

RULE ANALYSIS

Introduction: THE AMENDMENTS ARE SUBMITTED TO THE BOARD FOR CONSIDERATION AS AN ADOPTED RULE

Short Title: Nuclear Pharmacies Preparing Sterile Radiopharmaceuticals

Rule Numbers: §§291.51 – 291.54, 291.133

Statutory Authority: Texas Pharmacy Act, Chapter 551-569, Occupations Code:

- (1) Section 551.002 specifies that the purpose of the Act is to protect the public through the effective control and regulation of the practice of pharmacy; and
- (2) Section 554.051 gives the Board the authority to adopt rules for the proper administration and enforcement of the Act.

Purpose: The amendments, if adopted, update the definitions and remove definitions that are no longer necessary; clarify the requirements for pharmacy personnel compounding sterile radiopharmaceuticals; clarify and update the procedures for nuclear pharmacies; require nuclear pharmacies to be inspected prior to renewal; and remove requirements that are referenced in other sections of the rules.

The Board reviewed and voted to propose the amendments during the May 5, 2015, meeting. The proposed amendments were published in the June 26, 2015, issue of the Texas Register at 40 TexReg 4174.

1 **SUBCHAPTER C. NUCLEAR PHARMACY (CLASS B)**

2 **22 TAC §§291.51 - 291.54**

3 The Texas State Board of Pharmacy proposes amendments to §291.51 concerning Purpose,
4 §291.52 concerning Definitions, §291.53 concerning Personnel, and §291.54 concerning
5 Operational Standards. The amendments to §291.51 clarify the purpose of the subchapter. The
6 amendments to §291.52, if adopted, update the definitions and remove definitions that are no
7 longer necessary. The amendments to §291.53, if adopted, clarify the requirements for pharmacy
8 personnel compounding sterile radiopharmaceuticals. The amendments to §291.54, if adopted,
9 clarify and update the procedures for nuclear pharmacies; require nuclear pharmacies to be
10 inspected prior to renewal; and remove requirements that are referenced in other sections of the
11 rules.

12 Gay Dodson, R.Ph., Executive Director/Secretary, has determined that, for the first five-year
13 period the rules are in effect, there will be no fiscal implications for state or local government as
14 a result of enforcing or administering the rules.

15 Ms. Dodson has determined that, for each year of the first five-year period the rules will be in
16 effect, the public benefit anticipated as a result of enforcing the amendments will ensure the
17 health, safety, and welfare of the citizens of Texas when receiving prescriptions from nuclear
18 pharmacies. There is no fiscal impact for individuals, small or large businesses, or to other
19 entities which are required to comply with these sections.

20 Comments on the amendments may be submitted to Allison Benz, R.Ph., M.S., Director of
21 Professional Services, Texas State Board of Pharmacy, 333 Guadalupe Street, Suite 3-600,
22 Austin, Texas 78701, FAX (512) 305-8008. Comments must be received by 5:00 p.m., August 3,
23 2015.

24 The amendments are proposed under §551.002 and §554.051 of the Texas Pharmacy Act
25 (Chapters 551 - 566, 568, and 569, Texas Occupations Code). The Board interprets §551.002 as
26 authorizing the agency to protect the public through the effective control and regulation of the
27 practice of pharmacy. The Board interprets §554.051(a) as authorizing the agency to adopt rules
28 for the proper administration and enforcement of the Act.

29 The statutes affected by these amendments: Texas Pharmacy Act, Chapters 551 - 566, 568, and
30 569, Texas Occupations Code.

31 **§291.51.Purpose.**

32 The purpose of this subchapter is to provide standards for the preparation, labeling, and
33 distribution of [~~compounded~~] radiopharmaceuticals by licensed nuclear pharmacies, pursuant to
34 a radioactive prescription drug order. The intent of this subchapter is to establish a minimum
35 acceptable level of pharmaceutical care to the patient so that the patient's health is protected
36 while contributing to positive patient outcomes. The board has determined that this subchapter is
37 necessary to protect the health and welfare of the citizens of this state.

38 §291.52. Definitions.

39 The following words and terms, when used in this subchapter, shall have the following
40 meanings, unless the context clearly indicates otherwise. Any term not defined in this section
41 shall have the definition set forth in the Act, §551.003.

42 (1) Act--The Texas Pharmacy Act, Chapters 551 - 569 [~~551—566 and 568—569~~], Occupations
43 Code, as amended.

44 (2) Accurately as prescribed--Dispensing, delivering, and/or distributing a prescription drug
45 order or radioactive prescription drug order:

46 (A) to the correct patient (or agent of the patient) for whom the drug or device was prescribed;

47 (B) with the correct drug in the correct strength, quantity, and dosage form ordered by the
48 practitioner; and

49 (C) with correct labeling (including directions for use) as ordered by the practitioner. Provided,
50 however, that nothing herein shall prohibit pharmacist substitution if substitution is conducted in
51 strict accordance with applicable laws and rules, including Subchapter A, Chapter 562 of the
52 Act.

53 (3) ACPE--Accreditation Council for Pharmacy Education.

54 (4) Administer--The direct application of a prescription drug and/or radiopharmaceutical, by
55 injection, inhalation, ingestion, or any other means to the body of a patient by:

56 (A) a practitioner, an authorized agent under his supervision, or other person authorized by law;
57 or

58 (B) the patient at the direction of a practitioner.

59 ~~[(5) Airborne particulate cleanliness class--The level of cleanliness specified by the maximum
60 allowable number of particles per cubic meter of air as specified in the International
61 Organization of Standardization (ISO) Classification Air Cleanliness (ISO 14644-1). For
62 example:]~~

63 ~~[(A) ISO Class 5 (formerly Class 100) is an atmospheric environment that contains less than
64 3,520 particles 0.5 microns in diameter per cubic meter of air (formerly stated as 100 particles
65 0.5 microns in diameter per cubic foot of air);]~~

66 ~~[(B) ISO Class 7 (formerly Class 10,000) is an atmospheric environment that contains less than
67 352,000 particles 0.5 microns in diameter per cubic meter of air (formerly stated as 10,000
68 particles 0.5 microns in diameter per cubic foot of air); and]~~

69 ~~[(C) ISO Class 8 (formerly Class 100,000) is an atmospheric environment that contains less than~~
70 ~~3,520,000 particles 0.5 microns in diameter per cubic meter of air (formerly stated as 100,000~~
71 ~~particles 0.5 microns in diameter per cubic foot of air).]~~

72 ~~[(6) Ancillary supplies--Supplies necessary for the administration of compounded sterile~~
73 ~~radiopharmaceuticals.]~~

74 ~~[(7) Aseptic processing--The technique involving procedures designed to preclude contamination~~
75 ~~of drugs, packaging, equipment, or supplies by microorganisms during processing.]~~

76 (5) ~~[(8)]~~ Authentication of product history--Identifying the purchasing source, the intermediate
77 handling, and the ultimate disposition of any component of a radioactive drug.

78 (6) ~~[(9)]~~ Authorized nuclear pharmacist--A pharmacist who:

79 (A) has completed the specialized training requirements specified by this subchapter for the
80 preparation and distribution of radiopharmaceuticals; and

81 (B) is named on a Texas radioactive material license, issued by the Texas Department of State
82 Health Services, Radiation Control Program.

83 (7) ~~[(10)]~~ Authorized user--Any individual named on a Texas radioactive material license, issued
84 by the Texas Department of State Health Services, Radiation Control Program.

85 ~~[(11) Automated compounding or drug dispensing device--An automated device that~~
86 ~~compounds, measures, counts, packages, and/or labels a specified quantity of dosage units for a~~
87 ~~designated drug product.]~~

88 ~~[(12) Biological Safety Cabinet, Class II--A ventilated cabinet for personnel, product, and~~
89 ~~environmental protection having an open front with inward airflow for personnel protection,~~
90 ~~downward HEPA filtered laminar airflow for product protection, and HEPA filtered exhausted~~
91 ~~air for environmental protection.]~~

92 (8) ~~[(13)]~~ Board--The Texas State Board of Pharmacy.

93 ~~[(14) Clean room or controlled area--A room in which the concentration of airborne particles is~~
94 ~~controlled to meet a specified airborne particulate cleanliness class. Microorganisms in the~~
95 ~~environment are monitored so that a microbial level for air, surface, and personnel gear are not~~
96 ~~exceeded for a specified cleanliness class.]~~

97 (9) ~~[(15)]~~ Component--Any ingredient intended for use in the compounding of a drug
98 preparation, including those that may not appear in such preparation.

99 (10) ~~[(16)]~~ Compounding--The preparation, mixing, assembling, packaging, or labeling of a drug
100 or device:

- 101 (A) as the result of a practitioner's prescription drug or medication order based on the
102 practitioner-patient-pharmacist relationship in the course of professional practice;
- 103 (B) for administration to a patient by a practitioner as the result of a practitioner's initiative based
104 on the practitioner-patient-pharmacist relationship in the course of professional practice;
- 105 (C) in anticipation of prescription drug or medication orders based on routine, regularly observed
106 prescribing patterns; or
- 107 (D) for or as an incident to research, teaching, or chemical analysis and not for sale or
108 dispensing, except as allowed under §562.154 or Chapter 563 of the Act.
- 109 (11) [~~(17)~~] Controlled substance--A drug, immediate precursor, or other substance listed in
110 Schedules I - V or Penalty Groups 1-4 of the Texas Controlled Substances Act, as amended, or a
111 drug, immediate precursor, or other substance included in Schedule I, II, III, IV, or V of the
112 Federal Comprehensive Drug Abuse Prevention and Control Act of 1970, as amended (Public
113 Law 91-513).
- 114 [~~(18) Critical site--Sterile ingredients of compounded sterile preparations and locations on
115 devices and components used to prepare, package, and transfer compounded sterile preparations
116 that provide opportunity for exposure to contamination.~~]
- 117 (12) [~~(19)~~] Dangerous drug--A drug or device that:
- 118 (A) is not included in Penalty Group 1, 2, 3, or 4, Chapter 481, Health and Safety Code, and is
119 unsafe for self-medication; or
- 120 (B) bears or is required to bear the legend:
- 121 (i) "Caution: federal law prohibits dispensing without prescription" or "Rx only" or another
122 legend that complies with federal law; or
- 123 (ii) "Caution: federal law restricts this drug to use by or on the order of a licensed veterinarian."
- 124 (13) [~~(20)~~] Data communication device--An electronic device that receives electronic
125 information from one source and transmits or routes it to another (e.g., bridge, router, switch, or
126 gateway).
- 127 (14) [~~(21)~~] Deliver or delivery--The actual, constructive, or attempted transfer of a prescription
128 drug or device, radiopharmaceutical, or controlled substance from one person to another,
129 whether or not for a consideration.
- 130 (15) [~~(22)~~] Designated agent--
- 131 (A) an individual, including a licensed nurse, physician assistant, nuclear medicine technologist,
132 or pharmacist:

133 (i) who is designated by a practitioner and authorized to communicate a prescription drug order
134 to a pharmacist; and

135 (ii) for whom the practitioner assumes legal responsibility;

136 (B) a licensed nurse, physician assistant, or pharmacist employed in a health care facility to
137 whom a practitioner communicates a prescription drug order; or

138 (C) a registered nurse or physician assistant authorized by a practitioner to administer a
139 prescription drug order for a dangerous drug under Subchapter B, Chapter 157 (Occupations
140 Code).

141 (16) [~~(23)~~] Device--An instrument, apparatus, implement, machine, contrivance, implant, in vitro
142 reagent, or other similar or related articles, including any component parts or accessory that is
143 required under federal or state law to be ordered or prescribed by a practitioner.

144 (17) [~~(24)~~] Diagnostic prescription drug order--A radioactive prescription drug order issued for a
145 diagnostic purpose.

146 (18) [~~(25)~~] Dispense--Preparing, packaging, compounding, or labeling for delivery a prescription
147 drug or device, or a radiopharmaceutical in the course of professional practice to an ultimate user
148 or his agent by or pursuant to the lawful order of a practitioner.

149 (19) [~~(26)~~] Dispensing pharmacist--The authorized nuclear pharmacist responsible for the final
150 check of the dispensed prescription before delivery to the patient.

151 (20) [~~(27)~~] Distribute--The delivering of a prescription drug or device, or a radiopharmaceutical
152 other than by administering or dispensing.

153 (21) [~~(28)~~] Electronic radioactive prescription drug order--A radioactive prescription drug order
154 which is transmitted by an electronic device to the receiver (pharmacy).

155 (22) Hot water--The temperature of water from the pharmacy's sink maintained at a minimum of
156 105 degrees F (41 degrees C).

157 ~~[(29) Internal test assessment--Validation of tests for quality control necessary to insure the~~
158 ~~integrity of the test.]~~

159 (23) [~~(30)~~] Nuclear pharmacy technique--The mechanical ability required to perform the
160 nonjudgmental, technical aspects of preparing and dispensing radiopharmaceuticals.

161 (24) [~~(31)~~] Original prescription--The:

162 (A) original written radioactive prescription drug orders; or

163 (B) original verbal or electronic radioactive prescription drug orders maintained either manually
164 or electronically by the pharmacist.

165 (25) [~~(32)~~] Pharmacist-in-charge--The pharmacist designated on a pharmacy license as the
166 pharmacist who has the authority or responsibility for a pharmacy's compliance with laws and
167 rules pertaining to the practice of pharmacy.

168 (26) [~~(33)~~] Pharmacy technician--An individual whose responsibility in a pharmacy is to provide
169 technical services that do not require professional judgment regarding preparing and distributing
170 drugs and who works under the direct supervision of and is responsible to a pharmacist.

171 (27) [~~(34)~~] Pharmacy technician trainee--An individual who is registered with the board as a
172 pharmacy technician trainee and is authorized to participate in a pharmacy's technician training
173 program.

174 ~~[(35) Process validation--Documented evidence providing a high degree of assurance that a
175 specific process will consistently produce a product meeting its predetermined specifications and
176 quality attributes.]~~

177 ~~[(36) Quality assurance--The set of activities used to ensure that the process used in the
178 preparation of sterile radiopharmaceuticals lead to preparations that meet predetermined
179 standards of quality.]~~

180 (28) [~~(37)~~] Radiopharmaceutical--A prescription drug or device that exhibits spontaneous
181 disintegration of unstable nuclei with the emission of a nuclear particle(s) or photon(s), including
182 any nonradioactive reagent kit or nuclide generator that is intended to be used in preparation of
183 any such substance.

184 ~~[(38) Radioactive drug quality control--The set of testing activities used to determine that the
185 ingredients, components (e.g., containers), and final radiopharmaceutical prepared meets
186 predetermined requirements with respect to identity, purity, non-pyrogenicity, and sterility and
187 the interpretation of the resulting data in order to determine the feasibility for use in humans and
188 animals including internal test assessment, authentication of product history, and the keeping of
189 mandatory records.]~~

190 (29) [~~(39)~~] Radioactive drug service--The act of distributing radiopharmaceuticals; the
191 participation in radiopharmaceutical selection and the performance of radiopharmaceutical drug
192 reviews.

193 (30) [~~(40)~~] Radioactive prescription drug order--An order from a practitioner or a practitioner's
194 designated agent for a radiopharmaceutical to be dispensed.

195 (31) [~~(41)~~] Sterile radiopharmaceutical--A dosage form of a radiopharmaceutical free from living
196 micro-organisms.

197 (32) [~~(42)~~] Therapeutic prescription drug order--A radioactive prescription drug order issued for
198 a specific patient for a therapeutic purpose.

199 (33) [~~(43)~~] Ultimate user--A person who has obtained and possesses a prescription drug or
200 radiopharmaceutical for administration to a patient by a practitioner.

201 **§291.53. Personnel.**

202 (a) Pharmacists-in-Charge.

203 (1) General.

204 (A) Every nuclear pharmacy shall have an authorized nuclear pharmacist designated on the
205 nuclear pharmacy license as the pharmacist-in-charge who shall be responsible for a nuclear
206 pharmacy's compliance with laws and regulations, both state and federal, pertaining to the
207 practice of nuclear pharmacy.

208 (B) The nuclear pharmacy pharmacist-in-charge shall see that directives from the board are
209 communicated to the owner(s), management, other pharmacists, and interns of the nuclear
210 pharmacy.

211 (C) Each Class B pharmacy shall have one pharmacist-in-charge who is employed on a full-time
212 basis, who may be the pharmacist-in-charge for only one such pharmacy; provided, however,
213 such pharmacist-in-charge may be the pharmacist-in-charge of:

214 (i) more than one Class B pharmacy, if the additional Class B pharmacies are not open to provide
215 pharmacy services simultaneously; or

216 (ii) during an emergency, up to two Class B pharmacies open simultaneously if the pharmacist-
217 in-charge works at least 10 hours per week in each pharmacy for no more than a period of 30
218 consecutive days.

219 (2) Responsibilities. The pharmacist-in-charge shall have the responsibility for, at a minimum,
220 the following:

221 (A) ensuring that radiopharmaceuticals are dispensed and delivered safely and accurately as
222 prescribed;

223 (B) developing a system to assure that all pharmacy personnel responsible for compounding
224 and/or supervising the compounding of radiopharmaceuticals within the pharmacy receive
225 appropriate education and training and competency evaluation;

226 (C) determining that all pharmacists involved in compounding sterile radiopharmaceuticals
227 obtain continuing education appropriate for the type of compounding done by the pharmacist;

228 (D) supervising a system to assure appropriate procurement of drugs and devices and storage of
229 all pharmaceutical materials including radiopharmaceuticals, components used in the
230 compounding of radiopharmaceuticals, and drug delivery devices;

231 (E) assuring that the equipment used in compounding is properly maintained;

232 (F) developing a system for the disposal and distribution of drugs from the Class B pharmacy;

233 (G) developing a system for bulk compounding or batch preparation of radiopharmaceuticals;

234 (H) developing a system for the compounding, sterility assurance, and quality control of sterile
235 radiopharmaceuticals;

236 (I) maintaining records of all transactions of the Class B pharmacy necessary to maintain
237 accurate control over and accountability for all pharmaceutical materials including
238 radiopharmaceuticals, required by applicable state and federal laws and rules;

239 (J) developing a system to assure the maintenance of effective controls against the theft or
240 diversion of prescription drugs, and records for such drugs;

241 (K) assuring that the pharmacy has a system to dispose of radioactive and cytotoxic waste in a
242 manner so as not to endanger the public health; and

243 (L) legally operating the pharmacy, including meeting all inspection and other requirements of
244 all state and federal laws or rules governing the practice of pharmacy.

245 (b) Owner. The owner of a Class B pharmacy shall have responsibility for all administrative and
246 operational functions of the pharmacy. The pharmacist-in-charge may advise the owner on
247 administrative and operational concerns. The owner shall have responsibility for, at a minimum,
248 the following, and if the owner is not a Texas licensed pharmacist, the owner shall consult with
249 the pharmacist-in-charge or another Texas licensed pharmacist:

250 (1) establishing policies for procurement of prescription drugs and devices and other products
251 dispensed from the Class B pharmacy;

252 (2) establishing policies and procedures for the security of the prescription department including
253 the maintenance of effective controls against the theft or diversion of prescription drugs;

254 (3) if the pharmacy uses an automated pharmacy dispensing system, reviewing and approving all
255 policies and procedures for system operation, safety, security, accuracy and access, patient
256 confidentiality, prevention of unauthorized access, and malfunction;

257 (4) providing the pharmacy with the necessary equipment and resources commensurate with its
258 level and type of practice; and

259 (5) establishing policies and procedures regarding maintenance, storage, and retrieval of records
260 in a data processing system such that the system is in compliance with state and federal
261 requirements.

262 (c) Authorized nuclear pharmacists.

263 (1) General.

264 (A) The pharmacist-in-charge shall be assisted by a sufficient number of additional authorized
265 nuclear pharmacists as may be required to operate the pharmacy competently, safely, and
266 adequately to meet the needs of the patients of the pharmacy.

267 (B) All personnel performing tasks in the preparation and distribution of radiopharmaceuticals
268 shall be under the direct supervision of an authorized nuclear pharmacist. General qualifications
269 for an authorized nuclear pharmacist are the following. A pharmacist shall:

270 (i) meet minimal standards of training and experience in the handling of radioactive materials in
271 accordance with the requirements of the Texas Regulations for Control of Radiation of the
272 Radiation Control Program, Texas Department of State Health Services;

273 (ii) be a pharmacist licensed by the board to practice pharmacy in Texas; and

274 (iii) submit to the board either:

275 (I) written certification that he or she has current board certification as a nuclear pharmacist by
276 the Board of Pharmaceutical Specialties; or

277 (II) written certification signed by a preceptor authorized nuclear pharmacist that he or she has
278 achieved a level of competency sufficient to independently operate as an authorized nuclear
279 pharmacist and has satisfactorily completed 700 hours in a structured educational program
280 consisting of both:

281 (-a-) 200 hours of didactic training in a program accepted by the Radiation Control Program,
282 Texas Department of State Health Services in the following areas:

283 (-1-) radiation physics and instrumentation;

284 (-2-) radiation protection;

285 (-3-) mathematics pertaining to the use and measurement of radioactivity;

286 (-4-) radiation biology; and

287 (-5-) chemistry of radioactive material for medical use; and

288 (-b-) 500 hours of supervised practical experience in a nuclear pharmacy involving the
289 following:

290 (-1-) shipping, receiving, and performing related radiation surveys;

291 (-2-) using and performing checks for proper operation of instruments used to determine the
292 activity of dosages, survey meters, and, if appropriate, instruments used to measure alpha- or
293 beta-emitting radionuclides;

294 (-3-) calculating, assaying, and safely preparing dosages for patients or human research subjects;

295 (-4-) using administrative controls to avoid adverse medical events in the administration of
296 radioactive material; and

297 (-5-) using procedures to prevent or minimize contamination and using proper decontamination
298 procedures.

299 ~~[(C) The board may issue a letter of notification that the evidence submitted by the pharmacist
300 meets the requirements of subparagraph (B)(i)–(iii) of this paragraph and has been accepted by
301 the board and that, based thereon, the pharmacist is recognized as an authorized nuclear
302 pharmacist.]~~

303 (C) ~~[(D)]~~ Authorized nuclear pharmacists are solely responsible for the direct supervision of
304 pharmacy technicians and pharmacy technician trainees and for delegating nuclear pharmacy
305 techniques and additional duties, other than those listed in paragraph (3) ~~[(2)]~~ of this subsection,
306 to pharmacy technicians and pharmacy technician trainees. Each authorized nuclear pharmacist
307 shall:

308 (i) verify the accuracy of all acts, tasks, or functions performed by pharmacy technicians and
309 pharmacy technician trainees; and

310 (ii) be responsible for any delegated act performed by pharmacy technicians and pharmacy
311 technician trainees under his or her supervision.

312 (D) ~~[(E)]~~ All authorized nuclear pharmacists while on duty, shall be responsible for complying
313 with all state and federal laws or rules governing the practice of pharmacy.

314 (E) ~~[(F)]~~ The dispensing pharmacist shall ensure that the drug is dispensed and delivered safely
315 and accurately as prescribed.

316 (2) Special requirements for compounding.

317 (A) Non-sterile preparations. All pharmacists engaged in compounding non-sterile preparations,
318 including radioactive preparations ~~[radiopharmaceuticals]~~ shall meet the training requirements
319 specified in §291.131 of this title (relating to Pharmacies Compounding Non-Sterile
320 Preparations).

321 (B) Sterile Preparations. All pharmacists engaged in compounding sterile preparations, including
322 radioactive preparations [~~radiopharmaceuticals~~] shall meet the training requirements specified in
323 §291.133 of this title (relating to Pharmacies Compounding Sterile Preparations).

324 (3) Duties. Duties which may only be performed by an authorized nuclear pharmacist are as
325 follows:

326 (A) receiving verbal therapeutic prescription drug orders and reducing these orders to writing,
327 either manually or electronically;

328 (B) receiving verbal, diagnostic prescription drug orders in instances where patient specificity is
329 required for patient safety (e.g., radiolabeled blood products, radiolabeled antibodies) and
330 reducing these orders to writing, either manually or electronically;

331 (C) interpreting and evaluating radioactive prescription drug orders;

332 (D) selecting drug products; and

333 (E) performing the final check of the dispensed prescription before delivery to the patient to
334 ensure that the radioactive prescription drug order has been dispensed accurately as prescribed.

335 (d) Pharmacy Technicians and Pharmacy Technician Trainees.

336 (1) General. All pharmacy technicians and pharmacy technician trainees shall meet the training
337 requirements specified in §297.6 of this title (relating to Pharmacy Technician and Pharmacy
338 Technician Trainee Training).

339 (2) Special requirements for compounding.

340 (A) Non-sterile preparations. All pharmacy technicians and pharmacy technician trainees
341 engaged in compounding non-sterile preparations, including radioactive preparations
342 [~~radiopharmaceuticals~~] shall meet the training requirements specified in §291.131 of this title.

343 (B) Sterile Preparations. All pharmacy technicians and pharmacy technician trainees engaged in
344 compounding sterile preparations, including radioactive preparations [~~radiopharmaceuticals~~]
345 shall meet the training requirements specified in §291.133 of this title.

346 (3) Duties.

347 (A) Pharmacy technicians and pharmacy technician trainees may not perform any of the duties
348 listed in subsection (c)(3) of this section.

349 (B) An authorized nuclear pharmacist may delegate to pharmacy technicians and pharmacy
350 technician trainees any nuclear pharmacy technique which is associated with the preparation and
351 distribution of radiopharmaceuticals provided:

352 (i) an authorized nuclear pharmacist verifies the accuracy of all acts, tasks, and functions
353 performed by pharmacy technicians and pharmacy technician trainees; and

354 (ii) pharmacy technicians and pharmacy technician trainees are under the direct supervision of
355 and responsible to a pharmacist.

356 (4) Ratio of authorized nuclear pharmacist to pharmacy technicians and pharmacy technician
357 trainees.

358 (A) The ratio of authorized nuclear pharmacists to pharmacy technicians and pharmacy
359 technician trainees may be 1:4, provided at least one of the four is a pharmacy technician and is
360 trained in the handling of radioactive materials.

361 (B) The ratio of authorized nuclear pharmacists to pharmacy technician trainees may not exceed
362 1:3.

363 ~~[(e) Special education, training, and evaluation requirements for pharmacy personnel
364 compounding or responsible for the direct supervision of pharmacy personnel compounding
365 sterile radiopharmaceuticals. All pharmacy personnel preparing sterile radiopharmaceuticals
366 shall meet the training requirements specified in §291.133 of this title.]~~

367 **§291.54.Operational Standards.**

368 (a) Licensing requirements.

369 (1) It is unlawful for a person to provide radioactive drug services unless such provision is
370 performed by a person licensed to act as an authorized nuclear pharmacist, as defined by the
371 board, or is a person acting under the direct supervision of an authorized nuclear pharmacist
372 acting in accordance with the Act and its rules, and the regulations of the Texas Department of
373 State Health Services, Radiation Control Program. Subsection (a) of this section does not apply
374 to:

375 (A) a licensed practitioner or his or her designated agent for administration to his or her patient,
376 provided no person may receive, possess, use, transfer, own, acquire, or dispose of
377 radiopharmaceuticals except as authorized in a specific or a general license as provided in
378 accordance with the requirements of the Texas Department of State Health Services, Radiation
379 Control Program, Texas Administrative Code, Title 25, Part 1, Subchapter F, §289.252 relating
380 to Licensing of Radioactive Material, or the Act;

381 (B) institutions and/or facilities with nuclear medicine services operated by practitioners and who
382 are licensed by the Texas Department of State Health Services, Radiation Control Program, to
383 prescribe, administer, and dispense radioactive materials (drugs and/or devices).

384 (2) An applicant for a Class B pharmacy shall provide evidence to the board of the possession of
385 a Texas Department of State Health Services radioactive material license or proof of application
386 for a radioactive material license.

- 387 (3) A Class B pharmacy shall register with the board on a pharmacy license application provided
388 by the board, following the procedures specified in §291.1 of this title (relating to Pharmacy
389 License Application).
- 390 (4) A Class B pharmacy which changes ownership shall notify the board within ten days of the
391 change of ownership and apply for a new and separate license as specified in §291.3 of this title
392 (relating to Required Notifications).
- 393 (5) A Class B pharmacy which changes location and/or name shall notify the board within ten
394 days of the change and file for an amended license as specified in §291.3 of this title.
- 395 (6) A Class B pharmacy owned by a partnership or corporation which changes managing officers
396 shall notify the board in writing of the names of the new managing officers within ten days of the
397 change, following the procedures in §291.3 of this title.
- 398 (7) A Class B pharmacy shall notify the board in writing within ten days of closing, following
399 the procedures in §291.5 of this title (relating to Closing a Pharmacy).
- 400 (8) A separate license is required for each principal place of business and only one pharmacy
401 license may be issued to a specific location.
- 402 (9) A fee as specified in §291.6 of this title (relating to Pharmacy License Fees) will be charged
403 for the issuance and renewal of a license and the issuance of an amended license.
- 404 (10) A Class B pharmacy, licensed under the provisions of the Act, §560.051(a)(2), which also
405 operates another type of pharmacy which would otherwise be required to be licensed under the
406 Act, §560.051(a)(1), concerning community pharmacy (Class A), is not required to secure a
407 license for such other type of pharmacy; provided, however, such licensee is required to comply
408 with the provisions of §291.31 of this title (relating to Definitions); §291.32 of this title (relating
409 to Personnel); §291.33 of this title (relating to Operational Standards); §291.34 of this title
410 (relating to Records); and §291.35 of this title (relating to Official Prescription Requirements), to
411 the extent such rules are applicable to the operation of the pharmacy.
- 412 (11) A Class B [~~nuclear~~] pharmacy engaged in the compounding of non-sterile [~~non-~~
413 ~~radioactive~~] preparations, including radioactive preparations, shall comply with the provisions of
414 §291.131 of this title (relating to Pharmacies Compounding Non-Sterile Preparations).
- 415 (12) A Class B [~~nuclear~~] pharmacy engaged in the compounding of sterile [~~non-radioactive~~]
416 preparations, including radioactive preparations, shall comply with the provisions of §291.133 of
417 this title (relating to Pharmacies Compounding Sterile Preparations) using only
418 radiopharmaceuticals from FDA-approved drug products.
- 419 (13) Effective June 1, 2016, a Class B pharmacy may not renew a pharmacy license unless the
420 pharmacy has been inspected by the board within the last renewal period.

421 ~~[(b) Risk levels for compounded sterile radiopharmaceuticals. Risk Levels for sterile~~
422 ~~compounded radiopharmaceuticals shall be as listed below.]~~

423 ~~[(1) Low risk level compounded sterile radiopharmaceuticals.]~~

424 ~~[(A) Low risk level compounded sterile radiopharmaceuticals are those compounded under all of~~
425 ~~the following conditions.]~~

426 ~~[(i) The compounded sterile preparations are compounded with aseptic manipulations entirely~~
427 ~~within ISO Class 5 or better air quality using only sterile ingredients, products, components, and~~
428 ~~devices.]~~

429 ~~[(ii) The compounding involves only transfer, measuring, and mixing manipulations with closed~~
430 ~~or sealed packaging systems that are performed promptly and attentively.]~~

431 ~~[(iii) Manipulations are limited to aseptically opening ampuls, penetrating sterile stoppers on~~
432 ~~vials with sterile needles and syringes, and transferring sterile liquids in sterile syringes to sterile~~
433 ~~administration devices and packages of other sterile products.]~~

434 ~~[(iv) For a low risk preparation, in the absence of passing a sterility test, the storage periods~~
435 ~~cannot exceed the following periods: before administration, 48 hours at controlled room~~
436 ~~temperature, for not more than 14 days if stored in cold temperatures, and for 45 days if stored in~~
437 ~~a frozen state at minus 20 degrees Celsius or colder). For delayed activation device systems, the~~
438 ~~storage period begins when the device is activated.]~~

439 ~~[(B) Examples of low risk compounding include radiopharmaceuticals compounded from sterile~~
440 ~~components in closed sterile containers and with a volume of 100 mL or less for a single dose~~
441 ~~injection or not more than 30 mL taken from a multidose container.]~~

442 ~~[(2) Medium risk level compounded sterile radiopharmaceuticals.]~~

443 ~~[(A) Medium risk level compounded sterile radiopharmaceuticals are those compounded~~
444 ~~aseptically under low risk conditions and one or more of the of the following conditions exists.]~~

445 ~~[(i) Multiple individual or small doses of sterile products are combined or pooled to prepare a~~
446 ~~compounded sterile radiopharmaceuticals that will be administered either to multiple patients or~~
447 ~~to one patient on multiple occasions.]~~

448 ~~[(ii) The compounding process includes complex aseptic manipulations other than the single-~~
449 ~~volume transfer.]~~

450 ~~[(iii) The compounding process requires unusually long duration, such as that required to~~
451 ~~complete the dissolution or homogenous mixing.]~~

452 ~~[(iv) The sterile compounded radiopharmaceuticals do not contain broad-spectrum bacteriostatic~~
453 ~~substances, and they are administered over several days.]~~

454 ~~{(v) For a medium-risk preparation, in the absence of passing sterility test, the storage periods~~
455 ~~cannot exceed the following time periods: before administration, the compounded sterile~~
456 ~~preparations are properly stored and are exposed for not more than 30 hours at controlled room~~
457 ~~temperature for not more than 7 days at a cold temperature, and for 45 days in solid frozen state~~
458 ~~at minus 20 degrees or colder.}~~

459 ~~{(B) Examples of medium-risk compounding include the following.}~~

460 ~~{(i) Compounding of total parenteral nutrition fluids using a manual or automated device during~~
461 ~~which there are multiple injections, detachments, and attachments of nutrient source products to~~
462 ~~the device or machine to deliver all nutritional components to a final sterile container.}~~

463 ~~{(ii) Filling of reservoirs of injection and infusion devices with multiple sterile drug products and~~
464 ~~evacuations of air from those reservoirs before the filled device is dispensed.}~~

465 ~~{(iii) Filling of reservoirs of injection and infusion devices with volumes of sterile drug solutions~~
466 ~~that will be administered over several days at ambient temperatures between 25 and 40 degrees~~
467 ~~Celsius (77 and 104 degrees Fahrenheit).}~~

468 ~~{(iv) Transfer of volumes from multiple ampuls or vials into a single, final sterile container or~~
469 ~~product.}~~

470 ~~{(3) High-risk level compounded sterile radiopharmaceuticals.}~~

471 ~~{(A) High-risk level compounded sterile radiopharmaceuticals are those compounded under any~~
472 ~~of the following conditions.}~~

473 ~~{(i) Non-sterile ingredients, including manufactured products are incorporated, or a non-sterile~~
474 ~~device is employed before terminal sterilization.}~~

475 ~~{(ii) Sterile ingredients, components, devices, and mixtures are exposed to air quality inferior to~~
476 ~~ISO Class 5. This includes storage in environments inferior to ISO Class 5 of opened or partially~~
477 ~~used packages of manufactured sterile products that lack antimicrobial preservatives.}~~

478 ~~{(iii) Non-sterile preparations are exposed no more than 6 hours before being sterilized.}~~

479 ~~{(iv) It is assumed, and not verified by examination of labeling and documentation from~~
480 ~~suppliers or by direct determination, that the chemical purity and content strength of ingredients~~
481 ~~meet their original or compendial specifications in unopened or in opened packages of bulk~~
482 ~~ingredients.}~~

483 ~~{(v) For a high-risk preparation, in the absence of passing sterility test, the storage periods cannot~~
484 ~~exceed the following time periods: before administration, the compounded sterile preparations~~
485 ~~are properly stored and are exposed for not more than 24 hours at controlled room temperature~~
486 ~~for not more than 3 days at a cold temperature, and for 45 days in solid frozen state at minus 20~~
487 ~~degrees or colder.}~~

488 ~~[(B) Examples of high-risk compounding include the following.]~~

489 ~~[(i) Dissolving non-sterile bulk drug and nutrient powders to make solutions, which will be~~
490 ~~terminally sterilized.]~~

491 ~~[(ii) Sterile ingredients, components, devices, and mixtures are exposed to air quality inferior to~~
492 ~~ISO Class 5. This includes storage in environments inferior to ISO Class 5 of opened or partially~~
493 ~~used packages of manufactured sterile products that lack antimicrobial preservatives.]~~

494 ~~[(iii) Measuring and mixing sterile ingredients in non-sterile devices before sterilization is~~
495 ~~performed.]~~

496 ~~[(iv) Assuming, without appropriate evidence or direct determination, that packages of bulk~~
497 ~~ingredients contain at least 95% by weight of their active chemical moiety and have not been~~
498 ~~contaminated or adulterated between uses.]~~

499 ~~[(e) Environment.]~~

500 ~~[(1) Special requirements for the compounding of sterile radiopharmaceuticals. When the~~
501 ~~pharmacy compounds sterile radiopharmaceuticals, the following is applicable.]~~

502 ~~[(A) Low and Medium Risk Preparations.]~~

503 ~~[(i) The pharmacy shall have a designated controlled area for the compounding of sterile~~
504 ~~radiopharmaceuticals that is functionally separate from areas for the preparation of non-sterile~~
505 ~~radiopharmaceuticals and is constructed to minimize the opportunities for particulate and~~
506 ~~microbial contamination. This controlled area for the preparation of sterile radiopharmaceuticals~~
507 ~~shall:]~~

508 ~~[(I) have a controlled environment that is aseptic or contains an aseptic environmental control~~
509 ~~device(s). If the aseptic environmental control device is located within the controlled area, the~~
510 ~~controlled area must extend a minimum of six feet from the device and clearly marked to identify~~
511 ~~the separation between the controlled and non-controlled area;]~~

512 ~~[(II) be clean, well lighted, and of sufficient size to support sterile compounding activities;]~~

513 ~~[(III) be used only for the compounding of sterile radiopharmaceuticals;]~~

514 ~~[(IV) be designed to avoid outside traffic and airflow;]~~

515 ~~[(V) be designed such that hand sanitizing and gowning occurs outside the controlled area but~~
516 ~~accessible without use of the hands of the compounding personnel;]~~

517 ~~[(VI) have non-porous and washable floors or floor covering to enable regular disinfection;]~~

518 ~~[(VII) be ventilated in a manner not interfering with aseptic environmental control conditions;]~~

519 ~~{(VIII) have walls, ceilings, and fixtures, shelving, counters, and cabinets that are smooth,~~
520 ~~impervious, free from cracks and crevices, and nonshedding (acoustical ceiling tiles that are~~
521 ~~coated with an acrylic paint are acceptable);}~~

522 ~~{(IX) have drugs and supplies stored on shelving areas above the floor to permit adequate floor~~
523 ~~cleaning; and}~~

524 ~~{(X) contain only the appropriate compounding supplies and not be used for bulk storage for~~
525 ~~supplies and materials. Objects that shed particles may not be brought into the controlled area.}~~

526 ~~{(ii) The pharmacy shall prepare sterile radiopharmaceuticals in a primary engineering control~~
527 ~~device, such as a vertical air flow hood, which is capable of maintaining at least ISO Class 5~~
528 ~~conditions during normal activity.}~~

529 ~~{(I) The primary engineering control shall:}~~

530 ~~{(a) be located in the buffer area or room and placed in the buffer area in a manner as to avoid~~
531 ~~conditions that could adversely affect its operation such as strong air currents from opened doors,~~
532 ~~personnel traffic, or air streams from the heating, ventilating and air condition system;}~~

533 ~~{(b) be certified by an independent contractor according to the International Organization of~~
534 ~~Standardization (ISO) Classification of Particulate Matter in Room Air (ISO 14644-1) for~~
535 ~~operational efficiency at least every six months and when it is relocated, in accordance with the~~
536 ~~manufacturer's specifications; and}~~

537 ~~{(c) have pre filters inspected periodically and replaced as needed, in accordance with written~~
538 ~~policies and procedures and the manufacturer's specification, and the inspection and/or~~
539 ~~replacement date documented.}~~

540 ~~{(II) The compounding aseptic isolator or compounding aseptic containment isolator must be~~
541 ~~placed in an ISO Class 8 buffer area unless the isolator meets all of the following conditions.}~~

542 ~~{(a) The isolator must provide isolation from the room and maintain ISO Class 5 during~~
543 ~~dynamic operating conditions including transferring ingredients, components, and devices into~~
544 ~~and out of the isolator and during preparation of compounded sterile preparations.}~~

545 ~~{(b) Particle counts sampled approximately 6 to 12 inches upstream of the critical exposure site~~
546 ~~must maintain ISO Class 5 levels during compounding operations.}~~

547 ~~{(c) The pharmacy shall maintain documentation from the manufacturer that the isolator meets~~
548 ~~this standard when located in worse than ISO Class 7 environments.}~~

549 ~~{(B) High risk Preparations. In addition to the requirements in subparagraph (A)(i)(I) of this~~
550 ~~paragraph, when high risk preparations are compounded, the aseptic environment control~~
551 ~~device(s) shall be located in a controlled area that maintains at least an ISO Class 7~~
552 ~~environment.}~~

553 ~~[(C) Automated compounding device(s). If automated compounding device(s) are used, the~~
554 ~~pharmacy shall have a method to calibrate and verify the accuracy of automated compounding~~
555 ~~devices used in aseptic processing and document the calibration and verification on a routine~~
556 ~~basis.]~~

557 (b) Environment.

558 (1) General requirements.

559 (A) The pharmacy shall be arranged in an orderly fashion and kept clean. All required equipment
560 shall be clean and in good operating condition.

561 (B) The pharmacy shall have a sink with hot and cold running water within the pharmacy,
562 exclusive of restroom facilities, available to all pharmacy personnel and maintained in a sanitary
563 condition.

564 (C) The pharmacy shall be properly lighted and ventilated.

565 (D) The temperature of the pharmacy shall be maintained within a range compatible with the
566 proper storage of drugs. The temperature of the refrigerator shall be maintained within a range
567 compatible with the proper storage of drugs requiring refrigeration.

568 (E) If the pharmacy has flammable materials, the pharmacy shall have a designated area for the
569 storage of flammable materials. Such area shall meet the requirements set by local and state fire
570 laws.

571 (2) Security requirements.

572 (A) All areas occupied by a pharmacy shall be capable of being locked by key, combination or
573 other mechanical or electronic means to prohibit unauthorized access, when a pharmacist is not
574 on-site except as provided in subparagraph (B) of this paragraph.

575 (B) The pharmacy may authorize personnel to gain access to that area of the pharmacy
576 containing dispensed [sterile] radiopharmaceuticals, in the absence of the pharmacist, for the
577 purpose of retrieving the radiopharmaceuticals [dispensed prescriptions] to be delivered [deliver
578 to] patients. If the pharmacy allows such after-hours access, the area containing the dispensed
579 [sterile] radiopharmaceuticals shall be an enclosed and lockable area separate from the area
580 containing undispensed prescription drugs. A list of the authorized personnel having such access
581 shall be in the pharmacy's policy and procedure manual.

582 (C) Each pharmacist while on duty shall be responsible for the security of the prescription
583 department, including provisions for effective control against theft or diversion of prescription
584 drugs, and records for such drugs

585 (c) [~~d~~] Prescription dispensing and delivery.

586 (1) Generic Substitution. A pharmacist may substitute on a prescription drug order issued for a
587 brand name product provided the substitution is authorized and performed in compliance with
588 Chapter 309 of this title (relating to Substitution of Drug Products).

589 (2) Prescription containers (immediate inner containers).

590 (A) A drug dispensed pursuant to a radioactive prescription drug order shall be dispensed in an
591 appropriate immediate inner container as follows.

592 (i) If a drug is susceptible to light, the drug shall be dispensed in a light-resistant container.

593 (ii) If a drug is susceptible to moisture, the drug shall be dispensed in a tight container.

594 (iii) The container should not interact physically or chemically with the drug product placed in it
595 so as to alter the strength, quality, or purity of the drug beyond the official requirements.

596 (B) Immediate inner prescription containers or closures shall not be re-used.

597 (3) Delivery containers (outer containers).

598 (A) Prescription containers may be placed in suitable containers for delivery which will transport
599 the radiopharmaceutical safely in compliance with all applicable laws and regulations.

600 (B) Delivery containers may be re-used provided they are maintained in a manner to prevent
601 cross contamination.

602 (4) Labeling.

603 (A) The immediate inner container of a radiopharmaceutical shall be labeled with:

604 (i) standard radiation symbol;

605 (ii) the words "caution-radioactive material" or "danger, radioactive material";

606 (iii) the name of the radiopharmaceutical or its abbreviation; and

607 (iv) the unique identification number of the prescription.

608 (B) The outer container of a radiopharmaceutical shall be labeled with:

609 (i) the name, address, and phone number of the pharmacy;

610 (ii) the date dispensed;

611 (iii) the directions for use, if applicable;

- 612 (iv) the unique identification number of the prescription;
- 613 (v) the name of the patient if known, or the statement, "for physician use" if the patient is
614 unknown;
- 615 (vi) the standard radiation symbol;
- 616 (vii) the words "caution-radioactive material" or "danger, radioactive material";
- 617 (viii) the name of the radiopharmaceutical or its abbreviation;
- 618 (ix) the amount of radioactive material contained in millicuries (mCi), microcuries (uCi), or
619 becquerels (Bq) and the corresponding time that applies to this activity, if different from the
620 requested calibration date and time;
- 621 (x) the initials or identification codes of the person preparing the product and the authorized
622 nuclear pharmacist who checked and released the final product unless recorded in the pharmacy's
623 data processing system. The record of the identity of these individuals shall not be altered in the
624 pharmacy's data processing system.
- 625 (xi) if a liquid, the volume in milliliters;
- 626 (xii) the requested calibration date and time; and
- 627 (xiii) the expiration date and/or time.
- 628 (C) The amount of radioactivity shall be determined by radiometric methods for each individual
629 preparation immediately at the time of dispensing and calculations shall be made to determine
630 the amount of activity that will be present at the requested calibration date and time, due to
631 radioactive decay in the intervening period, and this activity and time shall be placed on the label
632 per requirements set out in paragraph (4) of this subsection.
- 633 (d) [~~e~~] Equipment. The following minimum equipment is required in a nuclear pharmacy:
- 634 (1) vertical laminar flow hood;
- 635 (2) dose calibrator;
- 636 (3) a calibrated system or device (i.e., thermometer) to monitor the temperature to ensure that
637 proper storage requirements are met, if [~~sterile~~] preparations are stored in the refrigerator;
- 638 (4) if applicable, a Class A prescription balance, or analytical balance and weights. Such balance
639 shall be properly maintained and subject to periodic inspection by the board.
- 640 (5) scintillation analyzer;

- 641 (6) microscope and hemocytometer;
- 642 (7) equipment and utensils necessary for the proper compounding of prescription drug or
643 medication orders. Such equipment and utensils used in the compounding process shall be:
- 644 (A) of appropriate design, appropriate capacity, and be operated within designed operational
645 limits;
- 646 (B) of suitable composition so that surfaces that contact components, in-process material, or drug
647 products shall not be reactive, additive, or absorptive so as to alter the safety, identity, strength,
648 quality, or purity of the drug product beyond acceptable standards;
- 649 (C) cleaned and sanitized immediately prior to each use; and
- 650 (D) routinely inspected, calibrated (if necessary), or checked to ensure proper performance;
- 651 (8) appropriate disposal containers for used needles, syringes, etc., and if applicable, cytotoxic
652 waste from the preparation of chemotherapeutic agents, and/or biohazardous waste;
- 653 (9) all necessary supplies, including:
- 654 (A) disposable needles, syringes, and other aseptic mixing;
- 655 (B) disinfectant cleaning solutions;
- 656 (C) hand washing agents with bactericidal action;
- 657 (D) disposable, lint free towels or wipes;
- 658 (E) appropriate filters and filtration equipment;
- 659 (F) radioactive [~~cytotoxic~~] spill kits, if applicable; and
- 660 (G) masks, caps, coveralls or gowns with tight cuffs, shoe covers, and gloves, as applicable.
- 661 (10) adequate glassware, utensils, gloves, syringe shields and remote handling devices, and
662 adequate equipment for product quality control;
- 663 (11) adequate shielding material;
- 664 (12) data processing system including a printer or comparable equipment;
- 665 (13) radiation dosimeters for visitors and personnel and log entry book;

666 (14) exhaust/fume hood with monitor, for storage and handling of all volatile radioactive drugs if
667 applicable, to be determined by the Texas Department of State Health Services, Radiation
668 Control Program; and

669 (15) adequate radiation monitor(s).

670 (e) [(f)] Library. A nuclear pharmacy shall maintain a reference library which shall include the
671 following in hard copy or electronic format current or updated copies of the following:

672 (1) [~~current copies of the following~~]

673 [(A)] Texas Pharmacy Act and rules;

674 (2) [(B)] Texas Dangerous Drug Act and rules;

675 (3) [(C)] Texas Controlled Substances Act and rules; and

676 (4) [(D)] Federal Controlled Substances Act and rules (or official publication describing the
677 requirements of the Federal Controlled Substances Act and rules); and

678 [(2) a current or updated version of Chapter 797 of the USP/NF concerning Pharmacy
679 Compounding Sterile Preparations and other USP chapters applicable to the practice (e.g., USP
680 Chapter 823 Radiopharmaceuticals for Positron Emission Tomography—Compounding); and]

681 (5) [(3)] a minimum of one [~~current or updated~~] text dealing with nuclear medicine science.

682 (f) [(g)] Radiopharmaceuticals and/or radioactive materials.

683 (1) General requirements.

684 (A) Radiopharmaceuticals may only be dispensed pursuant to a radioactive prescription drug
685 order.

686 (B) An authorized nuclear pharmacist may distribute radiopharmaceuticals to authorized users
687 for patient use. A nuclear pharmacy may [~~also~~] furnish radiopharmaceuticals for departmental or
688 physicians' use if such authorized users maintain a Texas radioactive materials license[~~, and the~~
689 radiopharmaceutical is labeled "for physician use, provided such distribution is documented in
690 the control system].

691 (C) An authorized nuclear pharmacist may transfer to authorized users radioactive materials not
692 intended for drug use in accordance with the requirements of the Texas Department of State
693 Health Services, Radiation Control Program, Texas Administrative Code, Title 25, Part 1,
694 Subchapter F, §289.252 relating to Licensing of Radioactive Material.

695 (D) The transportation of radioactive materials from the nuclear pharmacy must be in accordance
696 with current state and federal transportation regulations.

697 (2) Procurement and storage.

698 (A) The pharmacist-in-charge shall have the responsibility for the procurement and storage of
699 drugs, but may receive input from other appropriate staff relative to such responsibility.

700 (B) Prescription drugs and devices shall be stored within the prescription department or a locked
701 storage area.

702 (C) All drugs shall be stored at the proper temperature, as defined in the USP/NF and §291.15 of
703 this title (relating to Storage of Drugs).

704 (D) The pharmacy's generator(s) shall be stored and eluted in an ISO Class 7 or ISO Class 8
705 environment as specified in §`291.133 of this title.

706 (3) Out-of-date and other unusable drugs or devices.

707 (A) Any drug or device bearing an expiration date shall not be dispensed beyond the expiration
708 date of the drug or device.

709 (B) Outdated and other unusable drugs or devices shall be removed from dispensing stock and
710 shall be quarantined together until such drugs or devices are disposed of properly.

711 ~~[(h) Loading bulk drugs into automated compounding devices.]~~

712 ~~[(1) Automated compounding device may be loaded with bulk drugs only by an authorized~~
713 ~~nuclear pharmacist or by supportive personnel under the direction and direct supervision of an~~
714 ~~authorized pharmacist.]~~

715 ~~[(2) The label of an automated compounding device container shall indicate the brand name and~~
716 ~~strength of the drug; or if no brand name, then the generic name, strength, and name of the~~
717 ~~manufacturer or distributor.]~~

718 ~~[(3) Records of loading bulk drugs into an automated compounding device shall be maintained to~~
719 ~~show:]~~

720 ~~[(A) name of the drug, strength, and dosage form;]~~

721 ~~[(B) manufacturer or distributor;]~~

722 ~~[(C) manufacturer's lot number;]~~

723 ~~[(D) expiration date;]~~

724 ~~[(E) quantity added to the automated compounding device;]~~

725 ~~[(F) date of loading;]~~

726 ~~{{(G) name, initials, or electronic signature of the person loading the automated compounding~~
727 ~~device; and}}~~

728 ~~{{(H) name, initials, or electronic signature of the responsible authorized nuclear pharmacist.}}~~

729 ~~{{(4) The automated compounding device shall not be used until an authorized nuclear pharmacist~~
730 ~~verifies that the system is properly loaded and affixes his or her signature or electronic signature~~
731 ~~to the record specified in paragraph (3) of this subsection.}}~~

732 ~~{{(i) Sterile radiopharmaceuticals.}}~~

733 ~~{{(1) Beyond use date.}}~~

734 ~~{{(A) The beyond use date assigned shall be based on:}}~~

735 ~~{{(i) established manufacturer's guidelines;}}~~

736 ~~{{(ii) published literature; or}}~~

737 ~~{{(iii) in house or contracted stability studies.}}~~

738 ~~{{(B) The method for establishing beyond use dates shall be documented.}}~~

739 ~~{{(2) Radioactive Drug Quality control. There shall be a documented, ongoing quality control~~
740 ~~program that monitors and evaluates personnel performance, equipment and facilities.~~
741 ~~Procedures shall be in place to assure that the pharmacy is capable of consistently preparing~~
742 ~~radiopharmaceuticals which are sterile and stable. Quality control procedures shall include, but~~
743 ~~are not limited to, the following:}}~~

744 ~~{{(A) recall procedures;}}~~

745 ~~{{(B) storage and dating;}}~~

746 ~~{{(C) documentation of appropriate functioning of refrigerator, freezer, and other equipment;}}~~

747 ~~{{(D) documentation of aseptic environmental control device(s) certification at least every year~~
748 ~~and the regular replacement of pre-filters as necessary;}}~~

749 ~~{{(E) a process to evaluate and confirm the quality of the prepared radiopharmaceutical; and}}~~

750 ~~{{(F) documentation of facility maintenance such as cleaning and environmental testing.}}~~

1 **SUBCHAPTER G. SERVICES PROVIDED BY PHARMACIES**

2 **22 TAC §291.133**

3 The Texas State Board of Pharmacy proposes amendments to §291.133 concerning Pharmacies
4 Compounding Sterile Preparations. The proposed amendments, if adopted, clarify the
5 requirements for nuclear pharmacies compounding sterile radiopharmaceuticals.

6 Gay Dodson, R.Ph., Executive Director/Secretary, has determined that, for the first five-year
7 period the rule is in effect, there will be no fiscal implications for state or local government as a
8 result of enforcing or administering the rule.

9 Ms. Dodson has determined that, for each year of the first five-year period the rule will be in
10 effect, the public benefit anticipated as a result of enforcing the amendments will be to ensure
11 that nuclear pharmacies are compounding sterile preparations under appropriate conditions.

12 Written comments on the amendments may be submitted to Allison Benz, R.Ph., M.S., Director
13 of Professional Services, Texas State Board of Pharmacy, 333 Guadalupe Street, Suite 3-600,
14 Austin, Texas 78701, FAX (512) 305-8008. Comments must be received by 5:00 p.m., August 3,
15 2015.

16 The amendments are proposed under §551.002 and §554.051 of the Texas Pharmacy Act
17 (Chapters 551 - 566, 568, and 569, Texas Occupations Code). The Board interprets §551.002 as
18 authorizing the agency to protect the public through the effective control and regulation of the
19 practice of pharmacy. The Board interprets §554.051(a) as authorizing the agency to adopt rules
20 for the proper administration and enforcement of the Act.

21 The statutes affected by these amendments: Texas Pharmacy Act, Chapters 551 - 566, 568, and
22 569, Texas Occupations Code.

23 ***§291.133.Pharmacies Compounding Sterile Preparations.***

24 (a) (No change.)

25 (b) Definitions. In addition to the definitions for specific license classifications, the following
26 words and terms, when used in this section, shall have the following meanings, unless the
27 context clearly indicates otherwise.

28 (1) - (10) (No change.)

29 (11) Buffer Area--An ISO Class 7 or, if a Class B pharmacy, ISO Class 8 or better, area where
30 the primary engineering control area is physically located. Activities that occur in this area
31 include the preparation and staging of components and supplies used when compounding sterile
32 preparations.

33 (12) - (23) (No change.)

34 (24) Hazardous Drugs--Drugs that, studies in animals or humans indicate exposure to the drugs,
35 have a potential for causing cancer, development or reproductive toxicity, or harm to organs. For
36 the purposes of this chapter, radiopharmaceuticals are not considered hazardous drugs.

37 (25) - (39) (No change.)

38 ~~[(40) Positive Pressure Room--A room that is at a higher pressure compared to adjacent spaces~~
39 ~~and, therefore, the net airflow is out of the room.]~~

40 (40) [(41)] Quality assurance--The set of activities used to ensure that the process used in the
41 preparation of sterile drug preparations lead to preparations that meet predetermined standards of
42 quality.

43 (41) [(42)] Quality control--The set of testing activities used to determine that the ingredients,
44 components (e.g., containers), and final compounded sterile preparations prepared meet
45 predetermined requirements with respect to identity, purity, non-pyrogenicity, and sterility.

46 (42) [(43)] Reasonable quantity--An amount of a compounded drug that:

47 (A) does not exceed the amount a practitioner anticipates may be used in the practitioner's office
48 or facility before the beyond use date of the drug;

49 (B) is reasonable considering the intended use of the compounded drug and the nature of the
50 practitioner's practice; and

51 (C) for any practitioner and all practitioners as a whole, is not greater than an amount the
52 pharmacy is capable of compounding in compliance with pharmaceutical standards for identity,
53 strength, quality, and purity of the compounded drug that are consistent with United States
54 Pharmacopoeia guidelines and accreditation practices.

55 (43) [(44)] Segregated Compounding Area--A designated space, either a demarcated area or
56 room, that is restricted to preparing low-risk level compounded sterile preparations with 12-hour
57 or less beyond-use date. Such area shall contain a device that provides unidirectional airflow of
58 ISO Class 5 air quality for preparation of compounded sterile preparations and shall be void of
59 activities and materials that are extraneous to sterile compounding.

60 (44) [(45)] Single-dose container--A single-unit container for articles or preparations intended
61 for parenteral administration only. It is intended for a single use. A single-dose container is
62 labeled as such. Examples of single-dose containers include pre-filled syringes, cartridges,
63 fusion-sealed containers, and closure-sealed containers when so labeled.

64 (45) [(46)] SOPs--Standard operating procedures.

65 (46) [(47)] Sterilizing Grade Membranes--Membranes that are documented to retain 100% of a
66 culture of 10⁷ microorganisms of a strain of *Brevundimonas* (*Pseudomonas*) *diminuta* per square
67 centimeter of membrane surface under a pressure of not less than 30 psi (2.0 bar). Such filter

68 membranes are nominally at 0.22-micrometer or 0.2-micrometer nominal pore size, depending
69 on the manufacturer's practice.

70 (47) [~~(48)~~] Sterilization by Filtration--Passage of a fluid or solution through a sterilizing grade
71 membrane to produce a sterile effluent.

72 (48) [~~(49)~~] Terminal Sterilization--The application of a lethal process, e.g., steam under pressure
73 or autoclaving, to sealed final preparation containers for the purpose of achieving a
74 predetermined sterility assurance level of usually less than 10⁻⁶ or a probability of less than one
75 in one million of a non-sterile unit.

76 (49) [~~(50)~~] Unidirectional Flow--An airflow moving in a single direction in a robust and uniform
77 manner and at sufficient speed to reproducibly sweep particles away from the critical processing
78 or testing area.

79 (50) [~~(51)~~] USP/NF--The current edition of the United States Pharmacopeia/National Formulary.

80 (c) Personnel.

81 (1) (No change.)

82 (2) Pharmacists.

83 (A) General.

84 (i) A pharmacist is responsible for ensuring that compounded sterile preparations are accurately
85 identified, measured, diluted, and mixed and are correctly purified, sterilized, packaged, sealed,
86 labeled, stored, dispensed, and distributed.

87 (ii) A pharmacist shall inspect and approve all components, drug preparation containers,
88 closures, labeling, and any other materials involved in the compounding process.

89 (iii) A pharmacist shall review all compounding records for accuracy and conduct periodic in-
90 process checks as defined in the pharmacy's policy and procedures. [~~and final checks and~~
91 ~~verification of calculations to ensure that errors have not occurred in the compounding process.~~]

92 (iv) A pharmacist shall review all compounding records for accuracy and conduct a final check.

93 (v) [~~(iv)~~] A pharmacist is responsible for ensuring the proper maintenance, cleanliness, and use
94 of all equipment used in the compounding process.

95 (vi) [~~(v)~~] A pharmacist shall be accessible at all times, 24 hours a day, to respond to patients' and
96 other health professionals' questions and needs.

97 (B) - (C) (No change.)

98 (3) (No change.)

99 (4) Evaluation and testing requirements.

100 (A) - (H) (No change.)

101 (I) Commercially available sterile fluid culture media, such as Soybean-Casein Digest Medium
102 shall be able to promote exponential colonization of bacteria that are most likely to be
103 transmitted to compounding sterile preparations from the compounding personnel and
104 environment. Media-filled vials are generally incubated at 20 to 25 degrees Celsius or at 30 to 35
105 degrees Celsius for a minimum of 14 days. If two temperatures are used for incubation of media-
106 filled samples, then these filled containers should be incubated for at least 7 days at each
107 temperature. Failure is indicated by visible turbidity in the medium on or before 14 days.

108 (J) - (L) (No change.)

109 (5) (No change.)

110 (d) Operational Standards.

111 (1) General Requirements.

112 (A) - (B) (No change.)

113 (C) Commercially available products may be compounded for dispensing to individual patients
114 or for office use provided the following conditions are met:

115 (i) the commercial product is not reasonably available from normal distribution channels in a
116 timely manner to meet individual patient's needs;

117 (ii) the pharmacy maintains documentation that the product is not reasonably available due to a
118 drug shortage or unavailability from the manufacturer; and

119 (iii) the prescribing practitioner has requested that the drug be compounded as described in
120 subparagraph (D) of this paragraph.

121 (D) A pharmacy may not compound preparations that are essentially copies of commercially
122 available products (e.g., the preparation is dispensed in a strength that is only slightly different
123 from a commercially available product) unless the prescribing practitioner specifically orders the
124 strength or dosage form and specifies why the individual patient needs the particular strength or
125 dosage form of the preparation or why the preparation for office use is needed in the particular
126 strength or dosage form of the preparation. The prescribing practitioner shall provide
127 documentation of a patient specific medical need and the preparation produces a clinically
128 significant therapeutic response (e.g., the physician requests an alternate preparation due to
129 hypersensitivity to excipients or preservative in the FDA-approved product, or the physician
130 requests an effective alternate dosage form) or if the drug product is not commercially available.

131 The unavailability of such drug product must be documented prior to compounding. The
132 methodology for documenting unavailability includes maintaining a copy of the wholesaler's
133 notification showing back-ordered, discontinued, or out-of-stock items. This documentation must
134 be available in hard-copy or electronic format for inspection by the board.

135 (E) - (G) (No change.)

136 (H) Compounded sterile preparations, including hazardous drugs and radiopharmaceuticals, shall
137 be prepared only under conditions that protect the pharmacy personnel in the preparation and
138 storage areas.

139 (2) Microbial Contamination Risk Levels. Risk Levels for sterile compounded preparations shall
140 be as outlined in Chapter 797, Pharmacy Compounding--Sterile Preparations of the USP/NF and
141 as listed in this paragraph.

142 (A) (No change.)

143 (B) Low-Risk Level compounded sterile preparations with 12-hour or less beyond-use date.
144 Low-risk level compounded sterile preparations are those compounded pursuant to a physician's
145 order for a specific patient under all of the following conditions.

146 (i) The compounded sterile preparations are compounded in compounding aseptic isolator or
147 compounding aseptic containment isolator that does not meet the requirements described in
148 paragraph (7)(C) or (D) of this subsection (relating to Primary Engineering Control Device) or
149 the compounded sterile preparations are compounded in laminar airflow workbench or a
150 biological safety cabinet that cannot be located within the [an ISO Class 7] buffer area.

151 (ii) The primary engineering control device shall be certified and maintain ISO Class 5 for
152 exposure of critical sites and shall be located in a segregated compounding area restricted to
153 sterile compounding activities that minimizes the risk of contamination of the compounded
154 sterile preparation.

155 (iii) The segregated compounding area shall not be in a location that has unsealed windows or
156 doors that connect to the outdoors or high traffic flow, or that is adjacent to construction sites,
157 warehouses, or food preparation.

158 (iv) For a low-risk preparation compounded as described in clauses (i) - (iii) of this
159 subparagraph, administration of such compounded sterile preparations must commence within 12
160 hours of preparation or as recommended in the manufacturers' package insert, whichever is less.
161 However, the administration of sterile radiopharmaceuticals, with documented testing of
162 chemical stability, may be administered beyond 12 hours of preparation.

163 (C) - (D) (No change.)

164 (3) - (4) (No change.)

165 (5) Library. In addition to the library requirements of the pharmacy's specific license
166 classification, a pharmacy shall maintain current or updated copies in hard-copy or electronic
167 format of each of the following:

168 (A) a reference text on injectable drug preparations, such as Handbook on Injectable Drug
169 Products;

170 (B) a specialty reference text appropriate for the scope of pharmacy services provided by the
171 pharmacy, e.g., if the pharmacy prepares hazardous drugs, a reference text on the preparation of
172 hazardous drugs; and

173 (C) the United States Pharmacopeia/National Formulary containing USP Chapter 71, Sterility
174 Tests, USP Chapter 85, Bacterial Endotoxins Test, Pharmaceutical Compounding--Nonsterile
175 Preparations, USP Chapter 795, USP Chapter 797, Pharmaceutical Compounding--Sterile
176 Preparations, and USP Chapter 1163, Quality Assurance in Pharmaceutical Compounding; and[-]

177 (D) any additional USP/NF chapters applicable to the practice of the pharmacy (e.g., USP
178 Chapter 800, Hazardous Drugs--Handling in Healthcare Settings, USP Chapter 823, Positron
179 Emission Tomography Drugs for Compounding, Investigational, and Research Uses).

180 (6) Environment. Compounding facilities shall be physically designed and environmentally
181 controlled to minimize airborne contamination from contacting critical sites.

182 (A) Low and Medium Risk Preparations. A pharmacy that prepares low- and medium-risk
183 preparations shall have a clean room for the compounding of sterile preparations that is
184 constructed to minimize the opportunities for particulate and microbial contamination. The clean
185 room shall:

186 (i) - (ix) (No change.)

187 (x) contain only the appropriate compounding supplies and not be used for bulk storage for
188 supplies and materials. Objects that shed particles shall not be brought into the clean room. A
189 Class B pharmacy may use low-linting absorbent materials in the primary engineering control
190 device;

191 (xi) contain an ante-area that [~~provides at least an ISO class 8 air quality and~~] contains a sink
192 with hot and cold running water that enables hands-free use with a closed system of soap
193 dispensing to minimize the risk of extrinsic contamination. A Class B pharmacy may have a sink
194 with hot and cold running water that enables hands-free use with a closed system of soap
195 dispensing immediately outside the ante-area if antiseptic hand cleansing is performed using a
196 waterless alcohol-based surgical hand scrub with persistent activity following manufacturers'
197 recommendations once inside the ante-area; and

198 (xii) contain a buffer area [~~designed to maintain at least ISO Class 7 conditions for 0.5-~~
199 ~~micrometer and larger particles under dynamic working conditions]. The following is applicable~~
200 for the buffer area.

201 (I) There shall be some demarcation designation that delineates the ante-area from the buffer
202 area. The demarcation shall be such that it does not create conditions that could adversely affect
203 the cleanliness of the area.

204 (II) The buffer area shall be segregated from surrounding, unclassified spaces to reduce the risk
205 of contaminants being blown, dragged, or otherwise introduced into the filtered unidirectional
206 airflow environment, and this segregation should be continuously monitored.

207 (III) A buffer area that is not physically separated from the ante-area shall employ the principle
208 of displacement airflow as defined in Chapter 797, Pharmaceutical Compounding--Sterile
209 Preparations, of the USP/NF, with limited access to personnel.

210 (IV) The buffer area shall not contain sources of water (i.e., sinks) or floor drains other than
211 distilled or sterile water introduced for facilitating the use of heat block wells for
212 radiopharmaceuticals.

213 (B) High-risk Preparations.

214 (i) In addition to the requirements in subparagraph (A) of this paragraph, when high-risk
215 preparations are compounded, the primary engineering control shall be located in a buffer area
216 that provides a physical separation, through the use of walls, doors and pass-throughs and has a
217 minimum differential positive pressure of 0.02 to 0.05 inches water column.

218 (ii) Presterilization procedures for high-risk level compounded sterile preparations, such as
219 weighing and mixing, shall be completed in no worse than an ISO Class 8 environment.

220 (C) Automated compounding device. [~~If automated compounding devices are used, the~~
221 ~~pharmacy shall have a method to calibrate and verify the accuracy of automated compounding~~
222 ~~devices used in aseptic processing and document the calibration and verification on a daily basis,~~
223 ~~based on the manufacturer's recommendations, and review the results at least weekly.~~]

224 (i) General. If automated compounding devices are used, the pharmacy shall have a method to
225 calibrate and verify the accuracy of automated compounding devices used in aseptic processing
226 and document the calibration and verification on a daily basis, based on the manufacturer's
227 recommendations, and review the results at least weekly.

228 (ii) Loading bulk drugs into automated compounding devices.

229 (I) Automated compounding device may be loaded with bulk drugs only by a pharmacist or by
230 pharmacy technicians or pharmacy technician trainees under the direction and direct supervision
231 of a pharmacist.

232 (II) The label of an automated compounding device container shall indicate the brand name and
233 strength of the drug; or if no brand name, then the generic name, strength, and name of the
234 manufacturer or distributor.

235 (III) Records of loading bulk drugs into an automated compounding device shall be maintained
236 to show:

237 (-a-) name of the drug, strength, and dosage form;

238 (-b-) manufacturer or distributor;

239 (-c-) manufacturer's lot number;

240 (-d-) manufacturer's expiration date;

241 (-e-) quantity added to the automated compounding device;

242 (-f-) date of loading;

243 (-g-) name, initials, or electronic signature of the person loading the automated compounding
244 device; and

245 (-h-) name, initials, or electronic signature of the responsible pharmacist.

246 (IV) The automated compounding device shall not be used until a pharmacist verifies that the
247 system is properly loaded and affixes his or her signature or electronic signature to the record
248 specified in subclause (III) of this clause.

249 (D) (No change.)

250 (E) Blood-labeling procedures. When compounding activities require the manipulation of a
251 patient's blood-derived material (e.g., radiolabeling a patient's or donor's white blood cells), the
252 manipulations shall be clearly separated from routine material-handling procedures and
253 equipment used in preparation activities to avoid any cross-contamination. The preparations shall
254 not require sterilization.

255 (F) [~~E~~] Cleaning and disinfecting the sterile compounding areas. The following cleaning and
256 disinfecting practices and frequencies apply to direct and contiguous compounding areas, which
257 include ISO Class 5 compounding areas for exposure of critical sites as well as buffer areas,
258 ante-areas, and segregated compounding areas.

259 (i) The pharmacist-in-charge is responsible for developing written procedures for cleaning and
260 disinfecting the direct and contiguous compounding areas and assuring the procedures are
261 followed.

262 (ii) These procedures shall be conducted at the beginning of each work shift, before each batch
263 preparation is started, when there are spills, and when surface contamination is known or
264 suspected resulting from procedural breaches, and every 30 minutes during continuous
265 compounding of individual compounded sterile preparations, unless a particular compounding

266 procedure requires more than 30 minutes to complete, in which case, the direct compounding
267 area is to be cleaned immediately after the compounding activity is completed.

268 (iii) Before compounding is performed, all items shall be removed from the direct and
269 contiguous compounding areas and all surfaces are cleaned by removing loose material and
270 residue from spills, followed by an application of a residue-free disinfecting agent (e.g., IPA),
271 which is allowed to dry before compounding begins. In a Class B pharmacy, objects used in
272 preparing sterile radiopharmaceuticals (e.g., dose calibrator) which cannot be reasonably
273 removed from the compounding area shall be sterilized with an application of a residue-free
274 disinfection agent.

275 (iv) Work surfaces in the [~~ISO Class 7~~] buffer areas and [~~ISO Class 8~~] ante-areas, as well as
276 segregated compounding areas, shall be cleaned and disinfected at least daily. Dust and debris
277 shall be removed when necessary from storage sites for compounding ingredients and supplies
278 using a method that does not degrade the ISO Class 7 or 8 air quality.

279 (v) Floors in the buffer area, ante-area, and segregated compounding area are cleaned by
280 mopping with a cleaning and disinfecting agent at least once daily when no aseptic operations
281 are in progress. Mopping shall be performed by trained personnel using approved agents and
282 procedures described in the written SOPs. It is incumbent on compounding personnel to ensure
283 that such cleaning is performed properly.

284 (vi) In the buffer area, ante-area, and segregated compounding area, walls, ceilings, and shelving
285 shall be cleaned and disinfected monthly. Cleaning and disinfecting agents shall be used with
286 careful consideration of compatibilities, effectiveness, and inappropriate or toxic residues.

287 (vii) All cleaning materials, such as wipers, sponges, and mops, shall be non-shedding, and
288 dedicated to use in the buffer area, ante-area, and segregated compounding areas and shall not be
289 removed from these areas except for disposal. Floor mops may be used in both the buffer area
290 and ante-area, but only in that order. If cleaning materials are reused, procedures shall be
291 developed that ensure that the effectiveness of the cleaning device is maintained and that
292 repeated use does not add to the bio-burden of the area being cleaned.

293 (viii) Supplies and equipment removed from shipping cartons must be wiped with a disinfecting
294 agent, such as sterile IPA. After the disinfectant is sprayed or wiped on a surface to be
295 disinfected, the disinfectant shall be allowed to dry, during which time the item shall not be used
296 for compounding purposes. However, if sterile supplies are received in sealed pouches, the
297 pouches may be removed as the supplies are introduced into the ISO Class 5 area without the
298 need to disinfect the individual sterile supply items. No shipping or other external cartons may be
299 taken into the buffer area or segregated compounding area.

300 (ix) Storage shelving emptied of all supplies, walls, and ceilings are cleaned and disinfected at
301 planned intervals, monthly, if not more frequently.

302 (x) Cleaning must be done by personnel trained in appropriate cleaning techniques.

303 (xi) Proper documentation and frequency of cleaning must be maintained and shall contain the
304 following:

305 (I) date and time of cleaning;

306 (II) type of cleaning performed; and

307 (III) name of individual who performed the cleaning.

308 (G) [~~(F)~~] Security requirements. The pharmacist-in-charge may authorize personnel to gain
309 access to that area of the pharmacy containing dispensed sterile preparations, in the absence of
310 the pharmacist, for the purpose of retrieving dispensed prescriptions to deliver to patients. If the
311 pharmacy allows such after-hours access, the area containing the dispensed sterile preparations
312 shall be an enclosed and lockable area separate from the area containing undispensed
313 prescription drugs. A list of the authorized personnel having such access shall be in the
314 pharmacy's policy and procedure manual.

315 (H) [~~(G)~~] Storage requirements and beyond-use dating.

316 (i) Storage requirements. All drugs shall be stored at the proper temperature and conditions, as
317 defined in the USP/NF and in §291.15 of this title (relating to Storage of Drugs).

318 (ii) Beyond-use dating.

319 (I) Beyond-use dates for compounded sterile preparations shall be assigned based on professional
320 experience, which shall include careful interpretation of appropriate information sources for the
321 same or similar formulations.

322 (II) Beyond-use dates for compounded sterile preparations that are prepared strictly in
323 accordance with manufacturers' product labeling must be those specified in that labeling, or from
324 appropriate literature sources or direct testing.

325 (III) When assigning a beyond-use date, compounding personnel shall consult and apply drug-
326 specific and general stability documentation and literature where available, and they should
327 consider the nature of the drug and its degradation mechanism, the container in which it is
328 packaged, the expected storage conditions, and the intended duration of therapy.

329 (IV) The sterility and storage and stability beyond-use date for attached and activated container
330 pairs of drug products for intravascular administration shall be applied as indicated by the
331 manufacturer.

332 (7) - (8) (No change.)

333 (9) Labeling.

334 (A) Prescription drug or medication orders. In addition to the labeling requirements for the
335 pharmacy's specific license classification, the label dispensed or distributed pursuant to a
336 prescription drug or medication order shall contain the following:

337 (i) the generic name(s) or the official name(s) of the principal active ingredient(s) of the
338 compounded sterile preparation;

339 (ii) for outpatient prescription orders other than sterile radiopharmaceuticals [~~only~~], a statement
340 that the compounded sterile preparation has been compounded by the pharmacy. (An auxiliary
341 label may be used on the container to meet this requirement);

342 (iii) a beyond-use date. The beyond-use date shall be determined as outlined in Chapter 797,
343 Pharmacy Compounding--Sterile Preparations of the USP/NF, and paragraph (7)(G) of this
344 subsection;

345 (B) - (C) (No change.)

346 (10) Written drug information for prescription drug orders only. Written information about the
347 compounded preparation or its major active ingredient(s) shall be given to the patient at the time
348 of dispensing a prescription drug order. A statement which indicates that the preparation was
349 compounded by the pharmacy must be included in this written information. If there is no written
350 information available, the patient shall be advised that the drug has been compounded and how
351 to contact a pharmacist, and if appropriate, the prescriber, concerning the drug. This paragraph
352 does not apply to the preparation of radiopharmaceuticals.

353 (11) Pharmaceutical Care Services. In addition to the pharmaceutical care requirements for the
354 pharmacy's specific license classification, the following requirements for sterile preparations
355 compounded pursuant to prescription drug orders must be met. This paragraph does not apply to
356 the preparation of radiopharmaceuticals.

357 (A) - (D) (No change.)

358 (12) (No change.)

359 (13) Compounding process.

360 (A) Standard operating procedures (SOPs). All significant procedures performed in the
361 compounding area shall be covered by written SOPs designed to ensure accountability, accuracy,
362 quality, safety, and uniformity in the compounding process. At a minimum, SOPs shall be
363 developed and implemented for:

364 (i) the facility;

365 (ii) equipment;

366 (iii) personnel;

- 367 (iv) preparation evaluation;
- 368 (v) quality assurance;
- 369 (vi) preparation recall;
- 370 (vii) packaging; and
- 371 (viii) storage of compounded sterile preparations.
- 372 (B) USP/NF. Any compounded formulation with an official monograph in the USP/NF shall be
373 compounded, labeled, and packaged in conformity with the USP/NF monograph for the drug.
- 374 (C) Personnel Cleansing and Garbing.
- 375 (i) Any person with an apparent illness or open lesion, including rashes, sunburn, weeping sores,
376 conjunctivitis, and active respiratory infection, that may adversely affect the safety or quality of a
377 drug preparation being compounded shall be excluded from working in ISO Class 5, ~~and~~ ISO
378 Class 7, and ISO Class 8 compounding areas until the condition is remedied.
- 379 (ii) Before entering the buffer area, compounding personnel must remove the following:
- 380 (I) personal outer garments (e.g., bandanas, coats, hats, jackets, scarves, sweaters, vests);
- 381 (II) all cosmetics, because they shed flakes and particles; and
- 382 (III) all hand, wrist, and other body jewelry or piercings (e.g., earrings, lip or eyebrow piercings)
383 that can interfere with the effectiveness of personal protective equipment (e.g., fit of gloves and
384 cuffs of sleeves).
- 385 (iii) The wearing of artificial nails or extenders is prohibited while working in the sterile
386 compounding environment. Natural nails shall be kept neat and trimmed.
- 387 (iv) Personnel shall don personal protective equipment and perform hand hygiene in an order that
388 proceeds from the dirtiest to the cleanest activities as follows:
- 389 (I) Activities considered the dirtiest include donning of dedicated shoes or shoe covers, head and
390 facial hair covers (e.g., beard covers in addition to face masks), and face mask/eye shield. Eye
391 shields are optional unless working with irritants like germicidal disinfecting agents or when
392 preparing hazardous drugs.
- 393 (II) After donning dedicated shoes or shoe covers, head and facial hair covers, and face masks,
394 personnel shall perform a hand hygiene procedure by removing debris from underneath
395 fingernails using a nail cleaner under running warm water followed by vigorous hand washing.
396 Personnel shall begin washing arms at the hands and continue washing to elbows for at least 30
397 seconds with either a plain (non-antimicrobial) soap, or antimicrobial soap, and water while in

398 the ante-area. Hands and forearms to the elbows shall be completely dried using lint-free
399 disposable towels, an electronic hands-free hand dryer, or a HEPA filtered hand dryer.

400 (III) After completion of hand washing, personnel shall don clean non-shedding gowns with
401 sleeves that fit snugly around the wrists and enclosed at the neck.

402 (IV) Once inside the buffer area or segregated compounding area, and prior to donning sterile
403 powder-free gloves, antiseptic hand cleansing shall be performed using a waterless alcohol-based
404 surgical hand scrub with persistent activity following manufacturers' recommendations. Hands
405 shall be allowed to dry thoroughly before donning sterile gloves.

406 (V) Sterile gloves that form a continuous barrier with the gown shall be the last item donned
407 before compounding begins. Sterile gloves shall be donned using proper technique to ensure the
408 sterility of the glove is not compromised while donning. The cuff of the sterile glove shall cover
409 the cuff of the gown at the wrist. When preparing hazardous preparations, the compounder shall
410 double glove or shall use single gloves ensuring that the gloves are sterile powder-free
411 chemotherapy-rated gloves. Routine application of sterile 70% IPA shall occur throughout the
412 compounding day and whenever non-sterile surfaces are touched.

413 (v) When compounding personnel shall temporarily exit the buffer area [~~ISO Class 7~~
414 ~~environment~~] during a work shift, the exterior gown, if not visibly soiled, may be removed and
415 retained in the [~~ISO Class 8~~] ante-area, to be re-donned during that same work shift only.
416 However, shoe covers, hair and facial hair covers, face mask/eye shield, and gloves shall be
417 replaced with new ones before re-entering the buffer area [~~ISO Class 7 clean environment~~] along
418 with performing proper hand hygiene.

419 (vi) During high-risk compounding activities that precede terminal sterilization, such as
420 weighing and mixing of non-sterile ingredients, compounding personnel shall be garbed and
421 gloved the same as when performing compounding in an ISO Class 5 environment. Properly
422 garbed and gloved compounding personnel who are exposed to air quality that is either known or
423 suspected to be worse than ISO Class 7 shall re-garb personal protective equipment along with
424 washing their hands properly, performing antiseptic hand cleansing with a sterile 70% IPA-based
425 or another suitable sterile alcohol-based surgical hand scrub, and donning sterile gloves upon re-
426 entering the ISO Class 7 buffer area.

427 (vii) When compounding aseptic isolators or compounding aseptic containment isolators are the
428 source of the ISO Class 5 environment, at the start of each new compounding procedure, a new
429 pair of sterile gloves shall be donned within the CAI or CACI. In addition, the compounding
430 personnel should follow the requirements as specified in this subparagraph, unless the isolator
431 manufacturer can provide written documentation based on validated environmental testing that
432 any components of personal protective equipment or cleansing are not required.

433 (14) Quality Assurance.

434 (A) Initial Formula Validation. Prior to routine compounding of a sterile preparation, a pharmacy
435 shall conduct an evaluation that shows that the pharmacy is capable of compounding a
436 preparation that is sterile and that contains the stated amount of active ingredient(s).

437 (i) Low risk preparations.

438 (I) Quality assurance practices include, but are not limited to the following:

439 (-a-) Routine disinfection and air quality testing of the direct compounding environment to
440 minimize microbial surface contamination and maintain ISO Class 5 air quality.

441 (-b-) Visual confirmation that compounding personnel are properly donning and wearing
442 appropriate items and types of protective garments and goggles.

443 (-c-) Review of all orders and packages of ingredients to ensure that the correct identity and
444 amounts of ingredients were compounded.

445 (-d-) Visual inspection of compounded sterile preparations, except for sterile
446 radiopharmaceuticals, to ensure the absence of particulate matter in solutions, the absence of
447 leakage from vials and bags, and the accuracy and thoroughness of labeling.

448 (II) Example of a Media-Fill Test Procedure. This, or an equivalent test, is performed at least
449 annually by each person authorized to compound in a low-risk level under conditions that closely
450 simulate the most challenging or stressful conditions encountered during compounding of low-
451 risk level sterile preparations. Once begun, this test is completed without interruption within an
452 ISO Class 5 air quality environment. Three sets of four 5-milliliter aliquots of sterile Soybean-
453 Casein Digest Medium are transferred with the same sterile 10-milliliter syringe and vented
454 needle combination into separate sealed, empty, sterile 30-milliliter clear vials (i.e., four 5-
455 milliliter aliquots into each of three 30-milliliter vials). Sterile adhesive seals are aseptically
456 affixed to the rubber closures on the three filled vials. The vials are incubated within a range of
457 20 - 35 degrees Celsius for a minimum of 14 days. Failure is indicated by visible turbidity in the
458 medium on or before 14 days. The media-fill test must include a positive-control sample.

459 (ii) - (iii) (No change.)

460 (B) Finished preparation release checks and tests.

461 (i) (No change.)

462 (ii) All compounded sterile preparations, except for sterile radiopharmaceuticals, that are
463 intended to be solutions must be visually examined for the presence of particulate matter and not
464 administered or dispensed when such matter is observed.

465 (iii) - (iv) (No change.)

466 (C) Environmental Testing.

- 467 (i) - (ii) (No change.)
- 468 (iii) Pressure differential monitoring. A pressure gauge or velocity meter shall be installed to
469 monitor the pressure differential or airflow between the buffer area and the ante-area and
470 between the ante-area and the general environment outside the compounding area. The results
471 shall be reviewed and documented on a log at least every work shift (minimum frequency shall
472 be at least daily) or by a continuous recording device. The pressure between the ISO Class 7 or
473 ISO Class 8 and the general pharmacy area shall not be less than 0.02 inch water column.
- 474 (iv) - (vii) (No change.)
- 475 (15) Quality control.
- 476 (A) Quality control procedures. The pharmacy shall follow established quality control
477 procedures to monitor the compounding environment and quality of compounded drug
478 preparations for conformity with the quality indicators established for the preparation. When
479 developing these procedures, pharmacy personnel shall consider the provisions of USP Chapter
480 71, Sterility Tests, USP Chapter 85, Bacterial Endotoxins Test, Pharmaceutical Compounding--
481 Non-sterile Preparations, USP Chapter 795, USP Chapter 797, Pharmaceutical Compounding--
482 Sterile Preparations, USP Chapter 800, Hazardous Drugs--Handling in Healthcare Settings, USP
483 Chapter 823, Positron Emission Tomography Drugs for Compounding, Investigational, and
484 Research Uses, USP [~~Chapter 1075, Good Compounding Practices, and~~] Chapter 1160,
485 Pharmaceutical Calculations in Prescription Compounding, and USP Chapter 1163, Quality
486 Assurance in Pharmaceutical Compounding of the current USP/NF. Such procedures shall be
487 documented and be available for inspection.
- 488 (B) (No change.)
- 489 (e) (No change.)
- 490 (f) Office Use Compounding and Distribution of Sterile Compounded Preparations
- 491 (1) General.
- 492 (A) A pharmacy may compound, dispense, deliver, and distribute a compounded sterile
493 preparation as specified in Subchapter D, Texas Pharmacy Act Chapter 562.
- 494 (B) A Class A-S pharmacy is not required to register or be licensed under Chapter 431, Health
495 and Safety Code, to distribute sterile compounded preparations to a Class C or Class C-S
496 pharmacy.
- 497 (C) A Class C-S pharmacy is not required to register or be licensed under Chapter 431, Health
498 and Safety Code, to distribute sterile compounded preparations that the Class C-S pharmacy has
499 compounded for other Class C or Class C-S pharmacies under common ownership.

- 500 (D) To compound and deliver a compounded preparation under this subsection, a pharmacy
501 must:
- 502 (i) verify the source of the raw materials to be used in a compounded drug;
- 503 (ii) comply with applicable United States Pharmacopoeia guidelines, including the testing
504 requirements, and the Health Insurance Portability and Accountability Act of 1996 (Pub. L. No.
505 104-191);
- 506 (iii) enter into a written agreement with a practitioner for the practitioner's office use of a
507 compounded preparation;
- 508 (iv) comply with all applicable competency and accrediting standards as determined by the
509 board; and
- 510 (v) comply with the provisions of this subsection.
- 511 (E) This subsection does not apply to Class B pharmacies compounding sterile
512 radiopharmaceuticals that are furnished for departmental or physicians' use if such authorized
513 users maintain a Texas radioactive materials license.
- 514 (2) - (4) (No change.)
- 515 (g) (No change.)

1 TITLE 22 EXAMINING BOARDS
2 PART 15 TEXAS STATE BOARD OF PHARMACY
3 CHAPTER 291 PHARMACIES
4 SUBCHAPTER G SERVICES PROVIDED BY PHARMACIES

5
6 **§291.133 Pharmacies Compounding Sterile Preparations**

7 XXX

8 (d) Operational Standards.

9 XXX

10 (7) Primary engineering control device. The pharmacy shall prepare sterile preparations in a
11 primary engineering control device (PEC), such as a laminar air flow hood, biological safety
12 cabinet, compounding aseptic isolator (CAI), or compounding aseptic containment isolator
13 (CACI) which is capable of maintaining at least ISO Class 5 conditions for 0.5 micrometer
14 particles while compounding sterile preparations.

15 XXX

16 (D) Compounding aseptic containment isolator.

17 (i) If the pharmacy is using a compounding aseptic containment isolator as its PEC for the
18 preparation of low- and medium-risk hazardous drugs, the CACI shall be located in a separate
19 room away from other areas of the pharmacy and shall:

20 (I) **be vented to the outside of the building in which the pharmacy is located**; provide at least
21 0.01 inches water column negative pressure compared to the other areas of the pharmacy;

22 (II) provide unidirectional airflow within the main processing and antechambers, and be placed
23 in an ISO Class 7 buffer area, unless the CACI meets all of the following conditions.

24 (-a-) The isolator must provide isolation from the room and maintain ISO Class 5 during dynamic
25 operating conditions including transferring ingredients, components, and devices into and out of
26 the isolator and during preparation of compounded sterile preparations.

27 (-b-) Particle counts sampled approximately 6 to 12 inches upstream of the critical exposure site
28 must maintain ISO Class 5 levels during compounding operations.

29 (-c-) The CACI must be validated according to CETA CAG-002-2006 standards.

30 (-d-) The pharmacy shall maintain documentation from the manufacturer that the isolator meets
31 this standard when located in worse than ISO Class 7 environments.

32 (ii) If the CACI meets all conditions specified in clause (i) of this subparagraph, the CACI shall
33 not be located in the same room as a CAI, but shall be located in a separate room in the
34 pharmacy, that is not required to maintain ISO classified air. The room in which the CACI is

35 located shall provide a minimum of 0.01 inches water column negative pressure compared with
36 the other areas of the pharmacy and shall meet the following requirements:

37 (I) be clean, well lit, and of sufficient size;

38 (II) be maintained at a comfortable temperature (e.g., 20 degrees Celsius or cooler) allowing
39 compounding personnel to perform flawlessly when attired in the required aseptic compounding
40 garb;

41 (III) be used only for the compounding of hazardous sterile preparations;

42 (IV) be located in an area of the pharmacy with walls, ceilings, floors, fixtures, shelving,
43 counters, and cabinets that are smooth, impervious, free from cracks and crevices, non-
44 shedding and resistant to damage by disinfectant agents; and

45 (V) have non-porous and washable floors or floor covering to enable regular disinfection.

46 (iii) If the CACI is used in the compounding of high-risk hazardous preparations, the CACI shall
47 be placed in an area or room with at least ISO 8 quality air so that high-risk powders, weighed in
48 at least ISO-8 air quality conditions, are not exposed to lesser air quality prior to the completion
49 of compounding and packaging of the high-risk preparation.

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