

1 **TITLE 22 EXAMINING BOARDS**
2 **PART 15 TEXAS STATE BOARD OF PHARMACY**
3 **CHAPTER 291 PHARMACIES**
4 **SUBCHAPTER C NUCLEAR PHARMACY (CLASS B)**

5
6 **§291.51 Purpose**
7

8 The purpose of this subchapter is to provide standards for the preparation, labeling, and
9 distribution of [~~compounded~~] radiopharmaceuticals by licensed nuclear pharmacies, pursuant to
10 a radioactive prescription drug order. The intent of this subchapter is to establish a minimum
11 acceptable level of pharmaceutical care to the patient so that the patient's health is protected
12 while contributing to positive patient outcomes. The board has determined that this subchapter
13 is necessary to protect the health and welfare of the citizens of this state.
14

15 **§291.52 Definitions**
16

17 The following words and terms, when used in this subchapter, shall have the following
18 meanings, unless the context clearly indicates otherwise. Any term not defined in this section
19 shall have the definition set forth in the Act, §551.003.
20

21 (1) Act--The Texas Pharmacy Act, Chapters 551 [~~566 and 568~~] - 569, Occupations Code, as
22 amended.
23

24 (2) Accurately as prescribed--Dispensing, delivering, and/or distributing a prescription drug
25 order or radioactive prescription drug order:
26

27 (A) to the correct patient (or agent of the patient) for whom the drug or device was prescribed;
28

29 (B) with the correct drug in the correct strength, quantity, and dosage form ordered by the
30 practitioner; and
31

32 (C) with correct labeling (including directions for use) as ordered by the practitioner. Provided,
33 however, that nothing herein shall prohibit pharmacist substitution if substitution is conducted in
34 strict accordance with applicable laws and rules, including Subchapter A, Chapter 562 of the
35 Act.
36

37 (3) ACPE--Accreditation Council for Pharmacy Education.
38

39 (4) Administer--The direct application of a prescription drug and/or radiopharmaceutical, by
40 injection, inhalation, ingestion, or any other means to the body of a patient by:
41

42 (A) a practitioner, an authorized agent under his supervision, or other person authorized by
43 law; or
44

45 (B) the patient at the direction of a practitioner.
46

47 (5) [~~Airborne particulate cleanliness class--The level of cleanliness specified by the maximum~~
48 ~~allowable number of particles per cubic meter of air as specified in the International~~
49 ~~Organization of Standardization (ISO) Classification Air Cleanliness (ISO 14644-1). For~~
50 ~~example:~~
51

52 ~~—(A) ISO Class 5 (formerly Class 100) is an atmospheric environment that contains less than~~
53 ~~3,520 particles 0.5 microns in diameter per cubic meter of air (formerly stated as 100 particles~~
54 ~~0.5 microns in diameter per cubic foot of air);~~

55
56 ~~—(B) ISO Class 7 (formerly Class 10,000) is an atmospheric environment that contains less~~
57 ~~than 352,000 particles 0.5 microns in diameter per cubic meter of air (formerly stated as 10,000~~
58 ~~particles 0.5 microns in diameter per cubic foot of air); and~~

59
60 ~~—(C) ISO Class 8 (formerly Class 100,000) is an atmospheric environment that contains less~~
61 ~~than 3,520,000 particles 0.5 microns in diameter per cubic meter of air (formerly stated as~~
62 ~~100,000 particles 0.5 microns in diameter per cubic foot of air).]~~

63
64 ~~[(6) Ancillary supplies--Supplies necessary for the administration of compounded sterile~~
65 ~~radiopharmaceuticals.]~~

66
67 ~~[(7) Aseptic processing--The technique involving procedures designed to preclude~~
68 ~~contamination of drugs, packaging, equipment, or supplies by microorganisms during~~
69 ~~processing.]~~

70
71 ~~[(8)] Authentication of product history--Identifying the purchasing source, the intermediate~~
72 ~~handling, and the ultimate disposition of any component of a radioactive drug.~~

73
74 **(6)** ~~[(9)]~~ Authorized nuclear pharmacist--A pharmacist who:

75
76 (A) has completed the specialized training requirements specified by this subchapter for the
77 preparation and distribution of radiopharmaceuticals; and

78
79 (B) is named on a Texas radioactive material license, issued by the Texas Department of
80 State Health Services, Radiation Control Program.

81
82 **(7)** ~~[(10)]~~ Authorized user--Any individual named on a Texas radioactive material license,
83 issued by the Texas Department of State Health Services, Radiation Control Program.

84
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~~
87 ~~a designated drug product.]~~

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

93
94 **(8)** ~~[(13)]~~ Board--The Texas State Board of Pharmacy.

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

100
101 **(9)** ~~[(15)]~~ Component--Any ingredient intended for use in the compounding of a drug
102 preparation, including those that may not appear in such preparation.

103
104 **(10)** ~~[(16)]~~ Compounding--The preparation, mixing, assembling, packaging, or labeling of a drug
105 or device:

106
107 (A) as the result of a practitioner's prescription drug or medication order based on the
108 practitioner-patient-pharmacist relationship in the course of professional practice;

109
110 (B) for administration to a patient by a practitioner as the result of a practitioner's initiative
111 based on the practitioner-patient-pharmacist relationship in the course of professional practice;

112
113 (C) in anticipation of prescription drug or medication orders based on routine, regularly
114 observed prescribing patterns; or

115
116 (D) for or as an incident to research, teaching, or chemical analysis and not for sale or
117 dispensing, except as allowed under §562.154 or Chapter 563 of the Act.

118
119 **(11)** ~~[(17)]~~ Controlled substance--A drug, immediate precursor, or other substance listed in
120 Schedules I - V or Penalty Groups 1-4 of the Texas Controlled Substances Act, as amended, or
121 a drug, immediate precursor, or other substance included in Schedule I, II, III, IV, or V of the
122 Federal Comprehensive Drug Abuse Prevention and Control Act of 1970, as amended (Public
123 Law 91-513).

124
125 ~~[(18) Critical site--Sterile ingredients of compounded sterile preparations and locations on
126 devices and components used to prepare, package, and transfer compounded sterile
127 preparations that provide opportunity for exposure to contamination.]~~

128
129 **(12)** ~~[(19)]~~ Dangerous drug--A drug or device that:

130
131 (A) is not included in Penalty Group 1, 2, 3, or 4, Chapter 481, Health and Safety Code, and
132 is unsafe for self-medication; or

133
134 (B) bears or is required to bear the legend:

135
136 (i) "Caution: federal law prohibits dispensing without prescription" or "Rx only" or another
137 legend that complies with federal law; or

138
139 (ii) "Caution: federal law restricts this drug to use by or on the order of a licensed
140 veterinarian."

141
142 **(13)** ~~[(20)]~~ Data communication device--An electronic device that receives electronic
143 information from one source and transmits or routes it to another (e.g., bridge, router, switch, or
144 gateway).

145
146 **(14)** ~~[(21)]~~ Deliver or delivery--The actual, constructive, or attempted transfer of a prescription
147 drug or device, radiopharmaceutical, or controlled substance from one person to another,
148 whether or not for a consideration.

149
150 **(15)** ~~[(22)]~~ Designated agent--

151
152 (A) an individual, including a licensed nurse, physician assistant, **nuclear medicine**
153 **technologist**, or pharmacist:

154
155 (i) who is designated by a practitioner and authorized to communicate a prescription drug
156 order to a pharmacist; and
157
158 (ii) for whom the practitioner assumes legal responsibility;
159
160 (B) a licensed nurse, physician assistant, or pharmacist employed in a health care facility to
161 whom a practitioner communicates a prescription drug order; or
162
163 (C) a registered nurse or physician assistant authorized by a practitioner to administer a
164 prescription drug order for a dangerous drug under Subchapter B, Chapter 157 (Occupations
165 Code).
166
167 **(16)** ~~[(23)]~~ Device--An instrument, apparatus, implement, machine, contrivance, implant, in vitro
168 reagent, or other similar or related articles, including any component parts or accessory that is
169 required under federal or state law to be ordered or prescribed by a practitioner.
170
171 **(17)** ~~[(24)]~~ Diagnostic prescription drug order--A radioactive prescription drug order issued for a
172 diagnostic purpose.
173
174 **(18)** ~~[(25)]~~ Dispense--Preparing, packaging, compounding, or labeling for delivery a
175 prescription drug or device, or a radiopharmaceutical in the course of professional practice to an
176 ultimate user or his agent by or pursuant to the lawful order of a practitioner.
177
178 **(19)** ~~[(26)]~~ Dispensing pharmacist--The authorized nuclear pharmacist responsible for the final
179 check of the dispensed prescription before delivery to the patient.
180
181 **(20)** ~~[(27)]~~ Distribute--The delivering of a prescription drug or device, or a radiopharmaceutical
182 other than by administering or dispensing.
183
184 **(21)** ~~[(28)]~~ Electronic radioactive prescription drug order--A radioactive prescription drug order
185 which is transmitted by an electronic device to the receiver (pharmacy).
186
187 ~~[(29) Internal test assessment--Validation of tests for quality control necessary to insure the
188 integrity of the test.]~~
189
190 **(22)** ~~[(30)]~~ Nuclear pharmacy technique--The mechanical ability required to perform the
191 nonjudgmental, technical aspects of preparing and dispensing radiopharmaceuticals.
192
193 **(23)** ~~[(34)]~~ Original prescription--The:
194
195 (A) original written radioactive prescription drug orders; or
196
197 (B) original verbal or electronic radioactive prescription drug orders maintained either
198 manually or electronically by the pharmacist.
199
200 **(24)** ~~[(32)]~~ Pharmacist-in-charge--The pharmacist designated on a pharmacy license as the
201 pharmacist who has the authority or responsibility for a pharmacy's compliance with laws and
202 rules pertaining to the practice of pharmacy.
203

204 **(25)** ~~[(33)]~~ Pharmacy technician--An individual whose responsibility in a pharmacy is to provide
205 technical services that do not require professional judgment regarding preparing and distributing
206 drugs and who works under the direct supervision of and is responsible to a pharmacist.

207
208 **(26)** ~~[(34)]~~ Pharmacy technician trainee--An individual who is registered with the board as a
209 pharmacy technician trainee and is authorized to participate in a pharmacy's technician training
210 program.

211
212 ~~[(35) Process validation--Documented evidence providing a high degree of assurance that a
213 specific process will consistently produce a product meeting its predetermined specifications
214 and quality attributes.]~~

215
216 ~~[(36) Quality assurance--The set of activities used to ensure that the process used in the
217 preparation of sterile radiopharmaceuticals lead to preparations that meet predetermined
218 standards of quality.]~~

219
220 **(27)** ~~[(37)]~~ Radiopharmaceutical--A prescription drug or device that exhibits spontaneous
221 disintegration of unstable nuclei with the emission of a nuclear particle(s) or photon(s), including
222 any nonradioactive reagent kit or nuclide generator that is intended to be used in preparation of
223 any such substance.

224
225 ~~[(38) Radioactive drug quality control--The set of testing activities used to determine that the
226 ingredients, components (e.g., containers), and final radiopharmaceutical prepared meets
227 predetermined requirements with respect to identity, purity, non-pyrogenicity, and sterility and
228 the interpretation of the resulting data in order to determine the feasibility for use in humans and
229 animals including internal test assessment, authentication of product history, and the keeping of
230 mandatory records.]~~

231
232 **(28)** ~~[(39)]~~ Radioactive drug service--The act of distributing radiopharmaceuticals; the
233 participation in radiopharmaceutical selection and the performance of radiopharmaceutical drug
234 reviews.

235
236 **(29)** ~~[(40)]~~ Radioactive prescription drug order--An order from a practitioner or a practitioner's
237 designated agent for a radiopharmaceutical to be dispensed.

238
239 **(30)** ~~[(41)]~~ Sterile radiopharmaceutical--A dosage form of a radiopharmaceutical free from
240 living micro-organisms.

241
242 **(31)** ~~[(42)]~~ Therapeutic prescription drug order--A radioactive prescription drug order issued for
243 a specific patient for a therapeutic purpose.

244
245 **(32)** ~~[(43)]~~ Ultimate user--A person who has obtained and possesses a prescription drug or
246 radiopharmaceutical for administration to a patient by a practitioner.

247
248

249 **§291.53 Personnel**

250
251 (a) Pharmacists-in-Charge.

252
253 (1) General.

254

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

259
260 (B) The nuclear pharmacy pharmacist-in-charge shall see that directives from the board are
261 communicated to the owner(s), management, other pharmacists, and interns of the nuclear
262 pharmacy.

263
264 (C) Each Class B pharmacy shall have one pharmacist-in-charge who is employed on a full-
265 time basis, who may be the pharmacist-in-charge for only one such pharmacy; provided,
266 however, such pharmacist-in-charge may be the pharmacist-in-charge of:

267
268 (i) more than one Class B pharmacy, if the additional Class B pharmacies are not open to
269 provide pharmacy services simultaneously; or

270
271 (ii) during an emergency, up to two Class B pharmacies open simultaneously if the
272 pharmacist-in-charge works at least 10 hours per week in each pharmacy for no more than a
273 period of 30 consecutive days.

274
275 (2) Responsibilities. The pharmacist-in-charge shall have the responsibility for, at a minimum,
276 the following:

277
278 (A) ensuring that radiopharmaceuticals are dispensed and delivered safely and accurately as
279 prescribed;

280
281 (B) developing a system to assure that all pharmacy personnel responsible for compounding
282 and/or supervising the compounding of radiopharmaceuticals within the pharmacy receive
283 appropriate education and training and competency evaluation;

284
285 (C) determining that all pharmacists involved in compounding sterile radiopharmaceuticals
286 obtain continuing education appropriate for the type of compounding done by the pharmacist;

287
288 (D) supervising a system to assure appropriate procurement of drugs and devices and
289 storage of all pharmaceutical materials including radiopharmaceuticals, components used in the
290 compounding of radiopharmaceuticals, and drug delivery devices;

291
292 (E) assuring that the equipment used in compounding is properly maintained;

293
294 (F) developing a system for the disposal and distribution of drugs from the Class B pharmacy;

295
296 (G) developing a system for bulk compounding or batch preparation of radiopharmaceuticals;

297
298 (H) developing a system for the compounding, sterility assurance, and quality control of
299 sterile radiopharmaceuticals;

300
301 (I) maintaining records of all transactions of the Class B pharmacy necessary to maintain
302 accurate control over and accountability for all pharmaceutical materials including
303 radiopharmaceuticals, required by applicable state and federal laws and rules;

304

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

307
308 (K) assuring that the pharmacy has a system to dispose of radioactive and cytotoxic waste in
309 a manner so as not to endanger the public health; and

310
311 (L) legally operating the pharmacy, including meeting all inspection and other requirements of
312 all state and federal laws or rules governing the practice of pharmacy.

313
314 (b) Owner. The owner of a Class B pharmacy shall have responsibility for all administrative and
315 operational functions of the pharmacy. The pharmacist-in-charge may advise the owner on
316 administrative and operational concerns. The owner shall have responsibility for, at a minimum,
317 the following, and if the owner is not a Texas licensed pharmacist, the owner shall consult with
318 the pharmacist-in-charge or another Texas licensed pharmacist:

319
320 (1) establishing policies for procurement of prescription drugs and devices and other products
321 dispensed from the Class B pharmacy;

322
323 (2) establishing policies and procedures for the security of the prescription department
324 including the maintenance of effective controls against the theft or diversion of prescription
325 drugs;

326
327 (3) if the pharmacy uses an automated pharmacy dispensing system, reviewing and approving
328 all policies and procedures for system operation, safety, security, accuracy and access, patient
329 confidentiality, prevention of unauthorized access, and malfunction;

330
331 (4) providing the pharmacy with the necessary equipment and resources commensurate with
332 its level and type of practice; and

333
334 (5) establishing policies and procedures regarding maintenance, storage, and retrieval of
335 records in a data processing system such that the system is in compliance with state and
336 federal requirements.

337
338 (c) Authorized nuclear pharmacists.

339
340 (1) General.

341
342 (A) The pharmacist-in-charge shall be assisted by a sufficient number of additional authorized
343 nuclear pharmacists as may be required to operate the pharmacy competently, safely, and
344 adequately to meet the needs of the patients of the pharmacy.

345
346 (B) All personnel performing tasks in the preparation and distribution of radiopharmaceuticals
347 shall be under the direct supervision of an authorized nuclear pharmacist. General qualifications
348 for an authorized nuclear pharmacist are the following. A pharmacist shall:

349
350 (i) meet minimal standards of training and experience in the handling of radioactive
351 materials in accordance with the requirements of the Texas Regulations for Control of Radiation
352 of the Radiation Control Program, Texas Department of State Health Services;

353
354 (ii) be a pharmacist licensed by the board to practice pharmacy in Texas; and

355

356 (iii) submit to the board either:

357
358 (I) written certification that he or she has current board certification as a nuclear pharmacist
359 by the Board of Pharmaceutical Specialties; or

360
361 (II) written certification signed by a preceptor authorized nuclear pharmacist that he or she
362 has achieved a level of competency sufficient to independently operate as an authorized
363 nuclear pharmacist and has satisfactorily completed 700 hours in a structured educational
364 program consisting of both:

365
366 (-a-) 200 hours of didactic training in a program accepted by the Radiation Control
367 Program, Texas Department of State Health Services in the following areas:

368
369 (-1-) radiation physics and instrumentation;

370
371 (-2-) radiation protection;

372
373 (-3-) mathematics pertaining to the use and measurement of radioactivity;

374
375 (-4-) radiation biology; and

376
377 (-5-) chemistry of radioactive material for medical use; and

378
379 (-b-) 500 hours of supervised practical experience in a nuclear pharmacy involving the
380 following:

381
382 (-1-) shipping, receiving, and performing related radiation surveys;

383
384 (-2-) using and performing checks for proper operation of instruments used to determine
385 the activity of dosages, survey meters, and, if appropriate, instruments used to measure alpha-
386 or beta-emitting radionuclides;

387
388 (-3-) calculating, assaying, and safely preparing dosages for patients or human research
389 subjects;

390
391 (-4-) using administrative controls to avoid adverse medical events in the administration
392 of radioactive material; and

393
394 (-5-) using procedures to prevent or minimize contamination and using proper
395 decontamination procedures.

396
397 (C) ~~[The board may issue a letter of notification that the evidence submitted by the~~
398 ~~pharmacist meets the requirements of subparagraph (B)(i) – (iii) of this paragraph and has been~~
399 ~~accepted by the board and that, based thereon, the pharmacist is recognized as an authorized~~
400 ~~nuclear pharmacist.]~~

401
402 ~~[(D)]~~ Authorized nuclear pharmacists are solely responsible for the direct supervision of
403 pharmacy technicians and pharmacy technician trainees and for delegating nuclear pharmacy
404 techniques and additional duties, other than those listed in paragraph **(3)** ~~[(2)]~~ of this subsection,
405 to pharmacy technicians and pharmacy technician trainees. Each authorized nuclear pharmacist
406 shall:

407
408 (i) verify the accuracy of all acts, tasks, or functions performed by pharmacy technicians and
409 pharmacy technician trainees; and

410
411 (ii) be responsible for any delegated act performed by pharmacy technicians and pharmacy
412 technician trainees under his or her supervision.

413
414 (E) All authorized nuclear pharmacists while on duty, shall be responsible for complying with
415 all state and federal laws or rules governing the practice of pharmacy.

416
417 (F) The dispensing pharmacist shall ensure that the drug is dispensed and delivered safely
418 and accurately as prescribed.

419
420 (2) Special requirements for compounding.

421
422 (A) Non-sterile preparations. All pharmacists engaged in compounding non-sterile
423 **preparations, including radioactive preparations** [radiopharmaceuticals] shall meet the
424 training requirements specified in §291.131 of this title (relating to Pharmacies Compounding
425 Non-Sterile Preparations).

426
427 (B) Sterile Preparations. All pharmacists engaged in compounding sterile **preparations,**
428 **including radioactive preparations** [radiopharmaceuticals] shall meet the training
429 requirements specified in §291.133 of this title (relating to Pharmacies Compounding Sterile
430 Preparations).

431
432 (3) Duties. Duties which may only be performed by an authorized nuclear pharmacist are as
433 follows:

434
435 (A) receiving verbal therapeutic prescription drug orders and reducing these orders to writing,
436 either manually or electronically;

437
438 (B) receiving verbal, diagnostic prescription drug orders in instances where patient specificity
439 is required for patient safety (e.g., radiolabeled blood products, radiolabeled antibodies) and
440 reducing these orders to writing, either manually or electronically;

441
442 (C) interpreting and evaluating radioactive prescription drug orders;

443
444 (D) selecting drug products; and

445
446 (E) performing the final check of the dispensed prescription before delivery to the patient to
447 ensure that the radioactive prescription drug order has been dispensed accurately as
448 prescribed.

449
450 (d) Pharmacy Technicians and Pharmacy Technician Trainees.

451
452 (1) General. All pharmacy technicians and pharmacy technician trainees shall meet the training
453 requirements specified in §297.6 of this title (relating to Pharmacy Technician and Pharmacy
454 Technician Trainee Training).

455
456 (2) Special requirements for compounding.

457

458 (A) Non-sterile preparations. All pharmacy technicians and pharmacy technician trainees
459 engaged in compounding non-sterile **preparations, including radioactive preparations**
460 [~~radiopharmaceuticals~~] shall meet the training requirements specified in §291.131 of this title.
461

462 (B) Sterile Preparations. All pharmacy technicians and pharmacy technician trainees engaged
463 in compounding sterile **preparations, including radioactive preparations**
464 [~~radiopharmaceuticals~~] shall meet the training requirements specified in §291.133 of this title.
465

466 (3) Duties.

467 (A) Pharmacy technicians and pharmacy technician trainees may not perform any of the
468 duties listed in subsection (c)(3) of this section.
469

470 (B) An authorized nuclear pharmacist may delegate to pharmacy technicians and pharmacy
471 technician trainees any nuclear pharmacy technique which is associated with the preparation
472 and distribution of radiopharmaceuticals provided:
473

474 (i) an authorized nuclear pharmacist verifies the accuracy of all acts, tasks, and functions
475 performed by pharmacy technicians and pharmacy technician trainees; and
476

477 (ii) pharmacy technicians and pharmacy technician trainees are under the direct supervision
478 of and responsible to a pharmacist.
479

480 (4) Ratio of authorized nuclear pharmacist to pharmacy technicians and pharmacy technician
481 trainees.
482

483 (A) The ratio of authorized nuclear pharmacists to pharmacy technicians and pharmacy
484 technician trainees may be 1:4, provided at least one of the four is a pharmacy technician and is
485 trained in the handling of radioactive materials.
486

487 (B) The ratio of authorized nuclear pharmacists to pharmacy technician trainees may not
488 exceed 1:3.
489

490 ~~[(e) Special education, training, and evaluation requirements for pharmacy personnel
491 compounding or responsible for the direct supervision of pharmacy personnel compounding
492 sterile radiopharmaceuticals. All pharmacy personnel preparing sterile radiopharmaceuticals
493 shall meet the training requirements specified in §291.133 of this title.]~~
494
495

496
497 **§291.54 Operational Standards**
498

499 (a) Licensing requirements.

500 (1) It is unlawful for a person to provide radioactive drug services unless such provision is
501 performed by a person licensed to act as an authorized nuclear pharmacist, as defined by the
502 board, or is a person acting under the direct supervision of an authorized nuclear pharmacist
503 acting in accordance with the Act and its rules, and the regulations of the Texas Department of
504 State Health Services, Radiation Control Program. Subsection (a) of this section does not apply
505 to:
506
507

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

514
515 (B) institutions and/or facilities with nuclear medicine services operated by practitioners and
516 who are licensed by the Texas Department of State Health Services, Radiation Control
517 Program, to prescribe, administer, and dispense radioactive materials (drugs and/or devices).

518
519 (2) An applicant for a Class B pharmacy shall provide evidence to the board of the possession
520 of a Texas Department of State Health Services radioactive material license or proof of
521 application for a radioactive material license.

522
523 (3) A Class B pharmacy shall register with the board on a pharmacy license application
524 provided by the board, following the procedures specified in §291.1 of this title (relating to
525 Pharmacy License Application).

526
527 (4) A Class B pharmacy which changes ownership shall notify the board within ten days of the
528 change of ownership and apply for a new and separate license as specified in §291.3 of this title
529 (relating to Required Notifications).

530
531 (5) A Class B pharmacy which changes location and/or name shall notify the board within ten
532 days of the change and file for an amended license as specified in §291.3 of this title.

533
534 (6) A Class B pharmacy owned by a partnership or corporation which changes managing
535 officers shall notify the board in writing of the names of the new managing officers within ten
536 days of the change, following the procedures in §291.3 of this title.

537
538 (7) A Class B pharmacy shall notify the board in writing within ten days of closing, following the
539 procedures in §291.5 of this title (relating to Closing a Pharmacy).

540
541 (8) A separate license is required for each principal place of business and only one pharmacy
542 license may be issued to a specific location.

543
544 (9) A fee as specified in §291.6 of this title (relating to Pharmacy License Fees) will be charged
545 for the issuance and renewal of a license and the issuance of an amended license.

546
547 (10) A Class B pharmacy, licensed under the provisions of the Act, §560.051(a)(2), which also
548 operates another type of pharmacy which would otherwise be required to be licensed under the
549 Act, §560.051(a)(1), concerning community pharmacy (Class A), is not required to secure a
550 license for such other type of pharmacy; provided, however, such licensee is required to comply
551 with the provisions of §291.31 of this title (relating to Definitions); §291.32 of this title (relating to
552 Personnel); §291.33 of this title (relating to Operational Standards); §291.34 of this title (relating
553 to Records); and §291.35 of this title (relating to Official Prescription Requirements), to the
554 extent such rules are applicable to the operation of the pharmacy.

555
556 (11) A Class B [~~nuclear~~] pharmacy engaged in the compounding of non-sterile [~~non-~~
557 ~~radioactive~~] preparations, **including radioactive preparations**, shall comply with the provisions
558 of §291.131 of this title (relating to Pharmacies Compounding Non-Sterile Preparations).

559
560 (12) A Class B [~~nuclear~~] pharmacy engaged in the compounding of sterile [~~non-radioactive~~]
561 preparations, **including radioactive preparations**, shall comply with the provisions of
562 §291.133 of this title (relating to Pharmacies Compounding Sterile Preparations).

563
564 **(13) A Class B pharmacy may not renew a pharmacy license unless the pharmacy has**
565 **been inspected by the board within the last renewal period.**

566
567 [~~(b) Risk levels for compounded sterile radiopharmaceuticals. Risk Levels for sterile~~
568 ~~compounded radiopharmaceuticals shall be as listed below.~~

569
570 ~~—(1) Low-risk level compounded sterile radiopharmaceuticals.~~

571
572 ~~—(A) Low-risk level compounded sterile radiopharmaceuticals are those compounded under all~~
573 ~~of the following conditions.~~

574
575 ~~—(i) The compounded sterile preparations are compounded with aseptic manipulations~~
576 ~~entirely within ISO Class 5 or better air quality using only sterile ingredients, products,~~
577 ~~components, and devices.~~

578
579 ~~—(ii) The compounding involves only transfer, measuring, and mixing manipulations with~~
580 ~~closed or sealed packaging systems that are performed promptly and attentively.~~

581
582 ~~—(iii) Manipulations are limited to aseptically opening ampuls, penetrating sterile stoppers on~~
583 ~~vials with sterile needles and syringes, and transferring sterile liquids in sterile syringes to sterile~~
584 ~~administration devices and packages of other sterile products.~~

585
586 ~~—(iv) For a low-risk preparation, in the absence of passing a sterility test, the storage periods~~
587 ~~cannot exceed the following periods: before administration, 48 hours at controlled room~~
588 ~~temperature, for not more than 14 days if stored in cold temperatures, and for 45 days if stored~~
589 ~~in a frozen state at minus 20 degrees Celsius or colder). For delayed activation device systems,~~
590 ~~the storage period begins when the device is activated.~~

591
592 ~~—(B) Examples of low-risk compounding include radiopharmaceuticals compounded from~~
593 ~~sterile components in closed sterile containers and with a volume of 100 mL or less for a single-~~
594 ~~dose injection or not more than 30 mL taken from a multidose container.~~

595
596 ~~—(2) Medium-risk level compounded sterile radiopharmaceuticals.~~

597
598 ~~—(A) Medium-risk level compounded sterile radiopharmaceuticals are those compounded~~
599 ~~aseptically under low-risk conditions and one or more of the of the following conditions exists.~~

600
601 ~~—(i) Multiple individual or small doses of sterile products are combined or pooled to prepare a~~
602 ~~compounded sterile radiopharmaceuticals that will be administered either to multiple patients or~~
603 ~~to one patient on multiple occasions.~~

604
605 ~~—(ii) The compounding process includes complex aseptic manipulations other than the single-~~
606 ~~volume transfer.~~

607
608 ~~—(iii) The compounding process requires unusually long duration, such as that required to~~
609 ~~complete the dissolution or homogenous mixing.~~

610
611 ~~—(iv) The sterile compounded radiopharmaceuticals do not contain broad-spectrum~~
612 ~~bacteriostatic substances, and they are administered over several days.~~
613
614 ~~—(v) For a medium-risk preparation, in the absence of passing sterility test, the storage~~
615 ~~periods cannot exceed the following time periods: before administration, the compounded sterile~~
616 ~~preparations are properly stored and are exposed for not more than 30 hours at controlled room~~
617 ~~temperature for not more than 7 days at a cold temperature, and for 45 days in solid frozen~~
618 ~~state at minus 20 degrees or colder.~~
619
620 ~~—(B) Examples of medium-risk compounding include the following.~~
621
622 ~~—(i) Compounding of total parenteral nutrition fluids using a manual or automated device~~
623 ~~during which there are multiple injections, detachments, and attachments of nutrient source~~
624 ~~products to the device or machine to deliver all nutritional components to a final sterile~~
625 ~~container.~~
626
627 ~~—(ii) Filling of reservoirs of injection and infusion devices with multiple sterile drug products~~
628 ~~and evacuations of air from those reservoirs before the filled device is dispensed.~~
629
630 ~~—(iii) Filling of reservoirs of injection and infusion devices with volumes of sterile drug~~
631 ~~solutions that will be administered over several days at ambient temperatures between 25 and~~
632 ~~40 degrees Celsius (77 and 104 degrees Fahrenheit).~~
633
634 ~~—(iv) Transfer of volumes from multiple ampuls or vials into a single, final sterile container or~~
635 ~~product.~~
636
637 ~~—(3) High-risk level compounded sterile radiopharmaceuticals.~~
638
639 ~~—(A) High-risk level compounded sterile radiopharmaceuticals are those compounded under~~
640 ~~any of the following conditions.~~
641
642 ~~—(i) Non-sterile ingredients, including manufactured products are incorporated, or a non-~~
643 ~~sterile device is employed before terminal sterilization.~~
644
645 ~~—(ii) Sterile ingredients, components, devices, and mixtures are exposed to air quality inferior~~
646 ~~to ISO Class 5. This includes storage in environments inferior to ISO Class 5 of opened or~~
647 ~~partially used packages of manufactured sterile products that lack antimicrobial preservatives.~~
648
649 ~~—(iii) Non-sterile preparations are exposed no more than 6 hours before being sterilized.~~
650
651 ~~—(iv) It is assumed, and not verified by examination of labeling and documentation from~~
652 ~~suppliers or by direct determination, that the chemical purity and content strength of ingredients~~
653 ~~meet their original or compendial specifications in unopened or in opened packages of bulk~~
654 ~~ingredients.~~
655
656 ~~—(v) For a high-risk preparation, in the absence of passing sterility test, the storage periods~~
657 ~~cannot exceed the following time periods: before administration, the compounded sterile~~
658 ~~preparations are properly stored and are exposed for not more than 24 hours at controlled room~~
659 ~~temperature for not more than 3 days at a cold temperature, and for 45 days in solid frozen~~
660 ~~state at minus 20 degrees or colder.~~

661
662 —(B) Examples of high-risk compounding include the following.
663
664 —(i) Dissolving non-sterile bulk drug and nutrient powders to make solutions, which will be
665 terminally sterilized.
666
667 —(ii) Sterile ingredients, components, devices, and mixtures are exposed to air quality inferior
668 to ISO Class 5. This includes storage in environments inferior to ISO Class 5 of opened or
669 partially used packages of manufactured sterile products that lack antimicrobial preservatives.
670
671 —(iii) Measuring and mixing sterile ingredients in non-sterile devices before sterilization is
672 performed.
673
674 —(iv) Assuming, without appropriate evidence or direct determination, that packages of bulk
675 ingredients contain at least 95% by weight of their active chemical moiety and have not been
676 contaminated or adulterated between uses.]
677
678 [(c) Environment.
679
680 —(1) Special requirements for the compounding of sterile radiopharmaceuticals. When the
681 pharmacy compounds sterile radiopharmaceuticals, the following is applicable.
682
683 —(A) Low and Medium Risk Preparations.
684
685 —(i) The pharmacy shall have a designated controlled area for the compounding of sterile
686 radiopharmaceuticals that is functionally separate from areas for the preparation of non-sterile
687 radiopharmaceuticals and is constructed to minimize the opportunities for particulate and
688 microbial contamination. This controlled area for the preparation of sterile radiopharmaceuticals
689 shall:
690
691 —(I) have a controlled environment that is aseptic or contains an aseptic environmental
692 control device(s). If the aseptic environmental control device is located within the controlled
693 area, the controlled area must extend a minimum of six feet from the device and clearly marked
694 to identify the separation between the controlled and non-controlled area;
695
696 —(II) be clean, well lighted, and of sufficient size to support sterile compounding activities;
697
698 —(III) be used only for the compounding of sterile radiopharmaceuticals;
699
700 —(IV) be designed to avoid outside traffic and airflow;
701
702 —(V) be designed such that hand sanitizing and gowning occurs outside the controlled area
703 but accessible without use of the hands of the compounding personnel;
704
705 —(VI) have non-porous and washable floors or floor covering to enable regular disinfection;
706
707 —(VII) be ventilated in a manner not interfering with aseptic environmental control conditions;
708
709 —(VIII) have walls, ceilings, and fixtures, shelving, counters, and cabinets that are smooth,
710 impervious, free from cracks and crevices, and nonshedding (acoustical ceiling tiles that are
711 coated with an acrylic paint are acceptable);

712
713 ~~—(IX) have drugs and supplies stored on shelving areas above the floor to permit adequate~~
714 ~~floor cleaning; and~~
715
716 ~~—(X) contain only the appropriate compounding supplies and not be used for bulk storage for~~
717 ~~supplies and materials. Objects that shed particles may not be brought into the controlled area.~~
718
719 ~~—(ii) The pharmacy shall prepare sterile radiopharmaceuticals in a primary engineering control~~
720 ~~device, such as a vertical air flow hood, which is capable of maintaining at least ISO Class 5~~
721 ~~conditions during normal activity.~~
722
723 ~~—(I) The primary engineering control shall:~~
724
725 ~~—(a) be located in the buffer area or room and placed in the buffer area in a manner as to~~
726 ~~avoid conditions that could adversely affect its operation such as strong air currents from~~
727 ~~opened doors, personnel traffic, or air streams from the heating, ventilating and air condition~~
728 ~~system;~~
729
730 ~~—(b) be certified by an independent contractor according to the International Organization~~
731 ~~of Standardization (ISO) Classification of Particulate Matter in Room Air (ISO 14644-1) for~~
732 ~~operational efficiency at least every six months and when it is relocated, in accordance with the~~
733 ~~manufacturer's specifications; and~~
734
735 ~~—(c) have pre-filters inspected periodically and replaced as needed, in accordance with~~
736 ~~written policies and procedures and the manufacturer's specification, and the inspection and/or~~
737 ~~replacement date documented.~~
738
739 ~~—(II) The compounding aseptic isolator or compounding aseptic containment isolator must~~
740 ~~be placed in an ISO Class 8 buffer area unless the isolator meets all of the following conditions.~~
741
742 ~~—(a) The isolator must provide isolation from the room and maintain ISO Class 5 during~~
743 ~~dynamic operating conditions including transferring ingredients, components, and devices into~~
744 ~~and out of the isolator and during preparation of compounded sterile preparations.~~
745
746 ~~—(b) Particle counts sampled approximately 6 to 12 inches upstream of the critical~~
747 ~~exposure site must maintain ISO Class 5 levels during compounding operations.~~
748
749 ~~—(c) The pharmacy shall maintain documentation from the manufacturer that the isolator~~
750 ~~meets this standard when located in worse than ISO Class 7 environments.~~
751
752 ~~—(B) High-risk Preparations. In addition to the requirements in subparagraph (A)(i)(I) of this~~
753 ~~paragraph, when high-risk preparations are compounded, the aseptic environment control~~
754 ~~device(s) shall be located in a controlled area that maintains at least an ISO Class 7~~
755 ~~environment.~~
756
757 ~~—(C) Automated compounding device(s). If automated compounding device(s) are used, the~~
758 ~~pharmacy shall have a method to calibrate and verify the accuracy of automated compounding~~
759 ~~devices used in aseptic processing and document the calibration and verification on a routine~~
760 ~~basis.]~~

761 **(b) Environment.**
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(1) General requirements.

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

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

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

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

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

(2) Security requirements.

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

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

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

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

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

(2) Prescription containers (immediate inner containers).

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

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

814 (ii) If a drug is susceptible to moisture, the drug shall be dispensed in a tight container.
815
816 (iii) The container should not interact physically or chemically with the drug product placed in
817 it so as to alter the strength, quality, or purity of the drug beyond the official requirements.
818
819 (B) Immediate inner prescription containers or closures shall not be re-used.
820
821 (3) Delivery containers (outer containers).
822
823 (A) Prescription containers may be placed in suitable containers for delivery which will
824 transport the radiopharmaceutical safely in compliance with all applicable laws and regulations.
825
826 (B) Delivery containers may be re-used provided they are maintained in a manner to prevent
827 cross contamination.
828
829 (4) Labeling.
830
831 (A) The immediate inner container of a radiopharmaceutical shall be labeled with:
832
833 (i) standard radiation symbol;
834
835 (ii) the words "caution-radioactive material" or "danger, radioactive material";
836
837 (iii) the name of the radiopharmaceutical or its abbreviation; and
838
839 (iv) the unique identification number of the prescription.
840
841 (B) The outer container of a radiopharmaceutical shall be labeled with:
842
843 (i) the name, address, and phone number of the pharmacy;
844
845 (ii) the date dispensed;
846
847 (iii) the directions for use, if applicable;
848
849 (iv) the unique identification number of the prescription;
850
851 (v) the name of the patient if known, or the statement, "for physician use" if the patient is
852 unknown;
853
854 (vi) the standard radiation symbol;
855
856 (vii) the words "caution-radioactive material" or "danger, radioactive material";
857
858 (viii) the name of the radiopharmaceutical or its abbreviation;
859
860 (ix) the amount of radioactive material contained in millicuries (mCi), microcuries (uCi), or
861 becquerels (Bq) and the corresponding time that applies to this activity, if different from the
862 requested calibration date and time;
863

864 (x) the initials or identification codes of the person preparing the product and the authorized
865 nuclear pharmacist who checked and released the final product unless recorded in the
866 pharmacy's data processing system. The record of the identity of these individuals shall not be
867 altered in the pharmacy's data processing system.

868
869 (xi) if a liquid, the volume in milliliters;
870

871 (xii) the requested calibration date and time; and
872

873 (xiii) the expiration date and/or time.
874

875 (C) The amount of radioactivity shall be determined by radiometric methods for each
876 individual preparation immediately at the time of dispensing and calculations shall be made to
877 determine the amount of activity that will be present at the requested calibration date and time,
878 due to radioactive decay in the intervening period, and this activity and time shall be placed on
879 the label per requirements set out in paragraph (4) of this subsection.
880

881 **(d)** [~~e~~] Equipment. The following minimum equipment is required in a nuclear pharmacy:
882

883 (1) vertical laminar flow hood;
884

885 (2) dose calibrator;
886

887 (3) a calibrated system or device (i.e., thermometer) to monitor the temperature to ensure that
888 proper storage requirements are met, if [~~sterile~~] preparations are stored in the refrigerator;
889

890 (4) if applicable, a Class A prescription balance, or analytical balance and weights. Such
891 balance shall be properly maintained and subject to periodic inspection by the board.
892

893 (5) scintillation analyzer;
894

895 (6) microscope and hemocytometer;
896

897 (7) equipment and utensils necessary for the proper compounding of prescription drug or
898 medication orders. Such equipment and utensils used in the compounding process shall be:
899

900 (A) of appropriate design, appropriate capacity, and be operated within designed operational
901 limits;
902

903 (B) of suitable composition so that surfaces that contact components, in-process material, or
904 drug products shall not be reactive, additive, or absorptive so as to alter the safety, identity,
905 strength, quality, or purity of the drug product beyond acceptable standards;
906

907 (C) cleaned and sanitized immediately prior to each use; and
908

909 (D) routinely inspected, calibrated (if necessary), or checked to ensure proper performance;
910

911 (8) appropriate disposal containers for used needles, syringes, etc., and if applicable, cytotoxic
912 waste from the preparation of chemotherapeutic agents, and/or biohazardous waste;
913

914 (9) all necessary supplies, including:

- 915
916 (A) disposable needles, syringes, and other aseptic mixing;
917
918 (B) disinfectant cleaning solutions;
919
920 (C) hand washing agents with bactericidal action;
921
922 (D) disposable, lint free towels or wipes;
923
924 (E) appropriate filters and filtration equipment;
925
926 (F) **radioactive** [~~cytotoxic~~] spill kits, if applicable; and
927
928 (G) masks, caps, coveralls or gowns with tight cuffs, shoe covers, and gloves, as applicable.
929
930 (10) adequate glassware, utensils, gloves, syringe shields and remote handling devices, and
931 adequate equipment for product quality control;
932
933 (11) adequate shielding material;
934
935 (12) data processing system including a printer or comparable equipment;
936
937 (13) radiation dosimeters for visitors and personnel and log entry book;
938
939 (14) exhaust/fume hood with monitor, for storage and handling of all volatile radioactive drugs
940 if applicable, to be determined by the Texas Department of State Health Services, Radiation
941 Control Program; and
942
943 (15) adequate radiation monitor(s).
944
945 **(e)** ~~[(f)]~~ Library. A nuclear pharmacy shall maintain a reference library which shall include the
946 following in hard copy or electronic format **current or updated copies of the following:**
947
948 (1) ~~[current copies of the following:]~~
949
950 ~~[(A)]~~ Texas Pharmacy Act and rules;
951
952 **(2)** ~~[(B)]~~ Texas Dangerous Drug Act and rules;
953
954 **(3)** ~~[(C)]~~ Texas Controlled Substances Act and rules; and
955
956 **(4)** ~~[(D)]~~ Federal Controlled Substances Act and rules (or official publication describing the
957 requirements of the Federal Controlled Substances Act and rules); **and**
958
959 ~~[(2) a current or updated version of Chapter 797 of the USP/NF concerning Pharmacy~~
960 ~~Compounding Sterile Preparations and other USP chapters applicable to the practice (e.g., USP~~
961 ~~Chapter 823 Radiopharmaceuticals for Positron Emission Tomography Compounding); and]~~
962
963 **(5)** ~~[(3)]~~ a minimum of one ~~[current or updated]~~ text dealing with nuclear medicine science.
964
965 **(f)** ~~[(g)]~~ Radiopharmaceuticals and/or radioactive materials.

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(1) General requirements.

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

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

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

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

(2) Procurement and storage.

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

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

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

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

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

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

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

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

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

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

1017
1018 ~~—(3) Records of loading bulk drugs into an automated compounding device shall be maintained~~
1019 ~~to show:~~
1020
1021 ~~—(A) name of the drug, strength, and dosage form;~~
1022
1023 ~~—(B) manufacturer or distributor;~~
1024
1025 ~~—(C) manufacturer's lot number;~~
1026
1027 ~~—(D) expiration date;~~
1028
1029 ~~—(E) quantity added to the automated compounding device;~~
1030
1031 ~~—(F) date of loading;~~
1032
1033 ~~—(G) name, initials, or electronic signature of the person loading the automated compounding~~
1034 ~~device; and~~
1035
1036 ~~—(H) name, initials, or electronic signature of the responsible authorized nuclear pharmacist.~~
1037
1038 ~~—(4) The automated compounding device shall not be used until an authorized nuclear~~
1039 ~~pharmacist verifies that the system is properly loaded and affixes his or her signature or~~
1040 ~~electronic signature to the record specified in paragraph (3) of this subsection.]~~
1041
1042 ~~[(i) Sterile radiopharmaceuticals.~~
1043
1044 ~~—(1) Beyond-use date.~~
1045
1046 ~~—(A) The beyond-use date assigned shall be based on:~~
1047
1048 ~~—(i) established manufacturer's guidelines;~~
1049
1050 ~~—(ii) published literature; or~~
1051
1052 ~~—(iii) in-house or contracted stability studies.~~
1053
1054 ~~—(B) The method for establishing beyond-use dates shall be documented.~~
1055
1056 ~~—(2) Radioactive Drug Quality control. There shall be a documented, ongoing quality control~~
1057 ~~program that monitors and evaluates personnel performance, equipment and facilities.~~
1058 ~~Procedures shall be in place to assure that the pharmacy is capable of consistently preparing~~
1059 ~~radiopharmaceuticals which are sterile and stable. Quality control procedures shall include, but~~
1060 ~~are not limited to, the following:~~
1061
1062 ~~—(A) recall procedures;~~
1063
1064 ~~—(B) storage and dating;~~
1065
1066 ~~—(C) documentation of appropriate functioning of refrigerator, freezer, and other equipment;~~
1067

1068 —(D) documentation of aseptic environmental control device(s) certification at least every year
1069 and the regular replacement of pre-filters as necessary;

1070
1071 —(E) a process to evaluate and confirm the quality of the prepared radiopharmaceutical; and
1072

1073 —(F) documentation of facility maintenance such as cleaning and environmental testing.]
1074

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1076

1077 **§291.133 Pharmacies Compounding Sterile Preparations**
1078

1079 (a) Purpose. Pharmacies compounding sterile preparations, prepackaging pharmaceutical
1080 products, and distributing those products shall comply with all requirements for their specific
1081 license classification and this section. The purpose of this section is to provide standards for
1082 the:

1083
1084 (1) compounding of sterile preparations pursuant to a prescription or medication order for a
1085 patient from a practitioner in Class A-S, Class B, Class C-S, and Class E-S pharmacies;

1086
1087 (2) compounding, dispensing, and delivery of a reasonable quantity of a compounded sterile
1088 preparation in Class A-S, Class B, Class C-S, and Class E-S pharmacies to a practitioner's
1089 office for office use by the practitioner;

1090
1091 (3) compounding and distribution of compounded sterile preparations by a Class A-S
1092 pharmacy for a Class C-S pharmacy; and

1093
1094 (4) compounding of sterile preparations by a Class C-S pharmacy and the distribution of the
1095 compounded preparations to other Class C or Class C-S pharmacies under common ownership.

1096
1097 (b) Definitions. In addition to the definitions for specific license classifications, the following
1098 words and terms, when used in this section, shall have the following meanings, unless the
1099 context clearly indicates otherwise.

1100
1101 (1) ACPE--Accreditation Council for Pharmacy Education.

1102
1103 (2) Airborne particulate cleanliness class--The level of cleanliness specified by the maximum
1104 allowable number of particles per cubic meter of air as specified in the International
1105 Organization of Standardization (ISO) Classification Air Cleanliness (ISO 14644-1). For
1106 example:

1107
1108 (A) ISO Class 5 (formerly Class 100) is an atmospheric environment that contains less than
1109 3,520 particles 0.5 microns in diameter per cubic meter of air (formerly stated as 100 particles
1110 0.5 microns in diameter per cubic foot of air);

1111
1112 (B) ISO Class 7 (formerly Class 10,000) is an atmospheric environment that contains less
1113 than 352,000 particles 0.5 microns in diameter per cubic meter of air (formerly stated as 10,000
1114 particles 0.5 microns in diameter per cubic foot of air); and

1115
1116 (C) ISO Class 8 (formerly Class 100,000) is an atmospheric environment that contains less
1117 than 3,520,000 particles 0.5 microns in diameter per cubic meter of air (formerly stated as
1118 100,000 particles 0.5 microns in diameter per cubic foot of air).

- 1119
1120 (3) Ancillary supplies--Supplies necessary for the preparation and administration of
1121 compounded sterile preparations.
1122
- 1123 (4) Ante-area--An ISO Class 8 or better area where personnel may perform hand hygiene and
1124 garbing procedures, staging of components, order entry, labeling, and other high-particulate
1125 generating activities. It is also a transition area that:
1126
- 1127 (A) provides assurance that pressure relationships are constantly maintained so that air flows
1128 from clean to dirty areas; and
1129
- 1130 (B) reduces the need for the heating, ventilating and air conditioning (HVAC) control system
1131 to respond to large disturbances.
1132
- 1133 (5) Aseptic Processing--A mode of processing pharmaceutical and medical preparations that
1134 involves the separate sterilization of the preparation and of the package (containers-closures or
1135 packaging material for medical devices) and the transfer of the preparation into the container
1136 and its closure under at least ISO Class 5 conditions.
1137
- 1138 (6) Automated compounding device--An automated device that compounds, measures, and/or
1139 packages a specified quantity of individual components in a predetermined sequence for a
1140 designated sterile preparation.
1141
- 1142 (7) Batch--A specific quantity of a drug or other material that is intended to have uniform
1143 character and quality, within specified limits, and is produced during a single preparation cycle.
1144
- 1145 (8) Batch preparation compounding--Compounding of multiple sterile preparation units, in a
1146 single discrete process, by the same individual(s), carried out during one limited time period.
1147 Batch preparation/compounding does not include the preparation of multiple sterile preparation
1148 units pursuant to patient specific medication orders.
1149
- 1150 (9) Beyond-use date--The date or time after which the compounded sterile preparation shall
1151 not be stored or transported or begin to be administered to a patient. The beyond-use date is
1152 determined from the date or time the preparation is compounded.
1153
- 1154 (10) Biological Safety Cabinet, Class II--A ventilated cabinet for personnel, product or
1155 preparation, and environmental protection having an open front with inward airflow for personnel
1156 protection, downward HEPA filtered laminar airflow for product protection, and HEPA filtered
1157 exhausted air for environmental protection.
1158
- 1159 (11) Buffer Area--An ISO Class 7 **or, if a Class B pharmacy, ISO Class 8 or better,** area
1160 where the primary engineering control area is physically located. Activities that occur in this area
1161 include the preparation and staging of components and supplies used when compounding
1162 sterile preparations.
1163
- 1164 (12) Clean room--A room in which the concentration of airborne particles is controlled to meet
1165 a specified airborne particulate cleanliness class. Microorganisms in the environment are
1166 monitored so that a microbial level for air, surface, and personnel gear are not exceeded for a
1167 specified cleanliness class.
1168

- 1169 (13) Component--Any ingredient intended for use in the compounding of a drug preparation,
1170 including those that may not appear in such preparation.
1171
- 1172 (14) Compounding--The preparation, mixing, assembling, packaging, or labeling of a drug or
1173 device:
1174
- 1175 (A) as the result of a practitioner's prescription drug or medication order based on the
1176 practitioner-patient-pharmacist relationship in the course of professional practice;
1177
- 1178 (B) for administration to a patient by a practitioner as the result of a practitioner's initiative
1179 based on the practitioner-patient-pharmacist relationship in the course of professional practice;
1180
- 1181 (C) in anticipation of prescription drug or medication orders based on routine, regularly
1182 observed prescribing patterns; or
1183
- 1184 (D) for or as an incident to research, teaching, or chemical analysis and not for sale or
1185 dispensing, except as allowed under §562.154 or Chapter 563 of the Occupations Code.
1186
- 1187 (15) Compounding Aseptic Isolator--A form of barrier isolator specifically designed for
1188 compounding pharmaceutical ingredients or preparations. It is designed to maintain an aseptic
1189 compounding environment within the isolator throughout the compounding and material transfer
1190 processes. Air exchange into the isolator from the surrounding environment shall not occur
1191 unless it has first passed through a microbial retentive filter (HEPA minimum).
1192
- 1193 (16) Compounding Aseptic Containment Isolator--A compounding aseptic isolator designed to
1194 provide worker protection from exposure to undesirable levels of airborne drug throughout the
1195 compounding and material transfer processes and to provide an aseptic environment for
1196 compounding sterile preparations. Air exchange with the surrounding environment should not
1197 occur unless the air is first passed through a microbial retentive filter (HEPA minimum) system
1198 capable of containing airborne concentrations of the physical size and state of the drug being
1199 compounded. Where volatile hazardous drugs are prepared, the exhaust air from the isolator
1200 should be appropriately removed by properly designed building ventilation.
1201
- 1202 (17) Critical Area--An ISO Class 5 environment.
1203
- 1204 (18) Critical Sites--A location that includes any component or fluid pathway surfaces (e.g., vial
1205 septa, injection ports, beakers) or openings (e.g., opened ampuls, needle hubs) exposed and at
1206 risk of direct contact with air (e.g., ambient room or HEPA filtered), moisture (e.g., oral and
1207 mucosal secretions), or touch contamination. Risk of microbial particulate contamination of the
1208 critical site increases with the size of the openings and exposure time.
1209
- 1210 (19) Device--An instrument, apparatus, implement, machine, contrivance, implant, in-vitro
1211 reagent, or other similar or related article, including any component part or accessory, that is
1212 required under federal or state law to be ordered or prescribed by a practitioner.
1213
- 1214 (20) Direct Compounding Area--A critical area within the ISO Class 5 primary engineering
1215 control where critical sites are exposed to unidirectional HEPA-filtered air, also known as first
1216 air.
1217

1218 (21) Disinfectant--An agent that frees from infection, usually a chemical agent but sometimes a
1219 physical one, and that destroys disease-causing pathogens or other harmful microorganisms
1220 but may not kill bacterial and fungal spores. It refers to substances applied to inanimate objects.

1221
1222 (22) First Air--The air exiting the HEPA filter in a unidirectional air stream that is essentially
1223 particle free.

1224
1225 (23) Hazardous Drugs--Drugs that, studies in animals or humans indicate exposure to the
1226 drugs, have a potential for causing cancer, development or reproductive toxicity, or harm to
1227 organs. **For the purposes of this chapter, radiopharmaceuticals are not considered**
1228 **hazardous drugs.**

1229
1230 (24) Hot water--The temperature of water from the pharmacy's sink maintained at a minimum
1231 of 105 degrees F (41 degrees C).

1232
1233 (25) HVAC--Heating, ventilation, and air conditioning.

1234
1235 (26) Immediate use--A sterile preparation that is not prepared according to USP 797 standards
1236 (i.e., outside the pharmacy and most likely not by pharmacy personnel) which shall be stored for
1237 no longer than one hour after completion of the preparation.

1238
1239 (27) IPA--Isopropyl alcohol (2-propanol).

1240
1241 (28) Labeling--All labels and other written, printed, or graphic matter on an immediate
1242 container of an article or preparation or on, or in, any package or wrapper in which it is
1243 enclosed, except any outer shipping container. The term "label" designates that part of the
1244 labeling on the immediate container.

1245
1246 (29) Media-Fill Test--A test used to qualify aseptic technique of compounding personnel or
1247 processes and to ensure that the processes used are able to produce sterile preparation without
1248 microbial contamination. During this test, a microbiological growth medium such as Soybean-
1249 Casein Digest Medium is substituted for the actual drug preparation to simulate admixture
1250 compounding. The issues to consider in the development of a media-fill test are the following:
1251 media-fill procedures, media selection, fill volume, incubation, time and temperature, inspection
1252 of filled units, documentation, interpretation of results, and possible corrective actions required.

1253
1254 (30) Multiple-Dose Container--A multiple-unit container for articles or preparations intended for
1255 potential administration only and usually contains antimicrobial preservatives. The beyond-use
1256 date for an opened or entered (e.g., needle-punctured) multiple-dose container with
1257 antimicrobial preservatives is 28 days, unless otherwise specified by the manufacturer.

1258
1259 (31) Negative Pressure Room--A room that is at a lower pressure compared to adjacent
1260 spaces and, therefore, the net flow of air is into the room.

1261
1262 (32) Office use--The administration of a compounded drug to a patient by a practitioner in the
1263 practitioner's office or by the practitioner in a health care facility or treatment setting, including a
1264 hospital, ambulatory surgical center, or pharmacy in accordance with Chapter 562 of the Act, or
1265 for administration or provision by a veterinarian in accordance with §563.054 of the Act.

1266
1267 (33) Pharmacy Bulk Package--A container of a sterile preparation for potential use that
1268 contains many single doses. The contents are intended for use in a pharmacy admixture

1269 program and are restricted to the preparation of admixtures for infusion or, through a sterile
1270 transfer device, for the filling of empty sterile syringes. The closure shall be penetrated only one
1271 time after constitution with a suitable sterile transfer device or dispensing set, which allows
1272 measured dispensing of the contents. The pharmacy bulk package is to be used only in a
1273 suitable work area such as a laminar flow hood (or an equivalent clean air compounding area).
1274

1275 (34) Prepackaging--The act of repackaging and relabeling quantities of drug products from a
1276 manufacturer's original container into unit dose packaging or a multiple dose container for
1277 distribution within a facility licensed as a Class C pharmacy or to other pharmacies under
1278 common ownership for distribution within those facilities. The term as defined does not prohibit
1279 the prepackaging of drug products for use within other pharmacy classes.
1280

1281 (35) Preparation or Compounded Sterile Preparation--A sterile admixture compounded in a
1282 licensed pharmacy or other healthcare-related facility pursuant to the order of a licensed
1283 prescriber. The components of the preparation may or may not be sterile products.
1284

1285 (36) Primary Engineering Control--A device or room that provides an ISO Class 5 environment
1286 for the exposure of critical sites when compounding sterile preparations. Such devices include,
1287 but may not be limited to, laminar airflow workbenches, biological safety cabinets, compounding
1288 aseptic isolators, and compounding aseptic containment isolators.
1289

1290 (37) Product--A commercially manufactured sterile drug or nutrient that has been evaluated for
1291 safety and efficacy by the U.S. Food and Drug Administration (FDA). Products are accompanied
1292 by full prescribing information, which is commonly known as the FDA-approved manufacturer's
1293 labeling or product package insert.
1294

1295 (38) Positive Control--A quality assurance sample prepared to test positive for microbial
1296 growth.
1297

1298 ~~(39) Positive Pressure Room--A room that is at a higher pressure compared to adjacent spaces~~
1299 ~~and, therefore, the net airflow is out of the room.]~~
1300

1301 ~~[(40)]~~ Quality assurance--The set of activities used to ensure that the process used in the
1302 preparation of sterile drug preparations lead to preparations that meet predetermined standards
1303 of quality.
1304

1305 **(40)** ~~[(41)]~~ Quality control--The set of testing activities used to determine that the ingredients,
1306 components (e.g., containers), and final compounded sterile preparations prepared meet
1307 predetermined requirements with respect to identity, purity, non-pyrogenicity, and sterility.
1308

1309 **(41)** ~~[(42)]~~ Reasonable quantity--An amount of a compounded drug that:
1310

1311 (A) does not exceed the amount a practitioner anticipates may be used in the practitioner's
1312 office or facility before the beyond use date of the drug;
1313

1314 (B) is reasonable considering the intended use of the compounded drug and the nature of the
1315 practitioner's practice; and
1316

1317 (C) for any practitioner and all practitioners as a whole, is not greater than an amount the
1318 pharmacy is capable of compounding in compliance with pharmaceutical standards for identity,

1319 strength, quality, and purity of the compounded drug that are consistent with United States
1320 Pharmacopoeia guidelines and accreditation practices.

1321
1322 **(42)** ~~[(43)]~~ Segregated Compounding Area--A designated space, either a demarcated area or
1323 room, that is restricted to preparing low-risk level compounded sterile preparations with 12-hour
1324 or less beyond-use date. Such area shall contain a device that provides unidirectional airflow of
1325 ISO Class 5 air quality for preparation of compounded sterile preparations and shall be void of
1326 activities and materials that are extraneous to sterile compounding.

1327
1328 **(43)** ~~[(44)]~~ Single-dose container--A single-unit container for articles or preparations intended
1329 for parenteral administration only. It is intended for a single use. A single-dose container is
1330 labeled as such. Examples of single-dose containers include pre-filled syringes, cartridges,
1331 fusion-sealed containers, and closure-sealed containers when so labeled.

1332
1333 **(44)** ~~[(45)]~~ SOPs--Standard operating procedures.

1334
1335 **(45)** ~~[(46)]~~ Sterilizing Grade Membranes--Membranes that are documented to retain 100% of a
1336 culture of 10⁷ microorganisms of a strain of *Brevundimonas* (*Pseudomonas*) *diminuta* per
1337 square centimeter of membrane surface under a pressure of not less than 30 psi (2.0 bar). Such
1338 filter membranes are nominally at 0.22- μ m or 0.2- μ m nominal pore size, depending on the
1339 manufacturer's practice.

1340
1341 **(46)** ~~[(47)]~~ Sterilization by Filtration--Passage of a fluid or solution through a sterilizing grade
1342 membrane to produce a sterile effluent.

1343
1344 **(47)** ~~[(48)]~~ Terminal Sterilization--The application of a lethal process, e.g., steam under
1345 pressure or autoclaving, to sealed final preparation containers for the purpose of achieving a
1346 predetermined sterility assurance level of usually less than 10⁻⁶ or a probability of less than one
1347 in one million of a non-sterile unit.

1348
1349 **(48)** ~~[(49)]~~ Unidirectional Flow--An airflow moving in a single direction in a robust and uniform
1350 manner and at sufficient speed to reproducibly sweep particles away from the critical processing
1351 or testing area.

1352
1353 **(49)** ~~[(50)]~~ USP/NF--The current edition of the United States Pharmacopoeia/National Formulary.

1354
1355 (c) Personnel.

1356
1357 (1) Pharmacist-in-charge.

1358
1359 (A) General. The pharmacy shall have a pharmacist-in-charge in compliance with the specific
1360 license classification of the pharmacy.

1361
1362 (B) Responsibilities. In addition to the responsibilities for the specific class of pharmacy, the
1363 pharmacist-in-charge shall have the responsibility for, at a minimum, the following concerning
1364 the compounding of sterile preparations:

1365
1366 (i) developing a system to ensure that all pharmacy personnel responsible for compounding
1367 and/or supervising the compounding of sterile preparations within the pharmacy receive
1368 appropriate education and training and competency evaluation;

1369

- 1370 (ii) determining that all personnel involved in compounding sterile preparations obtain
1371 continuing education appropriate for the type of compounding done by the personnel;
1372
1373 (iii) supervising a system to ensure appropriate procurement of drugs and devices and
1374 storage of all pharmaceutical materials including pharmaceuticals, components used in the
1375 compounding of sterile preparations, and drug delivery devices;
1376
1377 (iv) ensuring that the equipment used in compounding is properly maintained;
1378
1379 (v) developing a system for the disposal and distribution of drugs from the pharmacy;
1380
1381 (vi) developing a system for bulk compounding or batch preparation of drugs;
1382
1383 (vii) developing a system for the compounding, sterility assurance, quality assurance, and
1384 quality control of sterile preparations; and
1385
1386 (viii) if applicable, ensuring that the pharmacy has a system to dispose of hazardous waste
1387 in a manner so as not to endanger the public health.

1388
1389 (2) Pharmacists.

1390
1391 (A) General.

1392
1393 (i) A pharmacist is responsible for ensuring that compounded sterile preparations are
1394 accurately identified, measured, diluted, and mixed and are correctly purified, sterilized,
1395 packaged, sealed, labeled, stored, dispensed, and distributed.

1396
1397 (ii) A pharmacist shall inspect and approve all components, drug preparation containers,
1398 closures, labeling, and any other materials involved in the compounding process.

1399
1400 (iii) A pharmacist shall review all compounding records for accuracy and conduct in-process
1401 and final checks and verification of calculations to ensure that errors have not occurred in the
1402 compounding process.

1403
1404 (iv) A pharmacist is responsible for ensuring the proper maintenance, cleanliness, and use
1405 of all equipment used in the compounding process.

1406
1407 (v) A pharmacist shall be accessible at all times, 24 hours a day, to respond to patients' and
1408 other health professionals' questions and needs.

1409
1410 (B) Prior to September 1, 2015 - initial training and continuing education.

1411
1412 (i) All pharmacists who compound sterile preparations for administration to patients or
1413 supervise pharmacy technicians and pharmacy technician trainees compounding sterile
1414 preparations shall:

1415
1416 (l) complete through a single course, a minimum of 20 hours of instruction and experience
1417 in the areas listed in paragraph (4)(D) of this subsection. Such training may be obtained
1418 through:

1419

1420 (-a-) completion of a structured on-the-job didactic and experiential training program at
1421 this pharmacy which provides 20 hours of instruction and experience. Such training may not be
1422 transferred to another pharmacy unless the pharmacies are under common ownership and
1423 control and use a common training program; or

1424
1425 (-b-) completion of a recognized course in an accredited college of pharmacy or a course
1426 sponsored by an ACPE accredited provider which provides 20 hours of instruction and
1427 experience;

1428
1429 (II) possess knowledge about:

1430 (-a-) aseptic processing;

1431
1432 (-b-) quality control and quality assurance as related to environmental, component, and
1433 finished preparation release checks and tests;

1434
1435 (-c-) chemical, pharmaceutical, and clinical properties of drugs;

1436
1437 (-d-) container, equipment, and closure system selection; and

1438
1439 (-e-) sterilization techniques.

1440
1441
1442 (ii) The required experiential portion of the training programs specified in this subparagraph
1443 must be supervised by an individual who has already completed training as specified in this
1444 paragraph or paragraph (3) of this subsection.

1445
1446 (iii) All pharmacists engaged in compounding sterile preparations shall obtain continuing
1447 education appropriate for the type of compounding done by the pharmacist.

1448
1449 (C) Effective September 1, 2015 - initial training and continuing education.

1450
1451 (i) All pharmacists who compound sterile preparations or supervise pharmacy technicians
1452 and pharmacy technician trainees compounding sterile preparations shall comply with the
1453 following:

1454
1455 (I) complete through a single course, a minimum of 20 hours of instruction and experience
1456 in the areas listed in paragraph (4)(D) of this subsection. Such training shall be obtained through
1457 completion of a recognized course in an accredited college of pharmacy or a course sponsored
1458 by an ACPE accredited provider;

1459
1460 (II) complete a structured on-the-job didactic and experiential training program at this
1461 pharmacy which provides sufficient hours of instruction and experience in the facility's sterile
1462 compounding processes and procedures. Such training may not be transferred to another
1463 pharmacy unless the pharmacies are under common ownership and control and use a common
1464 training program; and

1465
1466 (III) possess knowledge about:

1467 (-a-) aseptic processing;

1469

1470 (-b-) quality control and quality assurance as related to environmental, component, and
1471 finished preparation release checks and tests;

1472
1473 (-c-) chemical, pharmaceutical, and clinical properties of drugs;

1474
1475 (-d-) container, equipment, and closure system selection; and

1476
1477 (-e-) sterilization techniques.

1478
1479 (ii) The required experiential portion of the training programs specified in this subparagraph
1480 must be supervised by an individual who is actively engaged in performing sterile compounding
1481 and is qualified and has completed training as specified in this paragraph or paragraph (3) of
1482 this subsection.

1483
1484 (iii) In order to renew a license to practice pharmacy, during the previous licensure period, a
1485 pharmacist engaged in sterile compounding shall complete a minimum of:

1486
1487 (I) two hours of ACPE-accredited continuing education relating to one or more of the areas
1488 listed in paragraph (4)(D) of this subsection if the pharmacist is engaged in compounding low
1489 and medium risk sterile preparations; or

1490
1491 (II) four hours of ACPE-accredited continuing education relating to one or more of the
1492 areas listed in paragraph (4)(D) of this subsection if the pharmacist is engaged in compounding
1493 high risk sterile preparations.

1494
1495 (3) Pharmacy technicians and pharmacy technician trainees.

1496
1497 (A) General. All pharmacy technicians and pharmacy technician trainees shall meet the
1498 training requirements specified in §297.6 of this title (relating to Pharmacy Technician and
1499 Pharmacy Technician Trainee Training).

1500
1501 (B) Prior to September 1, 2015 - initial training and continuing education. In addition to
1502 specific qualifications for registration, all pharmacy technicians and pharmacy technician
1503 trainees who compound sterile preparations for administration to patients shall:

1504
1505 (i) have initial training obtained either through completion of:

1506
1507 (I) a single course, a minimum of 40 hours of instruction and experience in the areas listed
1508 in paragraph (4)(D) of this subsection. Such training may be obtained through:

1509
1510 (-a-) completion of a structured on-the-job didactic and experiential training program at
1511 this pharmacy which provides 40 hours of instruction and experience. Such training may not be
1512 transferred to another pharmacy unless the pharmacies are under common ownership and
1513 control and use a common training program; or

1514
1515 (-b-) completion of a course sponsored by an ACPE accredited provider which provides
1516 40 hours of instruction and experience; or

1517
1518 (II) a training program which is accredited by the American Society of Health-System
1519 Pharmacists. Individuals enrolled in training programs accredited by the American Society of

1520 Health-System Pharmacists may compound sterile preparations in a licensed pharmacy
1521 provided:

1522
1523 (-a-) the compounding occurs only during times the individual is assigned to a pharmacy
1524 as a part of the experiential component of the American Society of Health-System Pharmacists
1525 training program;

1526
1527 (-b-) the individual is under the direct supervision of and responsible to a pharmacist who
1528 has completed training as specified in paragraph (2) of this subsection; and

1529
1530 (-c-) the supervising pharmacist conducts in-process and final checks.

1531
1532 (ii) acquire the required experiential portion of the training programs specified in this
1533 subparagraph under the supervision of an individual who has already completed training as
1534 specified in paragraph (2) of this subsection or this paragraph.

1535
1536 (C) Effective September 1, 2015 - initial training and continuing education.

1537
1538 (i) Pharmacy technicians and pharmacy technician trainees may compound sterile
1539 preparations provided the pharmacy technicians and/or pharmacy technician trainees are
1540 supervised by a pharmacist who has completed the training specified in paragraph (2) of this
1541 subsection, conducts in-process and final checks, and affixes his or her initials to the
1542 appropriate quality control records.

1543
1544 (ii) All pharmacy technicians and pharmacy technician trainees who compound sterile
1545 preparations for administration to patients shall:

1546
1547 (I) have initial training obtained either through completion of:

1548
1549 (-a-) a single course, a minimum of 40 hours of instruction and experience in the areas
1550 listed in paragraph (4)(D) of this subsection. Such training shall be obtained through completion
1551 of a course sponsored by an ACPE accredited provider which provides 40 hours of instruction
1552 and experience; or

1553
1554 (-b-) a training program which is accredited by the American Society of Health-System
1555 Pharmacists.

1556
1557 (II) and

1558
1559 (-a-) complete a structured on-the-job didactic and experiential training program at this
1560 pharmacy which provides sufficient hours of instruction and experience in the facility's sterile
1561 compounding processes and procedures. Such training may not be transferred to another
1562 pharmacy unless the pharmacies are under common ownership and control and use a common
1563 training program; and

1564
1565 (-b-) possess knowledge about:

1566
1567 (-1-) aseptic processing;

1568
1569 (-2-) quality control and quality assurance as related to environmental, component, and
1570 finished preparation release checks and tests;

1571
1572 (-3-) chemical, pharmaceutical, and clinical properties of drugs;
1573
1574 (-4-) container, equipment, and closure system selection; and
1575
1576 (-5-) sterilization techniques.

1577
1578 (iii) Individuals enrolled in training programs accredited by the American Society of Health-
1579 System Pharmacists may compound sterile preparations in a licensed pharmacy provided:

1580
1581 (I) the compounding occurs only during times the individual is assigned to a pharmacy as a
1582 part of the experiential component of the American Society of Health-System Pharmacists
1583 training program;

1584
1585 (II) the individual is under the direct supervision of and responsible to a pharmacist who
1586 has completed training as specified in paragraph (2) of this subsection; and

1587
1588 (III) the supervising pharmacist conducts in-process and final checks.

1589
1590 (iv) The required experiential portion of the training programs specified in this subparagraph
1591 must be supervised by an individual who is actively engaged in performing sterile compounding,
1592 is qualified and has completed training as specified in paragraph (2) of this subsection or this
1593 paragraph.

1594
1595 (v) In order to renew a registration as a pharmacy technician, during the previous
1596 registration period, a pharmacy technician engaged in sterile compounding shall complete a
1597 minimum of:

1598
1599 (I) two hours of ACPE accredited continuing education relating to one or more of the areas
1600 listed in paragraph (4)(D) of this subsection if the pharmacy technician is engaged in
1601 compounding low and medium risk sterile preparations; or

1602
1603 (II) four hours of ACPE accredited continuing education relating to one or more of the
1604 areas listed in paragraph (4)(D) of this subsection if pharmacy technician is engaged in
1605 compounding high risk sterile preparations.

1606
1607 (4) Evaluation and testing requirements.

1608
1609 (A) All pharmacy personnel preparing sterile preparations shall be trained conscientiously and
1610 skillfully by expert personnel through multimedia instructional sources and professional
1611 publications in the theoretical principles and practical skills of aseptic manipulations, garbing
1612 procedures, aseptic work practices, achieving and maintaining ISO Class 5 environmental
1613 conditions, and cleaning and disinfection procedures before beginning to prepare compounded
1614 sterile preparations.

1615
1616 (B) All pharmacy personnel preparing sterile preparations shall perform didactic review and
1617 pass written and media-fill testing of aseptic manipulative skills initially followed by:

1618 (i) every 12 months for low- and medium-risk level compounding; and

1620
1621 (ii) every six months for high-risk level compounding.

1622
1623 (C) Pharmacy personnel who fail written tests or whose media-fill test vials result in gross
1624 microbial colonization shall:

1625
1626 (i) be immediately re-instructed and re-evaluated by expert compounding personnel to
1627 ensure correction of all aseptic practice deficiencies; and

1628
1629 (ii) not be allowed to compound sterile preparations for patient use until passing results are
1630 achieved.

1631
1632 (D) The didactic and experiential training shall include instruction, experience, and
1633 demonstrated proficiency in the following areas:

1634
1635 (i) aseptic technique;

1636
1637 (ii) critical area contamination factors;

1638
1639 (iii) environmental monitoring;

1640
1641 (iv) structure and engineering controls related to facilities;

1642
1643 (v) equipment and supplies;

1644
1645 (vi) sterile preparation calculations and terminology;

1646
1647 (vii) sterile preparation compounding documentation;

1648
1649 (viii) quality assurance procedures;

1650
1651 (ix) aseptic preparation procedures including proper gowning and gloving technique;

1652
1653 (x) handling of hazardous drugs, if applicable;

1654
1655 (xi) cleaning procedures; and

1656
1657 (xii) general conduct in the clean room.

1658
1659 (E) The aseptic technique of each person compounding or responsible for the direct
1660 supervision of personnel compounding sterile preparations shall be observed and evaluated by
1661 expert personnel as satisfactory through written and practical tests, and media-fill challenge
1662 testing, and such evaluation documented.

1663
1664 (F) Media-fill tests must be conducted at each pharmacy where an individual compounds
1665 sterile preparations. No preparation intended for patient use shall be compounded by an
1666 individual until the on-site media-fill tests indicate that the individual can competently perform
1667 aseptic procedures, except that a pharmacist may temporarily compound sterile preparations
1668 and supervise pharmacy technicians compounding sterile preparations without media-fill tests
1669 provided the pharmacist completes the on-site media-fill tests within seven days of commencing
1670 work at the pharmacy.

1671

1672 (G) Media-fill tests procedures for assessing the preparation of specific types of sterile
1673 preparations shall be representative of the most challenging or stressful conditions encountered
1674 by the pharmacy personnel being evaluated for each risk level and for sterilizing high-risk level
1675 compounded sterile preparations.
1676

1677 (H) Media-fill challenge tests simulating high-risk level compounding shall be used to verify
1678 the capability of the compounding environment and process to produce a sterile preparation.
1679

1680 (I) Commercially available sterile fluid culture media, such as Soybean-Casein Digest
1681 Medium shall be able to promote exponential colonization of bacteria that are most likely to be
1682 transmitted to compounding sterile preparations from the compounding personnel and
1683 environment. Media-filled vials are generally incubated at 20 to 25 **degrees Celsius** or at 30 to
1684 35 **degrees Celsius** for a minimum of 14 days. If two temperatures are used for incubation of
1685 media-filled samples, then these filled containers should be incubated for at least 7 days at each
1686 temperature. Failure is indicated by visible turbidity in the medium on or before 14 days.
1687

1688 (J) The pharmacist-in-charge shall ensure continuing competency of pharmacy personnel
1689 through in-service education, training, and media-fill tests to supplement initial training.
1690 Personnel competency shall be evaluated:

1691 (i) during orientation and training prior to the regular performance of those tasks;

1692 (ii) whenever the quality assurance program yields an unacceptable result;

1693 (iii) whenever unacceptable techniques are observed; and

1694 (iv) at least on an annual basis for low- and medium-risk level compounding, and every six
1695 months for high-risk level compounding.
1696

1697 (K) The pharmacist-in-charge shall ensure that proper hand hygiene and garbing practices of
1698 compounding personnel are evaluated prior to compounding sterile preparations intended for
1699 patient use and whenever an aseptic media fill is performed.
1700

1701 (i) Sampling of compounding personnel glove fingertips shall be performed for all risk level
1702 compounding.
1703

1704 (ii) All compounding personnel shall demonstrate competency in proper hand hygiene and
1705 garbing procedures and in aseptic work practices (e.g., disinfection of component surfaces,
1706 routine disinfection of gloved hands).
1707

1708 (iii) Sterile contact agar plates shall be used to sample the gloved fingertips of compounding
1709 personnel after garbing in order to assess garbing competency and after completing the media-
1710 fill preparation (without applying sterile 70% IPA).
1711

1712 (iv) The visual observation shall be documented and maintained to provide a permanent
1713 record and long-term assessment of personnel competency.
1714

1715 (v) All compounding personnel shall successfully complete an initial competency evaluation
1716 and gloved fingertip/thumb sampling procedure no less than three times before initially being
1717 allowed to compound sterile preparations for patient use. Immediately after the compounding
1718 personnel completes the hand hygiene and garbing procedure (e.g., donning of sterile gloves
1719
1720
1721
1722

1723 prior to any disinfection with sterile 70% IPA), the evaluator will collect a gloved fingertip and
1724 thumb sample from both hands from the compounding personnel onto agar plates by lightly
1725 pressing each fingertip into the agar. The plates will be incubated for the appropriate incubation
1726 period and at the appropriate temperature. Re-evaluation of all compounding personnel shall
1727 occur at least annually for compounding personnel who compound low and medium risk level
1728 preparations and every six months for compounding personnel who compound high risk level
1729 preparations.

1730
1731 (L) The pharmacist-in-charge shall ensure surface sampling shall be conducted in all ISO
1732 classified areas on a periodic basis. Sampling shall be accomplished using contact plates at the
1733 conclusion of compounding. The sample area shall be gently touched with the agar surface by
1734 rolling the plate across the surface to be sampled.

1735
1736 (5) Documentation of Training. The pharmacy shall maintain a record of the training and
1737 continuing education on each person who compounds sterile preparations. The record shall
1738 contain, at a minimum, a written record of initial and in-service training, education, and the
1739 results of written and practical testing and media-fill testing of pharmacy personnel. The record
1740 shall be maintained and available for inspection by the board and contain the following
1741 information:

1742
1743 (A) name of the person receiving the training or completing the testing or media-fill tests;

1744
1745 (B) date(s) of the training, testing, or media-fill challenge testing;

1746
1747 (C) general description of the topics covered in the training or testing or of the process
1748 validated;

1749
1750 (D) name of the person supervising the training, testing, or media-fill challenge testing; and

1751
1752 (E) signature or initials of the person receiving the training or completing the testing or media-
1753 fill challenge testing and the pharmacist-in-charge or other pharmacist employed by the
1754 pharmacy and designated by the pharmacist-in-charge as responsible for training, testing, or
1755 media-fill challenge testing of personnel.

1756
1757 (d) Operational Standards.

1758
1759 (1) General Requirements.

1760
1761 (A) Sterile preparations may be compounded:

1762
1763 (i) upon presentation of a practitioner's prescription drug or medication order based on a
1764 valid pharmacist/patient/prescriber relationship;

1765
1766 (ii) in anticipation of future prescription drug or medication orders based on routine, regularly
1767 observed prescribing patterns; or

1768
1769 (iii) in reasonable quantities for office use by a practitioner and for use by a veterinarian.

1770
1771 (B) Sterile compounding in anticipation of future prescription drug or medication orders must
1772 be based upon a history of receiving valid prescriptions issued within an established

1773 pharmacist/patient/prescriber relationship, provided that in the pharmacist's professional
1774 judgment the quantity prepared is stable for the anticipated shelf time.

1775
1776 (i) The pharmacist's professional judgment shall be based on the criteria used to determine
1777 a beyond-use date outlined in paragraph (6)(G) of this subsection.

1778
1779 (ii) Documentation of the criteria used to determine the stability for the anticipated shelf time
1780 must be maintained and be available for inspection.

1781
1782 (iii) Any preparation compounded in anticipation of future prescription drug or medication
1783 orders shall be labeled. Such label shall contain:

1784
1785 (I) name and strength of the compounded preparation or list of the active ingredients and
1786 strengths;

1787
1788 (II) facility's lot number;

1789
1790 (III) beyond-use date as determined by the pharmacist using appropriate documented
1791 criteria as outlined in paragraph (6)(G) of this subsection;

1792
1793 (IV) quantity or amount in the container;

1794
1795 (V) appropriate ancillary instructions, such as storage instructions or cautionary
1796 statements, including hazardous drug warning labels where appropriate; and

1797
1798 (VI) device-specific instructions, where appropriate.

1799
1800 (C) Commercially available products may be compounded for dispensing to individual
1801 patients or for office use provided the following conditions are met:

1802
1803 (i) the commercial product is not reasonably available from normal distribution channels in a
1804 timely manner to meet **individual** patient's needs;

1805
1806 (ii) the pharmacy maintains documentation that the product is not reasonably available due to
1807 a drug shortage or unavailability from the manufacturer; and

1808
1809 (iii) the prescribing practitioner has requested that the drug be compounded as described in
1810 subparagraph (D) of this paragraph.

1811
1812 (D) A pharmacy may not compound preparations that are essentially copies of commercially
1813 available products (e.g., the preparation is dispensed in a strength that is only slightly different
1814 from a commercially available product) unless the prescribing practitioner specifically orders the
1815 strength or dosage form and specifies why the **individual** patient needs the particular strength
1816 or dosage form of the preparation or why the preparation for office use is needed in the
1817 particular strength or dosage form of the preparation. The prescribing practitioner shall provide
1818 documentation of a patient specific medical need and the preparation produces a clinically
1819 significant therapeutic response (e.g., the physician requests an alternate preparation due to
1820 hypersensitivity to excipients or preservative in the FDA-approved product, or the physician
1821 requests an effective alternate dosage form) or if the drug product is not commercially available.
1822 The unavailability of such drug product must be documented prior to compounding. The
1823 methodology for documenting unavailability includes maintaining a copy of the wholesaler's

1824 notification showing back-ordered, discontinued, or out-of-stock items. This documentation must
1825 be available in hard-copy or electronic format for inspection by the board.

1826
1827 (E) A pharmacy may enter into an agreement to compound and dispense
1828 prescription/medication orders for another pharmacy provided the pharmacy complies with the
1829 provisions of §291.125 of this title (relating to Centralized Prescription Dispensing).

1830
1831 (F) Compounding pharmacies/pharmacists may advertise and promote the fact that they
1832 provide sterile prescription compounding services, which may include specific drug preparations
1833 and classes of drugs.

1834
1835 (G) A pharmacy may not compound veterinary preparations for use in food producing animals
1836 except in accordance with federal guidelines.

1837
1838 **(H) Compounded sterile preparations, including hazardous drugs and**
1839 **radiopharmaceuticals, shall be prepared only under conditions that protect the pharmacy**
1840 **personnel in the preparation and storage areas.**

1841
1842 (2) Microbial Contamination Risk Levels. Risk Levels for sterile compounded preparations shall
1843 be as outlined in Chapter 797, Pharmacy Compounding--Sterile Preparations of the USP/NF
1844 and as listed in this paragraph.

1845
1846 (A) Low-risk level compounded sterile preparations.

1847
1848 (i) Low-Risk conditions. Low-risk level compounded sterile preparations are those
1849 compounded under all of the following conditions.

1850
1851 (I) The compounded sterile preparations are compounded with aseptic manipulations
1852 entirely within ISO Class 5 or better air quality using only sterile ingredients, products,
1853 components, and devices.

1854
1855 (II) The compounding involves only transfer, measuring, and mixing manipulations using
1856 not more than three commercially manufactured packages of sterile products and not more than
1857 two entries into any one sterile container or package (e.g., bag, vial) of sterile product or
1858 administration container/device to prepare the compounded sterile preparation.

1859
1860 (III) Manipulations are limited to aseptically opening ampuls, penetrating disinfected
1861 stoppers on vials with sterile needles and syringes, and transferring sterile liquids in sterile
1862 syringes to sterile administration devices, package containers of other sterile products, and
1863 containers for storage and dispensing.

1864
1865 (IV) For a low-risk preparation, in the absence of direct sterility testing results or
1866 appropriate information sources that justify different limits, the storage periods may not exceed
1867 the following periods: before administration the compounded sterile preparation is stored
1868 properly and are exposed for not more than 48 hours at controlled room temperature, for not
1869 more than 14 days if stored at a cold temperature, and for 45 days if stored in a frozen state
1870 between minus 25 degrees Celsius and minus 10 degrees Celsius. For delayed activation
1871 device systems, the storage period begins when the device is activated.

1872
1873 (ii) Examples of Low-Risk Compounding. Examples of low-risk compounding include the
1874 following.

1875
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1924

(I) Single volume transfers of sterile dosage forms from ampuls, bottles, bags, and vials using sterile syringes with sterile needles, other administration devices, and other sterile containers. The solution content of ampules shall be passed through a sterile filter to remove any particles.

(II) Simple aseptic measuring and transferring with not more than three packages of manufactured sterile products, including an infusion or diluent solution to compound drug admixtures and nutritional solutions.

(III) Preparation of radiopharmaceuticals from FDA-approved drug products.

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

(i) The compounded sterile preparations are compounded in compounding aseptic isolator or compounding aseptic containment isolator that does not meet the requirements described in paragraph (6)(A)(ii)(II) of this subsection relating to Low and Medium Risk Preparations or the compounded sterile preparations are compounded in laminar airflow workbench or a biological safety cabinet that cannot be located within ~~the [an ISO Class 7]~~ buffer area.

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

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

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

(C) Medium-risk level compounded sterile preparations.

(i) Medium-Risk Conditions. Medium-risk level compounded sterile preparations, are those compounded aseptically under low-risk conditions and one or more of the following conditions exists.

(I) Multiple individual or small doses of sterile products are combined or pooled to prepare a compounded sterile preparation that will be administered either to multiple patients or to one patient on multiple occasions.

(II) The compounding process includes complex aseptic manipulations other than the single-volume transfer.

1925 (III) The compounding process requires unusually long duration, such as that required to
1926 complete the dissolution or homogenous mixing (e.g., reconstitution of intravenous
1927 immunoglobulin or other intravenous protein products).
1928

1929 (IV) The compounded sterile preparations do not contain broad spectrum bacteriostatic
1930 substances and they are administered over several days (e.g., an externally worn infusion
1931 device).
1932

1933 (V) For a medium-risk preparation, in the absence of direct sterility testing results the
1934 beyond use dates may not exceed the following time periods: before administration, the
1935 compounded sterile preparations are properly stored and are exposed for not more than 30
1936 hours at controlled room temperature, for not more than 9 days at a cold temperature, and for
1937 45 days in solid frozen state between minus 25 degrees Celsius and minus 10 degrees Celsius.
1938

1939 (ii) Examples of medium-risk compounding. Examples of medium-risk compounding include
1940 the following.
1941

1942 (I) Compounding of total parenteral nutrition fluids using a manual or automated device
1943 during which there are multiple injections, detachments, and attachments of nutrient source
1944 products to the device or machine to deliver all nutritional components to a final sterile
1945 container.
1946

1947 (II) Filling of reservoirs of injection and infusion devices with more than three sterile drug
1948 products and evacuations of air from those reservoirs before the filled device is dispensed.
1949

1950 (III) Filling of reservoirs of injection and infusion devices with volumes of sterile drug
1951 solutions that will be administered over several days at ambient temperatures between 25 and
1952 40 degrees Celsius (77 and 104 degrees Fahrenheit).
1953

1954 (IV) Transfer of volumes from multiple ampuls or vials into a single, final sterile container or
1955 product.
1956

1957 (D) High-risk level compounded sterile preparations.
1958

1959 (i) High-risk Conditions. High-risk level compounded sterile preparations are those
1960 compounded under any of the following conditions.
1961

1962 (I) Non-sterile ingredients, including manufactured products not intended for sterile routes
1963 of administration (e.g., oral) are incorporated or a non-sterile device is employed before terminal
1964 sterilization.
1965

1966 (II) Any of the following are exposed to air quality worse than ISO Class 5 for more than 1
1967 hour:
1968

1969 (-a-) sterile contents of commercially manufactured products;
1970

1971 (-b-) CSPs that lack effective antimicrobial preservatives; and
1972

1973 (-c-) sterile surfaces of devices and containers for the preparation, transfer, sterilization,
1974 and packaging of CSPs.
1975

1976 (III) Compounding personnel are improperly garbed and gloved.
1977
1978 (IV) Non-sterile water-containing preparations are exposed no more than 6 hours before
1979 being sterilized.
1980
1981 (V) It is assumed, and not verified by examination of labeling and documentation from
1982 suppliers or by direct determination, that the chemical purity and content strength of ingredients
1983 meet their original or compendial specifications in unopened or in opened packages of bulk
1984 ingredients.
1985
1986 (VI) For a sterilized high-risk level preparation, in the absence of passing a sterility test, the
1987 storage periods cannot exceed the following time periods: before administration, the
1988 compounded sterile preparations are properly stored and are exposed for not more than 24
1989 hours at controlled room temperature, for not more than 3 days at a cold temperature, and for
1990 45 days in solid frozen state between minus 25 degrees Celsius and minus 10 degrees Celsius.
1991
1992 (VII) All non-sterile measuring, mixing, and purifying devices are rinsed thoroughly with
1993 sterile, pyrogen-free water, and then thoroughly drained or dried immediately before use for
1994 high-risk compounding. All high-risk compounded sterile solutions subjected to terminal
1995 sterilization are prefiltered by passing through a filter with a nominal pore size not larger than
1996 1.2 micron preceding or during filling into their final containers to remove particulate matter.
1997 Sterilization of high-risk level compounded sterile preparations by filtration shall be performed
1998 with a sterile 0.2 micrometer or 0.22 micrometer nominal pore size filter entirely within an ISO
1999 Class 5 or superior air quality environment.
2000
2001 (ii) Examples of high-risk compounding. Examples of high-risk compounding include the
2002 following.
2003
2004 (I) Dissolving non-sterile bulk drug powders to make solutions, which will be terminally
2005 sterilized.
2006
2007 (II) Exposing the sterile ingredients and components used to prepare and package
2008 compounded sterile preparations to room air quality worse than ISO Class 5 for more than one
2009 hour.
2010
2011 (III) Measuring and mixing sterile ingredients in non-sterile devices before sterilization is
2012 performed.
2013
2014 (IV) Assuming, without appropriate evidence or direct determination, that packages of bulk
2015 ingredients contain at least 95% by weight of their active chemical moiety and have not been
2016 contaminated or adulterated between uses.
2017
2018 (3) Immediate Use Compounded Sterile Preparations. For the purpose of emergency or
2019 immediate patient care, such situations may include cardiopulmonary resuscitation, emergency
2020 room treatment, preparation of diagnostic agents, or critical therapy where the preparation of the
2021 compounded sterile preparation under low-risk level conditions would subject the patient to
2022 additional risk due to delays in therapy. Compounded sterile preparations are exempted from
2023 the requirements described in this paragraph for low-risk level compounded sterile preparations
2024 when all of the following criteria are met.
2025

2026 (A) Only simple aseptic measuring and transfer manipulations are performed with not more
2027 than three sterile non-hazardous commercial drug and diagnostic radiopharmaceutical drug
2028 products, including an infusion or diluent solution, from the manufacturers' original containers
2029 and not more than two entries into any one container or package of sterile infusion solution or
2030 administration container/device.

2031
2032 (B) Unless required for the preparation, the compounding procedure occurs continuously
2033 without delays or interruptions and does not exceed 1 hour.

2034
2035 (C) During preparation, aseptic technique is followed and, if not immediately administered,
2036 the finished compounded sterile preparation is under continuous supervision to minimize the
2037 potential for contact with nonsterile surfaces, introduction of particulate matter of biological
2038 fluids, mix-ups with other compounded sterile preparations, and direct contact of outside
2039 surfaces.

2040
2041 (D) Administration begins not later than one hour following the completion of preparing the
2042 compounded sterile preparation.

2043
2044 (E) When the compounded sterile preparations is not administered by the person who
2045 prepared it, or its administration is not witnessed by the person who prepared it, the
2046 compounded sterile preparation shall bear a label listing patient identification information such
2047 as name and identification number(s), the names and amounts of all ingredients, the name or
2048 initials of the person who prepared the compounded sterile preparation, and the exact 1-hour
2049 beyond-use time and date.

2050
2051 (F) If administration has not begun within one hour following the completion of preparing the
2052 compounded sterile preparation, the compounded sterile preparation is promptly and safely
2053 discarded. Immediate use compounded sterile preparations shall not be stored for later use.

2054
2055 (G) Hazardous drugs shall not be prepared as immediate use compounded sterile
2056 preparations.

2057
2058 (4) Single-dose and multiple dose containers.

2059
2060 (A) Opened or needle punctured single-dose containers, such as bags bottles, syringes, and
2061 vials of sterile products shall be used within one hour if opened in worse than ISO Class 5 air
2062 quality. Any remaining contents must be discarded.

2063
2064 (B) Single-dose containers, including single-dose large volume parenteral solutions and
2065 single-dose vials, exposed to ISO Class 5 or cleaner air may be used up to six hours after initial
2066 needle puncture.

2067
2068 (C) Opened single-dose fusion sealed containers shall not be stored for any time period.

2069
2070 (D) Multiple-dose containers may be used up to 28 days after initial needle puncture unless
2071 otherwise specified by the manufacturer.

2072
2073 (5) Library. In addition to the library requirements of the pharmacy's specific license
2074 classification, a pharmacy shall maintain current or updated copies in hard-copy or electronic
2075 format of each of the following:

2076

2077 (A) a reference text on injectable drug preparations, such as Handbook on Injectable Drug
2078 Products;

2079
2080 (B) a specialty reference text appropriate for the scope of pharmacy services provided by the
2081 pharmacy, e.g., if the pharmacy prepares hazardous drugs, a reference text on the preparation
2082 of hazardous drugs; [and]

2083
2084 (C) the United States Pharmacopeia/National Formulary containing USP Chapter 71, Sterility
2085 Tests, USP Chapter 85, Bacterial Endotoxins Test, Pharmaceutical Compounding--Nonsterile
2086 Preparations, USP Chapter 795, USP Chapter 797, Pharmaceutical Compounding--Sterile
2087 Preparations, and USP Chapter 1163, Quality Assurance in Pharmaceutical Compounding; **and**

2088
2089 **(D) any additional USP/NF chapters applicable to the practice of the pharmacy (e.g.,**
2090 **Chapter 800, Hazardous Drugs—Handling in Healthcare Settings, Chapter 823, Positron**
2091 **Emission Tomography Drugs for Compounding, Investigational, and Research Uses.**

2092
2093 (6) Environment. Compounding facilities shall be physically designed and environmentally
2094 controlled to minimize airborne contamination from contacting critical sites.

2095
2096 (A) Low and Medium Risk Preparations.

2097
2098 (i) A pharmacy that prepares low- and medium-risk preparations shall have a clean room for
2099 the compounding of sterile preparations that is constructed to minimize the opportunities for
2100 particulate and microbial contamination. The clean room shall:

2101
2102 (I) be clean, well lit, and of sufficient size to support sterile compounding activities;

2103
2104 (II) be maintained at a comfortable temperature (e.g., 20 degrees Celsius or cooler)
2105 allowing compounding personnel to perform flawlessly when attired in the required aseptic
2106 compounding garb;

2107
2108 (III) be used only for the compounding of sterile preparations;

2109
2110 (IV) be designed such that hand sanitizing and gowning occurs outside the buffer area but
2111 allows hands-free access by compounding personnel to the buffer area;

2112
2113 (V) have non-porous and washable floors or floor covering to enable regular disinfection;

2114
2115 (VI) be ventilated in a manner to avoid disruption from the HVAC system and room cross-
2116 drafts;

2117
2118 (VII) have walls, ceilings, floors, fixtures, shelving, counters, and cabinets that are smooth,
2119 impervious, free from cracks and crevices (e.g., coved), non-shedding and resistant to damage
2120 by disinfectant agents;

2121
2122 (VIII) have junctures of ceilings to walls coved or caulked to avoid cracks and crevices;

2123
2124 (IX) have drugs and supplies stored on shelving areas above the floor to permit adequate
2125 floor cleaning;

2126

2127 (X) contain only the appropriate compounding supplies and not be used for bulk storage for
2128 supplies and materials. Objects that shed particles shall not be brought into the clean room. **A**
2129 **Class B pharmacy may use low-linting absorbent materials in the primary engineering**
2130 **control device;**

2131
2132 (XI) contain an ante-area that [~~provides at least an ISO class 8 air quality and~~] contains a
2133 sink with hot and cold running water that enables hands-free use with a closed system of soap
2134 dispensing to minimize the risk of extrinsic contamination. **A Class B pharmacy may have a**
2135 **sink with hot and cold running water that enables hands-free use with a closed system of**
2136 **soap dispensing immediately outside the ante-area if antiseptic hand cleansing is**
2137 **performed using a waterless alcohol-based surgical hand scrub with persistent activity**
2138 **following manufacturers' recommendations once inside the ante-area;** and

2139
2140 (XII) contain a buffer area [~~designed to maintain at least ISO Class 7 conditions for 0.5-µm~~
2141 ~~and larger particles under dynamic working conditions~~]. The following is applicable for the buffer
2142 area.

2143
2144 (-a-) There shall be some demarcation designation that delineates the ante-area from the
2145 buffer area. The demarcation shall be such that it does not create conditions that could
2146 adversely affect the cleanliness of the area.

2147
2148 (-b-) The buffer area shall be segregated from surrounding, unclassified spaces to reduce
2149 the risk of contaminants being blown, dragged, or otherwise introduced into the filtered
2150 unidirectional airflow environment, and this segregation should be continuously monitored.

2151
2152 (-c-) A buffer area that is not physically separated from the ante-area shall employ the
2153 principle of displacement airflow as defined in Chapter 797, Pharmaceutical Compounding--
2154 Sterile Preparations, of the USP/NF, with limited access to personnel.

2155
2156 (-d-) The buffer area shall not contain sources of water (i.e., sinks) or floor drains **other**
2157 **than distilled or sterile water introduced for facilitating the use of heat block wells for**
2158 **radiopharmaceuticals.**

2159
2160 (ii) The pharmacy shall prepare sterile preparations in a primary engineering control device,
2161 such as a laminar air flow hood, biological safety cabinet, compounding aseptic isolator,
2162 compounding aseptic containment isolator which is capable of maintaining at least ISO Class 5
2163 conditions for 0.5-µm particles while compounding sterile preparations.

2164
2165 (l) The primary engineering control shall:

2166
2167 (-a-) be located in the buffer area and placed in the buffer area in a manner as to avoid
2168 conditions that could adversely affect its operation such as strong air currents from opened
2169 doors, personnel traffic, or air streams from the heating, ventilating and air condition system.

2170
2171 (-b-) be certified by a qualified independent contractor according to the International
2172 Organization of Standardization (ISO) Classification of Particulate Matter in Room Air (ISO
2173 14644-1) for operational efficiency at least every six months and whenever the device or room is
2174 relocated or altered or major service to the facility is performed, in accordance with the
2175 manufacturer's specifications;

2176

2177 (-c-) have pre-filters inspected periodically and replaced as needed, in accordance with
2178 written policies and procedures and the manufacturer's specification, and the inspection and/or
2179 replacement date documented; and

2180
2181 (-d-) be located in a buffer area that has a minimum differential positive pressure of 0.02
2182 to 0.05 inches water column **as applicable**.

2183
2184 (II) The compounding aseptic isolator or compounding aseptic containment isolator must
2185 be placed in ~~the [an ISO Class 7]~~ buffer area unless the isolator meets all of the following
2186 conditions.

2187
2188 (-a-) The isolator must provide isolation from the room and maintain ISO Class 5 during
2189 dynamic operating conditions including transferring ingredients, components, and devices into
2190 and out of the isolator and during preparation of compounded sterile preparations.

2191
2192 (-b-) Particle counts sampled approximately 6 to 12 inches upstream of the critical
2193 exposure site must maintain ISO Class 5 levels during compounding operations.

2194
2195 (-c-) The pharmacy shall maintain documentation from the manufacturer that the isolator
2196 meets this standard when located in worse than ISO Class 7 environments.

2197
2198 (B) High-risk Preparations.

2199
2200 (i) In addition to the requirements in subparagraph (A) of this paragraph, when high-risk
2201 preparations are compounded, the primary engineering control shall be located in a buffer area
2202 that provides a physical separation, through the use of walls, doors and pass-throughs and has
2203 a minimum differential positive pressure of 0.02 to 0.05 inches water column.

2204
2205 (ii) Presterilization procedures for high-risk level compounded sterile preparations, such as
2206 weighing and mixing, shall be completed in no worse than an ISO Class 8 environment.

2207
2208 (C) Automated compounding device. ~~If automated compounding devices are used, the~~
2209 ~~pharmacy shall have a method to calibrate and verify the accuracy of automated compounding~~
2210 ~~devices used in aseptic processing and document the calibration and verification on a daily~~
2211 ~~basis, based on the manufacturer's recommendations, and review the results at least weekly.~~

2212
2213 **(i) General. If automated compounding devices are used, the pharmacy shall have a**
2214 **method to calibrate and verify the accuracy of automated compounding devices used in**
2215 **aseptic processing and document the calibration and verification on a daily basis, based**
2216 **on the manufacturer's recommendations, and review the results at least weekly.**

2217
2218 **(ii) Loading bulk drugs into automated compounding devices.**

2219
2220 **(I) Automated compounding device may be loaded with bulk drugs only by a pharmacist**
2221 **or by pharmacy technicians or pharmacy technician trainees under the direction and**
2222 **direct supervision of a pharmacist.**

2223
2224 **(II) The label of an automated compounding device container shall indicate the brand**
2225 **name and strength of the drug; or if no brand name, then the generic name, strength, and**
2226 **name of the manufacturer or distributor.**

2227

2228 **(III) Records of loading bulk drugs into an automated compounding device shall be**
2229 **maintained to show:**
2230
2231 **(-a) name of the drug, strength, and dosage form;**
2232
2233 **(-b) manufacturer or distributor;**
2234
2235 **(-c) manufacturer's lot number;**
2236
2237 **(-d) manufacturer's expiration date;**
2238
2239 **(-e) quantity added to the automated compounding device;**
2240
2241 **(-f) date of loading;**
2242
2243 **(-g) name, initials, or electronic signature of the person loading the automated**
2244 **compounding device; and**
2245
2246 **(-h) name, initials, or electronic signature of the responsible pharmacist.**
2247
2248 **(IV) The automated compounding device shall not be used until a pharmacist verifies**
2249 **that the system is properly loaded and affixes his or her signature or electronic signature**
2250 **to the record specified in clause (III) of this subparagraph.**
2251
2252 (D) Hazardous drugs. If the preparation is hazardous, the following is also applicable.
2253
2254 (i) General.
2255
2256 (I) Hazardous drugs shall be prepared only under conditions that protect personnel during
2257 preparation and storage.
2258
2259 (II) Hazardous drugs shall be stored separately from other inventory in a manner to prevent
2260 contamination and personnel exposure.
2261
2262 (III) All personnel involved in the compounding of hazardous drugs shall wear appropriate
2263 protective apparel, such as gowns, face masks, eye protection, hair covers, shoe covers or
2264 dedicated shoes, and appropriate gloving at all times when handling hazardous drugs, including
2265 receiving, distribution, stocking, inventorying, preparation, for administration and disposal.
2266
2267 (IV) Appropriate safety and containment techniques for compounding hazardous drugs
2268 shall be used in conjunction with aseptic techniques required for preparing sterile preparations.
2269
2270 (V) Disposal of hazardous waste shall comply with all applicable local, state, and federal
2271 requirements.
2272
2273 (VI) Prepared doses of hazardous drugs must be dispensed, labeled with proper
2274 precautions inside and outside, and distributed in a manner to minimize patient contact with
2275 hazardous agents.
2276
2277 (ii) Primary engineering control device. Hazardous drugs shall be prepared in a Class II or III
2278 vertical flow biological safety cabinet or compounding aseptic containment isolator located in an

2279 ISO Class 7 area that is physically separated from other preparation areas. The area for
2280 preparation of sterile chemotherapeutic preparations shall:

2281
2282 (I) have not less than 0.01 inches water column negative pressure to the adjacent positive
2283 pressure ISO Class 7 or better ante-area; and

2284
2285 (II) have a pressure indicator that can be readily monitored for correct room pressurization.

2286
2287 (iii) Facilities that prepare a low volume of hazardous drugs. Pharmacies that prepare a low
2288 volume of hazardous drugs, are not required to comply with the provisions of clause (ii) of this
2289 subparagraph if the pharmacy uses a device that provides two tiers of containment (e.g.,
2290 closed-system vial transfer device within a BSC or CACI that is located in a non-negative
2291 pressure room).

2292
2293 **(E) Blood-labeling procedures. When compounding activities require the manipulation**
2294 **of a patient's blood-derived material (e.g., radiolabeling a patient's or donor's white blood**
2295 **cells), the manipulations shall be clearly separated from routine material-handling**
2296 **procedures and equipment used in preparation activities to avoid any cross-**
2297 **contamination. The preparations shall not require sterilization.**

2298
2299 **(F) [(E)]** Cleaning and disinfecting the sterile compounding areas. The following cleaning and
2300 disinfecting practices and frequencies apply to direct and contiguous compounding areas, which
2301 include ISO Class 5 compounding areas for exposure of critical sites as well as buffer areas,
2302 ante-areas, and segregated compounding areas.

2303
2304 (i) The pharmacist-in-charge is responsible for developing written procedures for cleaning
2305 and disinfecting the direct and contiguous compounding areas and assuring the procedures are
2306 followed.

2307
2308 (ii) These procedures shall be conducted at the beginning of each work shift, before each
2309 batch preparation is started, every 30 minutes during continuous compounding of individual
2310 compounded sterile preparations, when there are spills, and when surface contamination is
2311 known or suspected from procedural breaches.

2312
2313 (iii) Before compounding is performed, all items shall be removed from the direct and
2314 contiguous compounding areas and all surfaces are cleaned by removing loose material and
2315 residue from spills, followed by an application of a residue-free disinfecting agent (e.g., IPA),
2316 which is allowed to dry before compounding begins. **In a Class B pharmacy, objects used in**
2317 **preparing sterile radiopharmaceuticals (e.g., dose calibrator) which cannot be reasonably**
2318 **removed from the compounding area shall be sterilized with an application of a residue-**
2319 **free disinfection agent.**

2320
2321 (iv) Work surfaces in the [~~ISO Class 7~~] buffer areas and [~~ISO Class 8~~] ante-areas, as well as
2322 segregated compounding areas, shall be cleaned and disinfected at least daily. Dust and debris
2323 shall be removed when necessary from storage sites for compounding ingredients and supplies
2324 using a method that does not degrade the ISO Class 7 or 8 air quality.

2325
2326 (v) Floors in the buffer area, ante-area, and segregated compounding area are cleaned by
2327 mopping with a cleaning and disinfecting agent at least once daily when no aseptic operations
2328 are in progress. Mopping shall be performed by trained personnel using approved agents and

2329 procedures described in the written SOPs. It is incumbent on compounding personnel to ensure
2330 that such cleaning is performed properly.

2331

2332 (vi) In the buffer area, ante-area, and segregated compounding area, walls, ceilings, and
2333 shelving shall be cleaned and disinfected monthly. Cleaning and disinfecting agents shall be
2334 used with careful consideration of compatibilities, effectiveness, and inappropriate or toxic
2335 residues.

2336

2337 (vii) All cleaning materials, such as wipers, sponges, and mops, shall be non-shedding, and
2338 dedicated to use in the buffer area, ante-area, and segregated compounding areas and shall not
2339 be removed from these areas except for disposal. Floor mops may be used in both the buffer
2340 area and ante-area, but only in that order. If cleaning materials are reused, procedures shall be
2341 developed that ensure that the effectiveness of the cleaning device is maintained and that
2342 repeated use does not add to the bio-burden of the area being cleaned.

2343

2344 (viii) Supplies and equipment removed from shipping cartons must be wiped with a
2345 disinfecting agent, such as sterile IPA. After the disinfectant is sprayed or wiped on a surface to
2346 be disinfected, the disinfectant shall be allowed to dry, during which time the item shall not be
2347 used for compounding purposes. However, if sterile supplies are received in sealed pouches,
2348 the pouches may be removed as the supplies are introduced into the ISO Class 5 area without
2349 the need to disinfect the individual sterile supply items. No shipping or other external cartons
2350 may be taken into the buffer area or segregated compounding area.

2351

2352 (ix) Storage shelving emptied of all supplies, walls, and ceilings are cleaned and disinfected
2353 at planned intervals, monthly, if not more frequently.

2354

2355 (x) Cleaning must be done by personnel trained in appropriate cleaning techniques.

2356

2357 (xi) Proper documentation and frequency of cleaning must be maintained and shall contain
2358 the following:

2359

2360 (I) date and time of cleaning;

2361

2362 (II) type of cleaning performed; and

2363

2364 (III) name of individual who performed the cleaning.

2365

2366 (F) Security requirements. The pharmacist-in-charge may authorize personnel to gain access
2367 to that area of the pharmacy containing dispensed sterile preparations, in the absence of the
2368 pharmacist, for the purpose of retrieving dispensed prescriptions to deliver to patients. If the
2369 pharmacy allows such after-hours access, the area containing the dispensed sterile
2370 preparations shall be an enclosed and lockable area separate from the area containing
2371 undispensed prescription drugs. A list of the authorized personnel having such access shall be
2372 in the pharmacy's policy and procedure manual.

2373

2374 (G) Storage requirements and beyond-use dating.

2375

2376 (i) Storage requirements. All drugs shall be stored at the proper temperature and conditions,
2377 as defined in the USP/NF and in §291.15 of this title (relating to Storage of Drugs).

2378

2379 (ii) Beyond-use dating.

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

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

(III) Beyond-use dates for compounded sterile preparations that lack justification from either appropriate literature sources or by direct testing evidence shall be assigned as described in Chapter 795, in Stability Criteria and Beyond-Use Dating under Pharmaceutical Compounding-Nonsterile Preparations of the USP/NF.

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

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

(7) Equipment and supplies. Pharmacies compounding sterile preparations shall have the following equipment and supplies:

(A) a calibrated system or device (i.e., thermometer) to monitor the temperature to ensure that proper storage requirements are met, if sterile preparations are stored in the refrigerator;

(B) a calibrated system or device to monitor the temperature where bulk chemicals are stored;

(C) a temperature-sensing mechanism suitably placed in the controlled temperature storage space to reflect accurately the true temperature;

(D) if applicable, a Class A prescription balance, or analytical balance and weights. Such balance shall be properly maintained and subject to periodic inspection by the Texas State Board of Pharmacy;

(E) equipment and utensils necessary for the proper compounding of sterile preparations. Such equipment and utensils used in the compounding process shall be:

(i) of appropriate design, appropriate capacity, and be operated within designed operational limits;

(ii) of suitable composition so that surfaces that contact components, in-process material, or drug products shall not be reactive, additive, or absorptive so as to alter the safety, identity, strength, quality, or purity of the drug preparation beyond the desired result;

(iii) cleaned and sanitized immediately prior to and after each use; and

2431 (iv) routinely inspected, calibrated(if necessary), or checked to ensure proper performance;

2432

2433 (F) appropriate disposal containers for used needles, syringes, etc., and if applicable,
2434 hazardous waste from the preparation of hazardous drugs and/or biohazardous waste;

2435

2436 (G) appropriate packaging or delivery containers to maintain proper storage conditions for
2437 sterile preparations;

2438

2439 (H) infusion devices, if applicable; and

2440

2441 (I) all necessary supplies, including:

2442

2443 (i) disposable needles, syringes, and other supplies for aseptic mixing;

2444

2445 (ii) disinfectant cleaning solutions;

2446

2447 (iii) hand washing agents with bactericidal action;

2448

2449 (iv) disposable, lint free towels or wipes;

2450

2451 (v) appropriate filters and filtration equipment;

2452

2453 (vi) hazardous spill kits, if applicable; and

2454

2455 (vii) masks, caps, coveralls or gowns with tight cuffs, shoe covers, and gloves, as
2456 applicable.

2457

2458 (8) Labeling.

2459

2460 (A) Prescription drug or medication orders. In addition to the labeling requirements for the
2461 pharmacy's specific license classification, the label dispensed or distributed pursuant to a
2462 prescription drug or medication order shall contain the following:

2463

2464 (i) the generic name(s) or the official name(s) of the principal active ingredient(s) of the
2465 compounded sterile preparation;

2466

2467 (ii) for outpatient prescription orders **other than sterile radiopharmaceuticals** ~~only~~, a
2468 statement that the compounded sterile preparation has been compounded by the pharmacy.
2469 (An auxiliary label may be used on the container to meet this requirement);

2470

2471 (iii) a beyond-use date. The beyond-use date shall be determined as outlined in Chapter
2472 797, Pharmacy Compounding--Sterile Preparations of the USP/NF, and paragraph (7)(G) of this
2473 subsection;

2474

2475 (B) Batch. If the sterile preparation is compounded in a batch, the following shall also be
2476 included on the batch label:

2477

2478 (i) unique lot number assigned to the batch;

2479

2480 (ii) quantity;

2481

2482 (iii) appropriate ancillary instructions, such as storage instructions or cautionary statements,
2483 including hazardous drug warning labels where appropriate; and

2484
2485 (iv) device-specific instructions, where appropriate.

2486
2487 (C) Pharmacy bulk package. The label of a pharmacy bulk package shall:

2488
2489 (i) state prominently "Pharmacy Bulk Package--Not for Direct Infusion;";

2490
2491 (ii) contain or refer to information on proper techniques to help ensure safe use of the
2492 preparation; and

2493
2494 (iii) bear a statement limiting the time frame in which the container may be used once it has
2495 been entered, provided it is held under the labeled storage conditions.

2496
2497 (9) Written drug information for prescription drug orders only. Written information about the
2498 compounded preparation or its major active ingredient(s) shall be given to the patient at the time
2499 of dispensing a prescription drug order. A statement which indicates that the preparation was
2500 compounded by the pharmacy must be included in this written information. If there is no written
2501 information available, the patient shall be advised that the drug has been compounded and how
2502 to contact a pharmacist, and if appropriate, the prescriber, concerning the drug. **This**
2503 **paragraph does not apply to the preparation of radiopharmaceuticals.**

2504
2505 (10) Pharmaceutical Care Services. In addition to the pharmaceutical care requirements for the
2506 pharmacy's specific license classification, the following requirements for sterile preparations
2507 compounded pursuant to prescription drug orders must be met. **This paragraph does not**
2508 **apply to the preparation of radiopharmaceuticals.**

2509
2510 (A) Primary provider. There shall be a designated physician primarily responsible for the
2511 patient's medical care. There shall be a clear understanding between the physician, the patient,
2512 and the pharmacy of the responsibilities of each in the areas of the delivery of care, and the
2513 monitoring of the patient. This shall be documented in the patient medication record (PMR).

2514
2515 (B) Patient training. The pharmacist-in-charge shall develop policies to ensure that the patient
2516 and/or patient's caregiver receives information regarding drugs and their safe and appropriate
2517 use, including instruction when applicable, regarding:

2518
2519 (i) appropriate disposition of hazardous solutions and ancillary supplies;

2520
2521 (ii) proper disposition of controlled substances in the home;

2522
2523 (iii) self-administration of drugs, where appropriate;

2524
2525 (iv) emergency procedures, including how to contact an appropriate individual in the event of
2526 problems or emergencies related to drug therapy; and

2527
2528 (v) if the patient or patient's caregiver prepares sterile preparations in the home, the
2529 following additional information shall be provided:

2530

2531 (I) safeguards against microbial contamination, including aseptic techniques for
2532 compounding intravenous admixtures and aseptic techniques for injecting additives to premixed
2533 intravenous solutions;

2534
2535 (II) appropriate storage methods, including storage durations for sterile pharmaceuticals
2536 and expirations of self-mixed solutions;

2537
2538 (III) handling and disposition of premixed and self-mixed intravenous admixtures; and
2539

2540 (IV) proper disposition of intravenous admixture compounding supplies such as syringes,
2541 vials, ampules, and intravenous solution containers.

2542
2543 (C) Pharmacist-patient relationship. It is imperative that a pharmacist-patient relationship be
2544 established and maintained throughout the patient's course of therapy. This shall be
2545 documented in the patient's medication record (PMR).

2546
2547 (D) Patient monitoring. The pharmacist-in-charge shall develop policies to ensure that:

2548
2549 (i) the patient's response to drug therapy is monitored and conveyed to the appropriate
2550 health care provider;

2551
2552 (ii) the first dose of any new drug therapy is administered in the presence of an individual
2553 qualified to monitor for and respond to adverse drug reactions; and

2554
2555 (iii) reports of adverse events with a compounded sterile preparation are reviewed promptly
2556 and thoroughly to correct and prevent future occurrences.

2557
2558 (11) Drugs, components, and materials used in sterile compounding.

2559
2560 (A) Drugs used in sterile compounding shall be a USP/NF grade substances manufactured in
2561 an FDA-registered facility.

2562
2563 (B) If USP/NF grade substances are not available shall be of a chemical grade in one of the
2564 following categories:

2565
2566 (i) Chemically Pure (CP);

2567
2568 (ii) Analytical Reagent (AR);

2569
2570 (iii) American Chemical Society (ACS); or

2571
2572 (iv) Food Chemical Codex.

2573
2574 (C) If a drug, component or material is not purchased from a FDA-registered facility, the
2575 pharmacist shall establish purity and stability by obtaining a Certificate of Analysis from the
2576 supplier and the pharmacist shall compare the monograph of drugs in a similar class to the
2577 Certificate of Analysis.

2578
2579 (D) All components shall:

2580
2581 (i) be manufactured in an FDA-registered facility; or

2582
2583 (ii) in the professional judgment of the pharmacist, be of high quality and obtained from
2584 acceptable and reliable alternative sources; and
2585
2586 (iii) stored in properly labeled containers in a clean, dry area, under proper temperatures.
2587
2588 (E) Drug preparation containers and closures shall not be reactive, additive, or absorptive so
2589 as to alter the safety, identity, strength, quality, or purity of the compounded drug preparation
2590 beyond the desired result.
2591
2592 (F) Components, drug preparation containers, and closures shall be rotated so that the oldest
2593 stock is used first.
2594
2595 (G) Container closure systems shall provide adequate protection against foreseeable external
2596 factors in storage and use that can cause deterioration or contamination of the compounded
2597 drug preparation.
2598
2599 (H) A pharmacy may not compound a preparation that contains ingredients appearing on a
2600 federal Food and Drug Administration list of drug products withdrawn or removed from the
2601 market for safety reasons.
2602
2603 (12) Compounding process.
2604
2605 (A) Standard operating procedures (SOPs). All significant procedures performed in the
2606 compounding area shall be covered by written SOPs designed to ensure accountability,
2607 accuracy, quality, safety, and uniformity in the compounding process. At a minimum, SOPs shall
2608 be developed and implemented for:
2609
2610 (i) the facility;
2611
2612 (ii) equipment;
2613
2614 (iii) personnel;
2615
2616 (iv) preparation evaluation;
2617
2618 (v) quality assurance;
2619
2620 (vi) preparation recall;
2621
2622 (vii) packaging; and
2623
2624 (viii) storage of compounded sterile preparations.
2625
2626 (B) USP/NF. Any compounded formulation with an official monograph in the USP/NF shall be
2627 compounded, labeled, and packaged in conformity with the USP/NF monograph for the drug.
2628
2629 (C) Personnel Cleansing and Garbing.
2630
2631 (i) Any person with an apparent illness or open lesion, including rashes, sunburn, weeping
2632 sores, conjunctivitis, and active respiratory infection, that may adversely affect the safety or

2633 quality of a drug preparation being compounded shall be excluded from working in ISO Class 5,
2634 [and] ISO Class 7, **and ISO Class 8** compounding areas until the condition is remedied.

2635
2636 (ii) Before entering the buffer area, compounding personnel must remove the following:

2637
2638 (I) personal outer garments (e.g., bandanas, coats, hats, jackets, scarves, sweaters,
2639 vests);

2640
2641 (II) all cosmetics, because they shed flakes and particles; and

2642
2643 (III) all hand, wrist, and other body jewelry or piercings (e.g., earrings, lip or eyebrow
2644 piercings) that can interfere with the effectiveness of personal protective equipment (e.g., fit of
2645 gloves and cuffs of sleeves).

2646
2647 (iii) The wearing of artificial nails or extenders is prohibited while working in the sterile
2648 compounding environment. Natural nails shall be kept neat and trimmed.

2649
2650 (iv) Personnel shall don personal protective equipment and perform hand hygiene in an
2651 order that proceeds from the dirtiest to the cleanest activities as follows:

2652
2653 (I) Activities considered the dirtiest include donning of dedicated shoes or shoe covers,
2654 head and facial hair covers (e.g., beard covers in addition to face masks), and face mask/eye
2655 shield. Eye shields are optional unless working with irritants like germicidal disinfecting agents
2656 or when preparing hazardous drugs.

2657
2658 (II) After donning dedicated shoes or shoe covers, head and facial hair covers, and face
2659 masks, personnel shall perform a hand hygiene procedure by removing debris from underneath
2660 fingernails using a nail cleaner under running warm water followed by vigorous hand washing.
2661 Personnel shall begin washing arms at the hands and continue washing to elbows for at least
2662 30 seconds with either a plain (non-antimicrobial) soap, or antimicrobial soap, and water while in
2663 the ante-area. Hands and forearms to the elbows shall be completely dried using lint-free
2664 disposable towels, an electronic hands-free hand dryer, or a HEPA filtered hands dryer.

2665
2666 (III) After completion of hand washing, personnel shall don clean non-shedding gowns with
2667 sleeves that fit snugly around the wrists and enclosed at the neck.

2668
2669 (IV) Once inside the buffer area or segregated compounding area, and prior to donning
2670 sterile powder-free gloves, antiseptic hand cleansing shall be performed using a waterless
2671 alcohol-based surgical hand scrub with persistent activity following manufacturers'
2672 recommendations. Hands shall be allowed to dry thoroughly before donning sterile gloves.

2673
2674 (V) Sterile gloves that form a continuous barrier with the gown shall be the last item
2675 donned before compounding begins. Routine application of sterile 70% IPA shall occur
2676 throughout the compounding day and whenever nonsterile surfaces are touched.

2677
2678 (v) When compounding personnel shall temporarily exit the **buffer area** [~~ISO Class 7~~
2679 ~~environment~~] during a work shift, the exterior gown, if not visibly soiled, may be removed and
2680 retained in the [~~ISO Class 8~~] ante-area, to be re-donned during that same work shift only.
2681 However, shoe covers, hair and facial hair covers, face mask/eye shield, and gloves shall be
2682 replaced with new ones before re-entering the **buffer area** [~~ISO Class 7 clean environment~~]
2683 along with performing proper hand hygiene.

2684
2685 (vi) During high-risk compounding activities that precede terminal sterilization, such as
2686 weighing and mixing of non-sterile ingredients, compounding personnel shall be garbed and
2687 gloved the same as when performing compounding in an ISO Class 5 environment. Properly
2688 garbed and gloved compounding personnel who are exposed to air quality that is either known
2689 or suspected to be worse than ISO Class 7 shall re-garb personal protective equipment along
2690 with washing their hands properly, performing antiseptic hand cleansing with a waterless
2691 alcohol-based surgical hand scrub, and donning sterile gloves upon re-entering the ISO Class 7
2692 buffer area.

2693
2694 (vii) When compounding aseptic isolators or compounding aseptic containment isolators are
2695 the source of the ISO Class 5 environment, the compounding personnel should follow the
2696 requirements as specified in this subparagraph, unless the isolator manufacturer can provide
2697 written documentation based on validated environmental testing that any components of
2698 personal protective equipment or cleansing are not required.

2699
2700 (13) Quality Assurance.

2701
2702 (A) Initial Formula Validation. Prior to routine compounding of a sterile preparation, a
2703 pharmacy shall conduct an evaluation that shows that the pharmacy is capable of compounding
2704 a preparation that is sterile and that contains the stated amount of active ingredient(s).

2705
2706 (i) Low risk preparations.

2707
2708 (I) Quality assurance practices include, but are not limited to the following:

2709
2710 (-a-) Routine disinfection and air quality testing of the direct compounding environment to
2711 minimize microbial surface contamination and maintain ISO Class 5 air quality.

2712
2713 (-b-) Visual confirmation that compounding personnel are properly donning and wearing
2714 appropriate items and types of protective garments and goggles.

2715
2716 (-c-) Review of all orders and packages of ingredients to ensure that the correct identity
2717 and amounts of ingredients were compounded.

2718
2719 (-d-) Visual inspection of compounded sterile preparations, **except for sterile**
2720 **radiopharmaceuticals**, to ensure the absence of particulate matter in solutions, the absence of
2721 leakage from vials and bags, and the accuracy and thoroughness of labeling.

2722
2723 (II) Example of a Media-Fill Test Procedure. This, or an equivalent test, is performed at
2724 least annually by each person authorized to compound in a low-risk level under conditions that
2725 closely simulate the most challenging or stressful conditions encountered during compounding
2726 of low-risk level sterile preparations. Once begun, this test is completed without interruption
2727 within an ISO Class 5 air quality environment. Three sets of four 5-milliliter aliquots of sterile
2728 Soybean-Casein Digest Medium are transferred with the same sterile 10-milliliter syringe and
2729 vented needle combination into separate sealed, empty, sterile 30-milliliter clear vials (i.e., four
2730 5-milliliter aliquots into each of three 30-milliliter vials). Sterile adhesive seals are aseptically
2731 affixed to the rubber closures on the three filled vials. The vials are incubated within a range of
2732 20 - 35 degrees Celsius for a minimum of 14 days. Failure is indicated by visible turbidity in the
2733 medium on or before 14 days. The media-fill test must include a positive-control sample.

2734

2735 (ii) Medium risk preparations.

2736

2737 (I) Quality assurance procedures for medium-risk level compounded sterile preparations
2738 include all those for low-risk level compounded sterile preparations, as well as a more
2739 challenging media-fill test passed annually, or more frequently.

2740

2741 (II) Example of a Media-Fill Test Procedure. This, or an equivalent test, is performed at
2742 least annually under conditions that closely simulate the most challenging or stressful conditions
2743 encountered during compounding. This test is completed without interruption within an ISO
2744 Class 5 air quality environment. Six 100-milliliter aliquots of sterile Soybean-Casein Digest
2745 Medium are aseptically transferred by gravity through separate tubing sets into separate
2746 evacuated sterile containers. The six containers are then arranged as three pairs, and a sterile
2747 10-milliliter syringe and 18-gauge needle combination is used to exchange two 5-milliliter
2748 aliquots of medium from one container to the other container in the pair. For example, after a 5-
2749 milliliter aliquot from the first container is added to the second container in the pair, the second
2750 container is agitated for 10 seconds, then a 5-milliliter aliquot is removed and returned to the
2751 first container in the pair. The first container is then agitated for 10 seconds, and the next 5-
2752 milliliter aliquot is transferred from it back to the second container in the pair. Following the two
2753 5-milliliter aliquot exchanges in each pair of containers, a 5-milliliter aliquot of medium from each
2754 container is aseptically injected into a sealed, empty, sterile 10-milliliter clear vial, using a sterile
2755 10-milliliter syringe and vented needle. Sterile adhesive seals are aseptically affixed to the
2756 rubber closures on the three filled vials. The vials are incubated within a range of 20 - 35
2757 degrees Celsius for a minimum of 14 days. Failure is indicated by visible turbidity in the medium
2758 on or before 14 days. The media-fill test must include a positive-control sample.

2759

2760 (iii) High risk preparations.

2761

2762 (I) Procedures for high-risk level compounded sterile preparations include all those for low-
2763 risk level compounded sterile preparations. In addition, a media-fill test that represents high-risk
2764 level compounding is performed twice a year by each person authorized to compound high-risk
2765 level compounded sterile preparations.

2766

2767 (II) Example of a Media-Fill Test Procedure Compounded Sterile Preparations Sterilized by
2768 Filtration. This test, or an equivalent test, is performed under conditions that closely simulate the
2769 most challenging or stressful conditions encountered when compounding high-risk level
2770 compounded sterile preparations. Note: Sterility tests for autoclaved compounded sterile
2771 preparations are not required unless they are prepared in batches of more than 25 units. This
2772 test is completed without interruption in the following sequence:

2773

2774 (-a-) Dissolve 3 grams of nonsterile commercially available Soybean-Casein Digest
2775 Medium in 100 milliliters of non-bacteriostatic water to make a 3% nonsterile solution.

2776

2777 (-b-) Draw 25 milliliters of the medium into each of three 30-milliliter sterile syringes.
2778 Transfer 5 milliliters from each syringe into separate sterile 10-milliliter vials. These vials are the
2779 positive controls to generate exponential microbial growth, which is indicated by visible turbidity
2780 upon incubation.

2781

2782 (-c-) Under aseptic conditions and using aseptic techniques, affix a sterile 0.2-micron
2783 porosity filter unit and a 20-gauge needle to each syringe. Inject the next 10 milliliters from each
2784 syringe into three separate 10-milliliter sterile vials. Repeat the process for three more vials.
2785 Label all vials, affix sterile adhesive seals to the closure of the nine vials, and incubate them at

2786 20 to 35 degrees Celsius for a minimum of 14 days. Inspect for microbial growth over 14 days
2787 as described in Chapter 797 Pharmaceutical Compounding--Sterile Preparations, of the
2788 USP/NF.

2789
2790 (B) Finished preparation release checks and tests.

2791
2792 (i) All high-risk level compounded sterile preparations that are prepared in groups of more
2793 than 25 identical individual single-dose packages (such as ampuls, bags, syringes, and vials), or
2794 in multiple dose vials for administration to multiple patients, or are exposed longer than 12 hours
2795 at 2 - 8 degrees Celsius and longer than six hours at warmer than 8 degrees Celsius before
2796 they are sterilized shall be tested to ensure they are sterile and do not contain excessive
2797 bacterial endotoxins as specified in Chapter 71, Sterility Tests of the USP/NF before being
2798 dispensed or administered.

2799
2800 (ii) All compounded sterile preparations, except for sterile radiopharmaceuticals, that are
2801 intended to be solutions must be visually examined for the presence of particulate matter and
2802 not administered or dispensed when such matter is observed.

2803
2804 (iii) The prescription drug and medication orders, written compounding procedure,
2805 preparation records, and expended materials used to make compounded sterile preparations at
2806 all contamination risk levels shall be inspected for accuracy of correct identities and amounts of
2807 ingredients, aseptic mixing and sterilization, packaging, labeling, and expected physical
2808 appearance before they are dispensed or administered.

2809
2810 (C) Viable and nonviable environmental sampling testing. Environmental sampling shall
2811 occur, at a minimum, every six months as part of a comprehensive quality management
2812 program and under any of the following conditions:

2813
2814 (i) as part of the commissioning and certification of new facilities and equipment;

2815
2816 (ii) following any servicing of facilities and equipment;

2817
2818 (iii) as part of the re-certification of facilities and equipment;

2819
2820 (iv) in response to identified problems with end products or staff technique; or

2821
2822 (v) in response to issues with compounded sterile preparations, observed compounding
2823 personnel work practices, or patient-related infections (where the compounded sterile
2824 preparation is being considered as a potential source of the infection).

2825
2826 (D) Total particle counts. Certification that each ISO classified area (e.g., ISO Class 5, 7, and
2827 8), is within established guidelines shall be performed no less than every six months and
2828 whenever the equipment is relocated or the physical structure of the buffer area or ante-area
2829 has been altered. All certification records shall be maintained and reviewed to ensure that the
2830 controlled environments comply with the proper air cleanliness, room pressures, and air
2831 changes per hour. Testing shall be performed by qualified operators using current, state-of-the-
2832 art equipment, with results of the following:

2833
2834 (i) ISO Class 5 - not more than 3520 particles 0.5 µm and larger size per cubic meter of air;

2835

2836 (ii) ISO Class 7 - not more than 352,000 particles of 0.5 µm and larger size per cubic meter
2837 of air for any buffer area; and

2838
2839 (iii) ISO Class 8 - not more than 3,520,000 particles of 0.5 µm and larger size per cubic
2840 meter of air for any ante-area.

2841
2842 (E) Pressure differential monitoring. A pressure gauge or velocity meter shall be installed to
2843 monitor the pressure differential or airflow between the buffer area and the ante-area and
2844 between the ante-area and the general environment outside the compounding area. The results
2845 shall be reviewed and documented on a log at least every work shift (minimum frequency shall
2846 be at least daily) or by a continuous recording device. The pressure between the ISO Class 7 or
2847 **ISO Class 8** and the general pharmacy area shall not be less than 0.02 inch water column.

2848
2849 (F) Sampling plan. An appropriate environmental sampling plan shall be developed for
2850 airborne viable particles based on a risk assessment of compounding activities performed.
2851 Selected sampling sites shall include locations within each ISO Class 5 environment and in the
2852 ISO Class 7 and 8 areas and in the segregated compounding areas at greatest risk of
2853 contamination. The plan shall include sample location, method of collection, frequency of
2854 sampling, volume of air sampled, and time of day as related to activity in the compounding area
2855 and action levels.

2856
2857 (G) Viable air sampling. Evaluation of airborne microorganisms using volumetric collection
2858 methods in the controlled air environments shall be performed by properly trained individuals for
2859 all compounding risk levels. For low-, medium-, and high-risk level compounding, air sampling
2860 shall be performed at locations that are prone to contamination during compounding activities
2861 and during other activities such as staging, labeling, gowning, and cleaning. Locations shall
2862 include zones of air backwash turbulence within the laminar airflow workbench and other areas
2863 where air backwash turbulence may enter the compounding area. For low-risk level
2864 compounded sterile preparations within 12-hour or less beyond-use-date prepared in a primary
2865 engineering control that maintains an ISO Class 5, air sampling shall be performed at locations
2866 inside the ISO Class 5 environment and other areas that are in close proximity to the ISO Class
2867 5 environment during the certification of the primary engineering control.

2868
2869 (H) Air sampling frequency and process. Air sampling shall be performed at least every 6
2870 months as a part of the re-certification of facilities and equipment. A sufficient volume of air shall
2871 be sampled and the manufacturer's guidelines for use of the electronic air sampling equipment
2872 followed. At the end of the designated sampling or exposure period for air sampling activities,
2873 the microbial growth media plates are recovered and their covers secured and they are inverted
2874 and incubated at a temperature and for a time period conducive to multiplication of
2875 microorganisms. Sampling data shall be collected and reviewed on a periodic basis as a means
2876 of evaluating the overall control of the compounding environment. If an activity consistently
2877 shows elevated levels of microbial growth, competent microbiology personnel shall be
2878 consulted.

2879
2880 (I) Compounding accuracy checks. Written procedures for double-checking compounding
2881 accuracy shall be followed for every compounded sterile preparation during preparation and
2882 immediately prior to release, including label accuracy and the accuracy of the addition of all
2883 drug products or ingredients used to prepare the finished preparation and their volumes or
2884 quantities. At each step of the compounding process, the pharmacist shall ensure that
2885 components used in compounding are accurately weighed, measured, or subdivided as
2886 appropriate to conform to the formula being prepared.

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(14) Quality control.

(A) Quality control procedures. The pharmacy shall follow established quality control procedures to monitor the compounding environment and quality of compounded drug preparations for conformity with the quality indicators established for the preparation. When developing these procedures, pharmacy personnel shall consider the provisions of USP Chapter 71, Sterility Tests, USP Chapter 85, Bacterial Endotoxins Test, Pharmaceutical Compounding-Nonsterile Preparations, USP Chapter 795, USP Chapter 797, Pharmaceutical Compounding--Sterile Preparations, **Chapter 800, Hazardous Drugs—Handling in Healthcare Settings, Chapter 823, Positron Emission Tomography Drugs for Compounding, Investigational, and Research Uses**, Chapter 1075, Good Compounding Practices, and Chapter 1160, Pharmaceutical Calculations in Prescription Compounding, and USP Chapter 1163, Quality Assurance in Pharmaceutical Compounding of the current USP/NF. Such procedures shall be documented and be available for inspection.

(B) Verification of compounding accuracy and sterility.

(i) The accuracy of identities, concentrations, amounts, and purities of ingredients in compounded sterile preparations shall be confirmed by reviewing labels on packages, observing and documenting correct measurements with approved and correctly standardized devices, and reviewing information in labeling and certificates of analysis provided by suppliers.

(ii) If the correct identity, purity, strength, and sterility of ingredients and components of compounded sterile preparations cannot be confirmed such ingredients and components shall be discarded immediately.

(iii) If individual ingredients, such as bulk drug substances, are not labeled with expiration dates, when the drug substances are stable indefinitely in their commercial packages under labeled storage conditions, such ingredients may gain or lose moisture during storage and use and shall require testing to determine the correct amount to weigh for accurate content of active chemical moieties in compounded sterile preparations.

(e) Records. Any testing, cleaning, procedures, or other activities required in this subsection shall be documented and such documentation shall be maintained by the pharmacy.

(1) Maintenance of records. Every record required under this section must be:

(A) kept by the pharmacy and be available, for at least two years for inspecting and copying by the board or its representative and to other authorized local, state, or federal law enforcement agencies; and

(B) supplied by the pharmacy within 72 hours, if requested by an authorized agent of the Texas State Board of Pharmacy. If the pharmacy maintains the records in an electronic format, the requested records must be provided in an electronic format. Failure to provide the records set out in this section, either on site or within 72 hours, constitutes prima facie evidence of failure to keep and maintain records in violation of the Act.

(2) Compounding records.

2937 (A) Compounding pursuant to patient specific prescription drug orders. Compounding records
2938 for all compounded preparations shall be maintained by the pharmacy electronically or manually
2939 as part of the prescription drug or medication order, formula record, formula book, or
2940 compounding log and shall include:

2941
2942 (i) the date of preparation;

2943
2944 (ii) a complete formula, including methodology and necessary equipment which includes the
2945 brand name(s) of the raw materials, or if no brand name, the generic name(s) or official name
2946 and name(s) of the manufacturer(s) or distributor of the raw materials and the quantities of
2947 each;

2948
2949 (iii) signature or initials of the pharmacist or pharmacy technician or pharmacy technician
2950 trainee performing the compounding;

2951
2952 (iv) signature or initials of the pharmacist responsible for supervising pharmacy technicians
2953 or pharmacy technician trainees and conducting in-process and finals checks of compounded
2954 pharmaceuticals if pharmacy technicians or pharmacy technician trainees perform the
2955 compounding function;

2956
2957 (v) the quantity in units of finished preparation or amount of raw materials;

2958
2959 (vi) the container used and the number of units prepared; and

2960
2961 (vii) a reference to the location of the following documentation which may be maintained with
2962 other records, such as quality control records:

2963
2964 (I) the criteria used to determine the beyond-use date; and

2965
2966 (II) documentation of performance of quality control procedures.

2967
2968 (B) Compounding records when batch compounding or compounding in anticipation of future
2969 prescription drug or medication orders.

2970
2971 (i) Master work sheet. A master work sheet shall be developed and approved by a
2972 pharmacist for preparations prepared in batch. Once approved, a duplicate of the master work
2973 sheet shall be used as the preparation work sheet from which each batch is prepared and on
2974 which all documentation for that batch occurs. The master work sheet shall contain at a
2975 minimum:

2976
2977 (I) the formula;

2978
2979 (II) the components;

2980
2981 (III) the compounding directions;

2982
2983 (IV) a sample label;

2984
2985 (V) evaluation and testing requirements;

2986
2987 (VI) specific equipment used during preparation; and

2988
2989 (VII) storage requirements.
2990
2991 (ii) Preparation work sheet. The preparation work sheet for each batch of preparations shall
2992 document the following:
2993
2994 (I) identity of all solutions and ingredients and their corresponding amounts,
2995 concentrations, or volumes;
2996
2997 (II) lot number for each component;
2998
2999 (III) component manufacturer/distributor or suitable identifying number;
3000
3001 (IV) container specifications (e.g., syringe, pump cassette);
3002
3003 (V) unique lot or control number assigned to batch;
3004
3005 (VI) expiration date of batch-prepared preparations;
3006
3007 (VII) date of preparation;
3008
3009 (VIII) name, initials, or electronic signature of the person(s) involved in the preparation;
3010
3011 (IX) name, initials, or electronic signature of the responsible pharmacist;
3012
3013 (X) finished preparation evaluation and testing specifications, if applicable; and
3014
3015 (XI) comparison of actual yield to anticipated or theoretical yield, when appropriate.
3016
3017 (f) Office Use Compounding and Distribution of Sterile Compounded Preparations
3018
3019 (1) General.
3020
3021 (A) A pharmacy may compound, dispense, deliver, and distribute a compounded sterile
3022 preparation as specified in Subchapter D, Texas Pharmacy Act Chapter 562.
3023
3024 (B) A Class A-S pharmacy is not required to register or be licensed under Chapter 431,
3025 Health and Safety Code, to distribute sterile compounded preparations to a Class C or Class C-
3026 S pharmacy.
3027
3028 (C) A Class C-S pharmacy is not required to register or be licensed under Chapter 431,
3029 Health and Safety Code, to distribute sterile compounded preparations that the Class C-S
3030 pharmacy has compounded for other Class C or Class C-S pharmacies under common
3031 ownership.
3032
3033 (D) To compound and deliver a compounded preparation under this subsection, a pharmacy
3034 must:
3035
3036 (i) verify the source of the raw materials to be used in a compounded drug;
3037

3038 (ii) comply with applicable United States Pharmacopoeia guidelines, including the testing
3039 requirements, and the Health Insurance Portability and Accountability Act of 1996 (Pub. L. No.
3040 104-191);

3041
3042 (iii) enter into a written agreement with a practitioner for the practitioner's office use of a
3043 compounded preparation;

3044
3045 (iv) comply with all applicable competency and accrediting standards as determined by the
3046 board; and

3047
3048 (v) comply with the provisions of this subsection.

3049
3050 **(E) This subsection does not apply to Class B pharmacies compounding sterile**
3051 **radiopharmaceuticals that are furnished for departmental or physicians' use if such**
3052 **authorized users maintain a Texas radioactive materials license.**

3053
3054 (2) Written Agreement. A pharmacy that provides sterile compounded preparations to
3055 practitioners for office use or to another pharmacy shall enter into a written agreement with the
3056 practitioner or pharmacy. The written agreement shall:

3057
3058 (A) address acceptable standards of practice for a compounding pharmacy and a practitioner
3059 and receiving pharmacy that enter into the agreement including a statement that the
3060 compounded drugs may only be administered to the patient and may not be dispensed to the
3061 patient or sold to any other person or entity except to a veterinarian as authorized by §563.054
3062 of the Act;

3063
3064 (B) require the practitioner or receiving pharmacy to include on a patient's chart, medication
3065 order or medication administration record the lot number and beyond-use date of a
3066 compounded preparation administered to a patient;

3067
3068 (C) describe the scope of services to be performed by the pharmacy and practitioner or
3069 receiving pharmacy, including a statement of the process for:

3070
3071 (i) a patient to report an adverse reaction or submit a complaint; and

3072
3073 (ii) the pharmacy to recall batches of compounded preparations.

3074
3075 (3) Recordkeeping.

3076
3077 (A) Maintenance of Records.

3078
3079 (i) Records of orders and distribution of sterile compounded preparations to a practitioner for
3080 office use or to an institutional pharmacy for administration to a patient shall:

3081
3082 (I) be kept by the pharmacy and be available, for at least two years from the date of the
3083 record, for inspecting and copying by the board or its representative and to other authorized
3084 local, state, or federal law enforcement agencies;

3085
3086 (II) maintained separately from the records of preparations dispensed pursuant to a
3087 prescription or medication order; and

3088

3089 (III) supplied by the pharmacy within 72 hours, if requested by an authorized agent of the
3090 Texas State Board of Pharmacy or its representative. If the pharmacy maintains the records in
3091 an electronic format, the requested records must be provided in an electronic format. Failure to
3092 provide the records set out in this subsection, either on site or within 72 hours for whatever
3093 reason, constitutes prima facie evidence of failure to keep and maintain records.
3094

3095 (ii) Records may be maintained in an alternative data retention system, such as a data
3096 processing system or direct imaging system provided the data processing system is capable of
3097 producing a hard copy of the record upon the request of the board, its representative, or other
3098 authorized local, state, or federal law enforcement or regulatory agencies.
3099

3100 (B) Orders. The pharmacy shall maintain a record of all sterile compounded preparations
3101 ordered by a practitioner for office use or by an institutional pharmacy for administration to a
3102 patient. The record shall include the following information:

3103 (i) date of the order;

3104
3105 (ii) name, address, and phone number of the practitioner who ordered the preparation and if
3106 applicable, the name, address and phone number of the institutional pharmacy ordering the
3107 preparation; and
3108
3109

3110 (iii) name, strength, and quantity of the preparation ordered.
3111

3112 (C) Distributions. The pharmacy shall maintain a record of all sterile compounded
3113 preparations distributed pursuant to an order to a practitioner for office use or by an institutional
3114 pharmacy for administration to a patient. The record shall include the following information:

3115 (i) date the preparation was compounded;

3116
3117 (ii) date the preparation was distributed;

3118
3119 (iii) name, strength and quantity in each container of the preparation;

3120
3121 (iv) pharmacy's lot number;

3122
3123 (v) quantity of containers shipped; and

3124
3125 (vi) name, address, and phone number of the practitioner or institutional pharmacy to whom
3126 the preparation is distributed.
3127

3128 (D) Audit Trail.
3129

3130 (i) The pharmacy shall store the order and distribution records of preparations for all sterile
3131 compounded preparations ordered by and or distributed to a practitioner for office use or by a
3132 pharmacy licensed to compound sterile preparations for administration to a patient in such a
3133 manner as to be able to provide an audit trail for all orders and distributions of any of the
3134 following during a specified time period:
3135

3136 (l) any strength and dosage form of a preparation (by either brand or generic name or
3137 both);
3138
3139

3140 (II) any ingredient;
3141
3142 (III) any lot number;
3143
3144 (IV) any practitioner;
3145
3146 (V) any facility; and
3147
3148 (VI) any pharmacy, if applicable.
3149
3150 (ii) The audit trail shall contain the following information:
3151
3152 (I) date of order and date of the distribution;
3153
3154 (II) practitioner's name, address, and name of the institutional pharmacy, if applicable;
3155
3156 (III) name, strength and quantity of the preparation in each container of the preparation;
3157
3158 (IV) name and quantity of each active ingredient;
3159
3160 (V) quantity of containers distributed; and
3161
3162 (VI) pharmacy's lot number.
3163
3164 (4) Labeling. The pharmacy shall affix a label to the preparation containing the following
3165 information:
3166
3167 (A) name, address, and phone number of the compounding pharmacy;
3168
3169 (B) the statement: "For Institutional or Office Use Only--Not for Resale"; or if the preparation
3170 is distributed to a veterinarian the statement: "Compounded Preparation";
3171
3172 (C) name and strength of the preparation or list of the active ingredients and strengths;
3173
3174 (D) pharmacy's lot number;
3175
3176 (E) beyond-use date as determined by the pharmacist using appropriate documented criteria;
3177
3178 (F) quantity or amount in the container;
3179
3180 (G) appropriate ancillary instructions, such as storage instructions or cautionary statements,
3181 including hazardous drug warning labels where appropriate; and
3182
3183 (H) device-specific instructions, where appropriate.
3184
3185 (g) Recall Procedures.
3186
3187 (1) The pharmacy shall have written procedures for the recall of any compounded sterile
3188 preparation provided to a patient, to a practitioner for office use, or a pharmacy for
3189 administration. Written procedures shall include, but not be limited to the requirements as
3190 specified in paragraph (3) of this subsection.

3191
3192 (2) The pharmacy shall immediately initiate a recall of any sterile preparation compounded by
3193 the pharmacy upon identification of a potential or confirmed harm to a patient.

3194
3195 (3) In the event of a recall, the pharmacist-in-charge shall ensure that:

3196
3197 (A) each practitioner, facility, and/or pharmacy to which the preparation was distributed is
3198 notified, in writing, of the recall;

3199
3200 (B) each patient to whom the preparation was dispensed is notified, in writing, of the recall;

3201
3202 (C) the board is notified of the recall, in writing, not later than 24 hours after the recall is
3203 issued;

3204
3205 (D) if the preparation is distributed for office use, the Texas Department of State Health
3206 Services, Drugs and Medical Devices Group, is notified of the recall, in writing;

3207
3208 (E) the preparation is quarantined; and

3209
3210 (F) the pharmacy keeps a written record of the recall including all actions taken to notify all
3211 parties and steps taken to ensure corrective measures.

3212
3213 (4) If a pharmacy fails to initiate a recall, the board may require a pharmacy to initiate a recall if
3214 there is potential for or confirmed harm to a patient.

3215
3216 (5) A pharmacy that compounds sterile preparations shall notify the board immediately of any
3217 adverse effects reported to the pharmacy or that are known by the pharmacy to be potentially
3218 attributable to a sterile preparation compounded by the pharmacy. The agency certifies that
3219 legal counsel has reviewed the proposal and found it to be within the state agency's legal
3220 authority to adopt.