,3-heptafluoro-3-methoxy-propane (n-$C_3F_7OCH_3$)[3]
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	3-ethoxy-1,1,1,2,3,4,5,5,6,6,6-dodecafluoro-2-(trifluoromethyl)hexane

[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.

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

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	

Table 5:
Revisions to the Proposal Made on Final Adoption

211.7150(a), 1,3-dichloro-1,1,2,2,3-pentafluoropropane (Board): Moved the entry into appropriate alphabetical order.

211.7150(a), fluoroethane (Board): Changed the common name "ethyl fluoride" to the IUPAC name "fluoroethane."

211.7150(a), (Z)-1,1,1,4,4,4-hexafluorobut-2-ene (JCAR): Capitalized the chemical name.

211.7150(a), 1,1,1,2,3-pentafluoropropane (Board): Moved the entry into appropriate alphabetical order.

211.7150(a), 1,1,1,3,3-pentafluoropropane (Board): Moved the entry into appropriate alphabetical order.

211.7150(a), 1,1,1,2-tetrafluoroethane (Board): Capitalized the chemical name; moved the entry into appropriate alphabetical order.

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[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.

211.7150(a), 1,1,2,2-tetrafluoro-1-(2,2,2-trifluoroethoxy)ethane (Board): Moved the entry into appropriate alphabetical order.

211.7150(b) (Board, JCAR): Changed "pursuant to a permit" to "under a permit" to reflect JCAR-requested revision in R19-1; changed "40 CFR 51, subpart I or appendix S, incorporated by reference at 35 Ill. Adm. Code 218.112 and 219.112" to "35 Ill. Adm. Code 203" to reflect Agency-requested revision in R19-1; changed "40 CFR 52.21, incorporated by reference at 35 Ill. Adm. Code 218.112 and 219.112, as applicable" to "Section 9.1(d) of the Act" to reflect Agency-requested revision in R19-1; changed "where such a method" to "if a method" to reflect JCAR-requested revision in R19-1; changed "such compounds" to "those compounds" to reflect JCAR-requested revision in R19-1.

211.7150(d) (Board, JCAR): Changed "such determination" to "those determination" to reflect JCAR-requested revision in R19-1.