

1 **DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT**

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4 **Solid and Hazardous Waste Commission/Hazardous Materials and**
5 **Waste Management Division**

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8 **6 CCR 1007-3**

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10 **HAZARDOUS WASTE**

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14 **Addition of Part 267 Subpart Q – Class B Firefighting Foam Containing PFAS**

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17 **1) The Table of Contents for Part 267 is amended by adding the listings for Subpart Q to**
18 **read as follows:**

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20
21 **PART 267 – STANDARDS FOR THE MANAGEMENT OF SPECIFIC HAZARDOUS**
22 **WASTES AND SPECIFIC TYPES OF HAZARDOUS WASTE**
23 **MANAGEMENT FACILITIES.**

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25 *****

26 **Subpart Q – Class B Firefighting Foam Containing PFAS**

27
28 **Sec.**

- 29 267.600 Purpose and Applicability
30 267.601 Definitions
31 267.605 Applicability of Requirements
32 267.610 Registration and Certificate Program
33 267.615 Capture Requirements
34 267.620 Spent Class B Firefighting Foam Storage
35 267.630 Penalties

36
37 *****

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39
40 **2) Subpart Q is added to Part 267 to read as follows:**

41
42 **Subpart Q – Class B Firefighting Foam Containing PFAS**

43
44
45 **§ 267.600 Purpose and Applicability**

46
47
48 These regulations establish standards for persons that store or use Class B firefighting foam containing
49 intentionally added perfluoroalkyl and/or polyfluoroalkyl substances or PFAS. These regulations apply to

50 the storage of Class B firefighting foam containing intentionally added PFAS and the use and subsequent
51 storage of Class B firefighting foam containing intentionally added PFAS that is generated from testing
52 firefighting foam fire systems.

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54
55 **§ 267.601 Definitions**

56
57 In addition to the definitions in § 260.10, the following definitions apply to this subpart:

58
59 **Capture** means contained or otherwise controlled to prevent release of spent Class B firefighting foam
60 containing PFAS to the environment, and to facilitate off-site disposal

61
62 **Class B firefighting foam** means foam designed for flammable liquid fires, e.g. Aqueous Film Forming
63 Foam (AFFF).

64
65 **Facility**, as used in the Subpart, means any non-residential place of business.

66
67 **Fire Department** includes, but is not limited to, municipal fire departments, volunteer fire departments,
68 and fire protection districts.

69
70 **Firefighting foam fire systems** means a system designed to provide protection from fire, or for the
71 suppression of fire, through the use of firefighting foam.

72
73 **Perfluoroalkyl and polyfluoroalkyl substances** or **PFAS** means a class of fluorinated organic
74 chemicals containing at least one fully fluorinated carbon atom.

75
76 **Person** means (1) a fire department or (2) a facility or lessee that is subject to regulation by the federal
77 aviation administration.

78
79 **Uses or stores** means actual and intentional ownership and control of Class B firefighting foam
80 containing intentionally added PFAS.

81
82
83 **§ 267.605 Applicability of Requirements**

84
85 (a) All Persons who store or use one or more gallons of Class B firefighting foam containing intentionally
86 added PFAS are subject to the requirements of section 267.610 of these regulations for the registration
87 and certificate program.

88
89 (b) Persons who use Class B firefighting foam containing intentionally added PFAS for testing firefighting
90 foam fire systems are subject to section 267.615 of these regulations for capture and containment of the
91 spent firefighting foam containing PFAS.

92
93 (c) Persons who in the past have used Class B firefighting foam containing intentionally added PFAS for
94 testing firefighting foam fire systems, and convert to testing methods that do not use Class B firefighting
95 foam containing intentionally added PFAS, are subject to sections 267.615 and 267.620 of these
96 regulations for the capture, containment, and storage of the water used to flush the firefighting foam fire
97 system the first time following conversion. Following such conversion and flushing, any subsequent tests
98 of the firefighting foam fire system shall not be subject to the requirements of sections 267.615 and
99 267.620, unless firefighting foam containing intentionally added PFAS is again introduced into the
100 firefighting foam fire system.

102 (d) Persons who store spent Class B firefighting foam containing intentionally added PFAS used in testing
103 firefighting foam fire systems are subject to section 267.620 of these regulations.

104
105

106 **§ 267.610 Registration and Certificate Program**

107

108 (a) Persons who store and/or use Class B firefighting foam containing intentionally added PFAS must
109 register and obtain a certificate of registration from the Department by June 1, 2021, or six months after it
110 first obtains Class B firefighting foam containing PFAS.

111

112 (b) Registration must be completed on-line through the Department's Class B firefighting foam web-site at
113 <https://cdphe.colorado.gov/pfcs/pfas-colorado-laws>.

114

115 (c) The Department will review each registration application, and if it determines the application is
116 complete, will use its best efforts to approve the application within 15 business days of receipt by issuing
117 an electronic certificate to the registrant. If the application is not complete, the Department will use its
118 best efforts to notify the registrant and identify any additional information that is needed to complete the
119 application within 15 business days of receipt.

120

121 (d) A certificate of registration for storage and/or use of Class B firefighting foam containing intentionally
122 added PFAS must only be obtained one time. Persons may modify their registration information at any
123 time by accessing the Department's Class B firefighting foam web-site at
124 <https://cdphe.colorado.gov/pfcs/pfas-colorado-laws>.

125

126

127 **§ 267.615 Capture Requirements**

128

129 (a) Class B firefighting foam containing intentionally added PFAS shall not be used for testing firefighting
130 foam fire systems unless it is captured in containment systems designed and operated to prevent release
131 of PFAS to the environment.

132

133 (b) A containment system used to capture Class B firefighting foam containing intentionally added PFAS
134 discharged during testing must be designed and constructed as follows:

135

136 (1) Portions of containment systems comprised of concrete must be:

137 i. constructed of man-made materials of sufficient strength and thickness to contain spent foam
138 and liquids;

139 ii. supported by an adequate foundation;

140 iii. free of cracks and gaps and be sufficiently impervious to contain spent foams and liquids;
141 and

142 iv. sloped or otherwise designed to drain and remove liquids;

143

144 (2) Portions of containment systems comprised of pipes must function as designed to contain spent
145 foams and liquids;

146

147 (3) All containment systems must be designed and constructed to contain 110% of the expected foam
148 and liquids discharged during testing.

149

150 (c) A containment system used to capture Class B firefighting foam containing intentionally added PFAS
151 discharged during testing must be operated as follows:

152

153 (1) The containment system must be fit for use and must not leak.

- 154 i. Persons subject to these regulations must obtain and keep on file and available for inspection
155 a written assessment reviewed and certified by an independent qualified professional
156 engineer that attests to the containment system's integrity by June 1, 2021, or, for new
157 systems, prior to operating the system.
158
- 159 ii. An independent qualified professional engineer must review and re-certify the written
160 assessment prior to the next testing event, but no more often than annually. If the system
161 fails a testing event, an independent qualified professional engineer must review and re-
162 certify the written assessment following any repairs or modifications to the system.
163
- 164 iii. This assessment must determine that the containment system is adequately designed and
165 has sufficient structural strength to ensure it will not collapse, rupture, or fail. At a minimum
166 this assessment must consider the following:
167
- 168 A. Documented age of the containment system; and
169 B. Results of a leak test, internal inspection, video inspection or other integrity examination
170 that addresses cracks, leaks, corrosion, and erosion of the containment system.
171
- 172 iv. If, as a result of the assessment, a containment system is found to be leaking or unfit for use,
173 it must immediately be taken out of service and repaired.
174
- 175 (2) The containment system must be operated to capture all spent foam and liquids during testing
176 without splashing or spraying wastes outside of the system.
177
- 178 (3) Spent foam and liquids generated during testing and collected in the containment system must be
179 removed from the containment system and placed in storage as required by section 267.620 within
180 24 hours of completing the testing, or at least once per day.
181
- 182 (d) Containment systems used to capture Class B firefighting foam containing intentionally added PFAS
183 discharged during testing activities must be designed or operated to prevent run-on or infiltration of
184 precipitation into the system.
185
186

187 **§ 267.620 Spent Class B Firefighting Foam Storage** 188

- 189 (a) Spent Class B firefighting foam containing intentionally added PFAS generated during testing must be
190 shipped off-site for treatment and disposal as soon as possible. Waste foam may be stored on-site in
191 containers prior to disposal provided that:
192
- 193 (1) On-site storage is necessary to facilitate, including to accumulate quantities sufficient to facilitate,
194 proper off-site treatment and disposal; and
195
- 196 (2) On-site storage does not occur longer than 120 days, unless a variance is granted by the Director
197 in writing extending the storage duration. Absent a demonstration that disposal capacity is not
198 available, any extension shall be limited to an additional 120 days.
199
- 200 (b) Containers used to store spent Class B firefighting foam containing intentionally added PFAS used in
201 testing must be:
202
- 203 (1) DOT approved containers;
204
- 205 (2) Labelled with content and accumulation start date;

- 206
207 (3) Kept closed except when adding wastes;
208
209 (4) Arranged in a stable configuration (not stacked) with aisle space to facilitate their inspection and
210 movement in event of an emergency; and
211
212 (5) Stored on a flat surface that is bermed or otherwise designed to prevent run-on or run-off of
213 precipitation; and
214
215 (6) Stored in a manner that provides secondary containment that is either:
216 i. a concrete pad(s) free of cracks and gaps and otherwise impervious to prevent releases to
217 the environment in the event of a spill or leak; or
218 ii. a liner that has sufficient strength and thickness, and that is otherwise impervious to prevent
219 releases to the environment in the event of a spill or leak; or
220 iii. an equivalent means of providing secondary containment.
221
222 (7) At least weekly, the owner or operator must inspect areas where containers are stored. The owner
223 or operator must look for leaking containers and for deterioration of containers and the containment
224 system caused by corrosion or other factors.
225 i. Problems identified during the inspection shall be remedied within 24 hours of identifying; and
226 ii. The date and time and content of the inspections must be documented and recorded, and
227 retained at the facility for 3 years of the date of storage.
228
229

230 § 267.630 Penalties

231 Persons who violate any of the requirements of this Subpart shall be subject to enforcement, including
232 assessment of civil or administrative penalties, as provided in §§ 25-15-308(2) and 25-15-309, C.R.S.
233

234 **2) Section 8.96 (Statement of Basis for the Rulemaking Hearing of February 16, 2021) is 235 added to Part 8 of the Regulations to read as follows:**

236 237 238 239 **Statement of Basis and Purpose** 240 **Rulemaking Hearing of February 16, 2021**

241 242 **8.96 Basis and Purpose.**

243
244 These amendments to 6 CCR 1007-3, Parts 267, Subpart Q are made pursuant to the authority granted
245 to the Solid and Hazardous Waste Commission in § 25-15-302(2), C.R.S.
246

247 **Addition of Part 267 Subpart Q – Class B Firefighting Foam Containing PFAS**

248
249 HB20-1119 amended C.R.S. 25-15-302 to require the Solid and Hazardous Waste Commission (SHWC)
250 to establish a Certificate of Registration for any facility or fire department, or lessee subject to federal
251 rules and regulations, that use or store Class B firefighting foam containing PFAS and to establish
252 standards for capture and disposal of Class B firefighting foam containing PFAS. HB20-1119 also
253 requires the SHWC to set penalties for not obtaining a Certificate of Registration or following the
254 standards for capture and disposal.
255

256 Modification of Part 267 of the Colorado Hazardous Waste Regulations (6 CCCR 1007-3) is being
257 amended at this time to add Subpart Q (Class B Firefighting Foam Containing PFAS). The new Subpart
258 Q requires all persons that store or use Class B firefighting foam containing intentionally added
259 perfluoroalkyl and/or polyfluoroalkyl substances or PFAS, to register and obtain a certificate from the
260 Hazardous Materials and Waste Management Division. The regulations also require any person that
261 uses the Class B firefighting foam containing intentionally added PFAS in testing firefighting foam fire
262 systems, to capture the spent foam in containment systems and to store the spent foam in containers
263 meeting the requirements, prior to off-site shipment for disposal. The regulations do not apply to the
264 capture of Class B firefighting foam containing PFAS for persons using the foam in actual emergencies
265 and/or fires nor do they establish requirements for persons using or storing Class B firefighting foams that
266 do not contain PFAS.

267
268 Class B firefighting foams are used to put out fires involving Class B materials, which include gasoline, oil,
269 and jet fuel. Class B foams can be categorized into two broad categories from a PFAS perspective:
270 fluorinated foams that contain PFAS, like Aqueous Film Forming Foam (AFFF), and fluorine free foams.
271 AFFF is usually created by combining foaming agents with fluorine surfactants. PFAS are the active
272 ingredients in the fluorinated surfactants used in the foams and are typically contained in the foams up to
273 3% concentrations, or 300,000 parts per million. When mixed with water and discharged, the foam forms
274 an aqueous film that quickly cuts off the oxygen to a flame, extinguishing the fire, and stopping the fire
275 from relighting.

276
277 PFAS are a family of human-made chemicals with over 5,000 compounds that have been used for
278 decades in products like food packaging, carpets, non-stick products, other household items, medical
279 supplies, and firefighting foam due to their ability to resist heat, oil, stains, grease, and water. PFAS can
280 be harmful to human health and the environment when released to the soil, surface water or groundwater.
281 Health effects from PFAS may include pregnancy complications, developmental effects, and liver and
282 kidney effects. Perfluorooctanoic acid (PFOA) and Perfluorooctane sulfonic acid (PFOS) are synthetic,
283 eight carbon non-polymer organic compounds that are PFASs. These two chemicals along with anions,
284 perfluorooctanoate and perfluorooctane sulfonate respectively, were recently added to the list of
285 hazardous constituents in Appendix VIII to Part 261 of the Colorado Hazardous Waste Regulations (6
286 CCR 1007-3) due to their toxicity to humans at very low concentrations. For example, EPA currently has
287 a lifetime health advisory concentration of no more than 70 parts per trillion of combined PFOA and PFOS
288 for safe consumption of drinking water. Once released to the environment, PFAS are persistent, and can
289 contaminate environmental media. Human exposure to PFAS through the ingestion of contaminated
290 drinking water is of major concern, but exposure can also happen through dermal and inhalation routes.
291 Class B firefighting foams containing PFAS is a leading source of PFAS contamination impacting
292 Colorado communities.

293
294 While Class B firefighting foams containing PFAS are slowly being replaced with alternative products that
295 do not contain the toxic compounds, many of these alternative products have not been completely tested
296 and approved for fighting high hazard flammable liquid fires. Large inventories of the Class B firefighting
297 foam containing PFAS still remain, and PFAS containing firefighting foams are still used routinely to
298 extinguish these dangerous fires.

299
300 The regulations in the new Subpart Q to Part 267 of the Colorado Hazardous Waste Regulations is
301 focused on identifying those facilities or fire departments that may store or use the Class B firefighting
302 foams containing intentionally added PFAS. The regulations require a mandatory on-line registration
303 program for such entities. The registration requires that basic information about the fire department or
304 facility be provided to the Division along with information concerning the quantities and configurations of
305 the storage of the Class B firefighting foams containing intentionally added PFAS. Once information is
306 provided to the Division through the on-line registration, the Division will review the information and issue
307 a Certificate of Registration. All persons using or storing Class B firefighting foam with PFAS must

308 register and obtain a certificate from the Division by June 1, 2021, or six (6) months after they first store of
309 use the Class B firefighting foam containing intentionally added PFAS.

310
311 Testing of most firefighting equipment or fire suppression systems no longer requires that the equipment
312 or systems discharge Class B firefighting foam with PFAS. Alternate products or alternate means of
313 testing the equipment or systems are now being used routinely that do not require actual firefighting foam
314 containing PFAS to be used. However, a small number of entities must still discharge the foams
315 containing PFAS during testing of their equipment or fire suppression systems. Testing of firefighting
316 foam suppression systems is required at municipal airport facilities in hangers where airplanes are
317 worked on. Testing of these firefighting foam suppression systems requires that the foam meet certain
318 specifications based on the distribution and ratio of foaming agent and surfactants to water, and in large
319 hangars, that the fire suppression foam system adequately provides coverage onto the hangar floor
320 space in the event the system must discharge the foam to quickly extinguish a fire.

321
322 To address the required testing with Class B firefighting foam containing PFAS, Part 267, Subpart Q
323 requires that any person using the foam to test with, capture the foam in containers or a containment
324 system that will prevent the release of the foam to the environment. Containment systems used to
325 capture the Class B firefighting foam containing intentionally added PFAS during testing must be
326 adequately designed, constructed and operated to ensure discharges of the foam are collected. Class B
327 firefighting foam containing intentionally added PFAS used in testing may be discharged directly to
328 containers through manifold systems or piping to containers, or may also be discharged onto containment
329 floors constructed of concrete or other synthetic materials. Containment systems constructed of concrete
330 must be designed and constructed of man-made materials of sufficient strength and thickness to contain
331 spent foam and liquids, be supported by an adequate foundation, be free of cracks and gaps and be
332 sufficiently impervious to contain spent foams and liquids, and be sloped or otherwise designed to drain
333 and remove liquids. All containment systems or collection systems made of piping manifolds and/or
334 containers must have sufficient volume to collect 110% of the liquids and foams discharged during
335 testing.

336
337 Piping manifold systems or containment systems used to capture Class B firefighting foam containing
338 intentionally added PFAS during testing must be operated to prevent any splashing or spraying of the
339 foams or liquids outside the system. They must also prevent precipitation from running onto or infiltrating
340 the system. Containment systems constructed into the ground must have good integrity and not be
341 leaking. Third party Professional Engineer certification verifying the integrity of containment systems
342 constructed into the ground is required on an annual basis, or prior to discharging Class B firefighting
343 foam containing intentionally added PFAS into them. Containment systems used to capture Class B
344 firefighting foam containing PFAS cannot be used for long term storage of the spent foams and liquids.
345 Class B firefighting foam containing PFAS must be promptly removed from containment systems and
346 placed in containers within 24 hours of completing testing or at least once every day.

347
348 Spent Class B firefighting foam with PFAS generated during testing must be shipped off-site for treatment
349 and disposal as soon as possible. However, waste foam may be stored on-site in containers prior to
350 disposal provided that the storage is necessary to facilitate, including to accumulate quantities sufficient
351 to facilitate, proper off-site treatment and disposal. Spent Class B firefighting foam with PFAS cannot be
352 stored longer than 120 days on-site unless a variance is granted by the Division. The Division will
353 approve variances for storage of the foam on-site longer than 120 days based on the available treatment
354 and/or disposal capacities. Spent Class B firefighting foam containing PFAS may only be stored in DOT
355 approved containers on-site that are labelled with content and accumulation start date, kept closed except
356 when adding wastes, and stored in stable configurations on flat surfaces with aisle space to facilitate their
357 inspection and movement in the event of a leak or other emergency. The area containers of spent Class
358 B firefighting foam containing PFAS are stored on must also be concrete or lined, and bermed or
359 otherwise designed to prevent run-on or run-off of precipitation. Containers must be inspected weekly to

360 identify leaks or other deteriorations that may impact their integrity. Any problems that are identified on
361 inspections must be remediated within 24 hours. The inspections must be recorded and retained for
362 three years.

363
364 Compliance with the registration and certificate program for Class B firefighting foam containing
365 intentionally added PFAS, the requirements for capture of any foam containing intentionally added PFAS
366 discharged during testing, or the proper storage of any spent foam and/or liquids prior to off-site treatment
367 and disposal is mandatory, not voluntary. Therefore, to ensure that these rules for persons using or
368 storing Class B firefighting foam containing intentionally added PFAS are effective and efficient, the
369 proposed amendments establish mandatory requirements and penalties for non-compliance. Persons
370 who violate any of the requirements of Part 267, Subpart Q shall be subject to enforcement, including
371 assessment of civil or administrative penalties, as provided in §§ 25-15-308(2) and 25-15-309, C.R.S. In
372 general the Division will impose up to a \$2000 fine every 6 month for facilities using or storing Class B
373 firefighting foam with PFAS that fail to obtain a Certificate of Registration from the Division and impose up
374 to \$15,000 fine per occurrence for facilities that test with Class B firefighting foam with PFAS and do not
375 comply with standards for capture and/or on-site storage prior to off-site treatment and disposal.

376
377 These amendments are more stringent than the federal regulations, which do not contain these
378 requirements.