

RULE ANALYSIS

Introduction: THE AMENDMENTS ARE SUBMITTED TO THE BOARD FOR CONSIDERATION AS A PROPOSED RULE

Short Title: Sterile Compounding

Rule Numbers: §291.133

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

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

Purpose: The amendments, if adopted, specify that a pharmacist must review the original prescription record when dispensing a sterile compounded preparation.

1 **TITLE 22 EXAMINING BOARDS**

2 **PART 15 TEXAS STATE BOARD OF PHARMACY**

3 **CHAPTER 291 PHARMACIES**

4 **SUBCHAPTER G SERVICES PROVIDED BY PHARMACIES**

5 **§291.133 Pharmacies Compounding Sterile Preparations**

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

- 10 (1) compounding of sterile preparations pursuant to a prescription or medication order for a
11 patient from a practitioner in Class A-S, Class B, Class C-S, and Class E-S pharmacies;
- 12 (2) compounding, dispensing, and delivery of a reasonable quantity of a compounded sterile
13 preparation in Class A-S, Class B, Class C-S, and Class E-S pharmacies to a practitioner's
14 office for office use by the practitioner;
- 15 (3) compounding and distribution of compounded sterile preparations by a Class A-S pharmacy
16 for a Class C-S pharmacy; and
- 17 (4) compounding of sterile preparations by a Class C-S pharmacy and the distribution of the
18 compounded preparations to other Class C or Class C-S pharmacies under common ownership.

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

22 (1) ACPE--Accreditation Council for Pharmacy Education.

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

27 (A) ISO Class 5 (formerly Class 100) is an atmospheric environment that contains less than
28 3,520 particles 0.5 microns in diameter per cubic meter of air (formerly stated as 100 particles
29 0.5 microns in diameter per cubic foot of air);

30 (B) ISO Class 7 (formerly Class 10,000) is an atmospheric environment that contains less than
31 352,000 particles 0.5 microns in diameter per cubic meter of air (formerly stated as 10,000
32 particles 0.5 microns in diameter per cubic foot of air); and

33 (C) ISO Class 8 (formerly Class 100,000) is an atmospheric environment that contains less than
34 3,520,000 particles 0.5 microns in diameter per cubic meter of air (formerly stated as 100,000
35 particles 0.5 microns in diameter per cubic foot of air).

36 (3) Ancillary supplies--Supplies necessary for the preparation and administration of

37 compounded sterile preparations.

38 (4) Ante-area--An ISO Class 8 or better area where personnel may perform hand hygiene and
39 garbing procedures, staging of components, order entry, labeling, and other high-particulate
40 generating activities. It is also a transition area that:

41 (A) provides assurance that pressure relationships are constantly maintained so that air flows
42 from clean to dirty areas; and

43 (B) reduces the need for the heating, ventilating and air conditioning (HVAC) control system to
44 respond to large disturbances.

45 (5) Aseptic Processing--A mode of processing pharmaceutical and medical preparations that
46 involves the separate sterilization of the preparation and of the package (containers-closures or
47 packaging material for medical devices) and the transfer of the preparation into the container
48 and its closure under at least ISO Class 5 conditions.

49 (6) Automated compounding device--An automated device that compounds, measures, and/or
50 packages a specified quantity of individual components in a predetermined sequence for a
51 designated sterile preparation.

52 (7) Batch--A specific quantity of a drug or other material that is intended to have uniform
53 character and quality, within specified limits, and is produced during a single preparation cycle.

54 (8) Batch preparation compounding--Compounding of multiple sterile preparation units, in a
55 single discrete process, by the same individual(s), carried out during one limited time period.
56 Batch preparation/compounding does not include the preparation of multiple sterile preparation
57 units pursuant to patient specific medication orders.

58 (9) Beyond-use date--The date or time after which the compounded sterile preparation shall not
59 be stored or transported or begin to be administered to a patient. The beyond-use date is
60 determined from the date or time the preparation is compounded.

61 (10) Biological Safety Cabinet, Class II--A ventilated cabinet for personnel, product or
62 preparation, and environmental protection having an open front with inward airflow for personnel
63 protection, downward HEPA filtered laminar airflow for product protection, and HEPA filtered
64 exhausted air for environmental protection.

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

69 (12) Clean room--A room in which the concentration of airborne particles is controlled to meet a
70 specified airborne particulate cleanliness class. Microorganisms in the environment are
71 monitored so that a microbial level for air, surface, and personnel gear are not exceeded for a
72 specified cleanliness class.

73 (13) Component--Any ingredient intended for use in the compounding of a drug preparation,
74 including those that may not appear in such preparation.

75 (14) Compounding--The preparation, mixing, assembling, packaging, or labeling of a drug or

- 76 device:
- 77 (A) as the result of a practitioner's prescription drug or medication order based on the
78 practitioner-patient-pharmacist relationship in the course of professional practice;
- 79 (B) for administration to a patient by a practitioner as the result of a practitioner's initiative based
80 on the practitioner-patient-pharmacist relationship in the course of professional practice;
- 81 (C) in anticipation of prescription drug or medication orders based on routine, regularly
82 observed prescribing patterns; or
- 83 (D) for or as an incident to research, teaching, or chemical analysis and not for sale or
84 dispensing, except as allowed under §562.154 or Chapter 563 of the Occupations Code.
- 85 (15) Compounding Aseptic Isolator--A form of barrier isolator specifically designed for
86 compounding pharmaceutical ingredients or preparations. It is designed to maintain an aseptic
87 compounding environment within the isolator throughout the compounding and material transfer
88 processes. Air exchange into the isolator from the surrounding environment shall not occur
89 unless it has first passed through a microbial retentive filter (HEPA minimum).
- 90 (16) Compounding Aseptic Containment Isolator--A compounding aseptic isolator designed to
91 provide worker protection from exposure to undesirable levels of airborne drug throughout the
92 compounding and material transfer processes and to provide an aseptic environment for
93 compounding sterile preparations. Air exchange with the surrounding environment should not
94 occur unless the air is first passed through a microbial retentive filter (HEPA minimum) system
95 capable of containing airborne concentrations of the physical size and state of the drug being
96 compounded. Where volatile hazardous drugs are prepared, the exhaust air from the isolator
97 should be appropriately removed by properly designed building ventilation.
- 98 (17) Compounding Personnel--A pharmacist, pharmacy technician, or pharmacy technician
99 trainee who performs the actual compounding; a pharmacist who supervises pharmacy
100 technicians or pharmacy technician trainees compounding sterile preparations, and a
101 pharmacist who performs an intermediate or final verification of a compounded sterile
102 preparation.
- 103 (18) Critical Area--An ISO Class 5 environment.
- 104 (19) Critical Sites--A location that includes any component or fluid pathway surfaces (e.g., vial
105 septa, injection ports, beakers) or openings (e.g., opened ampules, needle hubs) exposed and
106 at risk of direct contact with air (e.g., ambient room or HEPA filtered), moisture (e.g., oral and
107 mucosal secretions), or touch contamination. Risk of microbial particulate contamination of the
108 critical site increases with the size of the openings and exposure time.
- 109 (20) Device--An instrument, apparatus, implement, machine, contrivance, implant, in-vitro
110 reagent, or other similar or related article, including any component part or accessory, that is
111 required under federal or state law to be ordered or prescribed by a practitioner.
- 112 (21) Direct Compounding Area--A critical area within the ISO Class 5 primary engineering
113 control where critical sites are exposed to unidirectional HEPA-filtered air, also known as first
114 air.
- 115 (22) Disinfectant--An agent that frees from infection, usually a chemical agent but sometimes a

- 116 physical one, and that destroys disease-causing pathogens or other harmful microorganisms
117 but may not kill bacterial and fungal spores. It refers to substances applied to inanimate objects.
- 118 (23) First Air--The air exiting the HEPA filter in a unidirectional air stream that is essentially
119 particle free.
- 120 (24) Hazardous Drugs--Drugs that, studies in animals or humans indicate exposure to the
121 drugs, have a potential for causing cancer, development or reproductive toxicity, or harm to
122 organs. For the purposes of this chapter, radiopharmaceuticals are not considered hazardous
123 drugs.
- 124 (25) Hot water--The temperature of water from the pharmacy's sink maintained at a minimum of
125 105 degrees F (41 degrees C).
- 126 (26) HVAC--Heating, ventilation, and air conditioning.
- 127 (27) Immediate use--A sterile preparation that is not prepared according to USP 797 standards
128 (i.e., outside the pharmacy and most likely not by pharmacy personnel) which shall be stored for
129 no longer than one hour after completion of the preparation.
- 130 (28) IPA--Isopropyl alcohol (2-propanol).
- 131 (29) Labeling--All labels and other written, printed, or graphic matter on an immediate container
132 of an article or preparation or on, or in, any package or wrapper in which it is enclosed, except
133 any outer shipping container. The term "label" designates that part of the labeling on the
134 immediate container.
- 135 (30) Media-Fill Test--A test used to qualify aseptic technique of compounding personnel or
136 processes and to ensure that the processes used are able to produce sterile preparation without
137 microbial contamination. During this test, a microbiological growth medium such as Soybean-
138 Casein Digest Medium is substituted for the actual drug preparation to simulate admixture
139 compounding. The issues to consider in the development of a media-fill test are the following:
140 media-fill procedures, media selection, fill volume, incubation, time and temperature, inspection
141 of filled units, documentation, interpretation of results, and possible corrective actions required.
- 142 (31) Multiple-Dose Container--A multiple-unit container for articles or preparations intended for
143 potential administration only and usually contains antimicrobial preservatives. The beyond-use
144 date for an opened or entered (e.g., needle-punctured) multiple-dose container with
145 antimicrobial preservatives is 28 days, unless otherwise specified by the manufacturer.
- 146 (32) Negative Pressure Room--A room that is at a lower pressure compared to adjacent spaces
147 and, therefore, the net flow of air is into the room.
- 148 (33) Office use--The administration of a compounded drug to a patient by a practitioner in the
149 practitioner's office or by the practitioner in a health care facility or treatment setting, including a
150 hospital, ambulatory surgical center, or pharmacy in accordance with Chapter 562 of the Act, or
151 for administration or provision by a veterinarian in accordance with §563.054 of the Act.
- 152 (34) Pharmacy Bulk Package--A container of a sterile preparation for potential use that contains
153 many single doses. The contents are intended for use in a pharmacy admixture program and
154 are restricted to the preparation of admixtures for infusion or, through a sterile transfer device,
155 for the filling of empty sterile syringes. The closure shall be penetrated only one time after

- 156 constitution with a suitable sterile transfer device or dispensing set, which allows measured
157 dispensing of the contents. The pharmacy bulk package is to be used only in a suitable work
158 area such as a laminar flow hood (or an equivalent clean air compounding area).
- 159 (35) Prepackaging--The act of repackaging and relabeling quantities of drug products from a
160 manufacturer's original container into unit dose packaging or a multiple dose container for
161 distribution within a facility licensed as a Class C pharmacy or to other pharmacies under
162 common ownership for distribution within those facilities. The term as defined does not prohibit
163 the prepackaging of drug products for use within other pharmacy classes.
- 164 (36) Preparation or Compounded Sterile Preparation--A sterile admixture compounded in a
165 licensed pharmacy or other healthcare-related facility pursuant to the order of a licensed
166 prescriber. The components of the preparation may or may not be sterile products.
- 167 (37) Primary Engineering Control--A device or room that provides an ISO Class 5 environment
168 for the exposure of critical sites when compounding sterile preparations. Such devices include,
169 but may not be limited to, laminar airflow workbenches, biological safety cabinets, compounding
170 aseptic isolators, and compounding aseptic containment isolators.
- 171 (38) Product--A commercially manufactured sterile drug or nutrient that has been evaluated for
172 safety and efficacy by the U.S. Food and Drug Administration (FDA). Products are accompanied
173 by full prescribing information, which is commonly known as the FDA-approved manufacturer's
174 labeling or product package insert.
- 175 (39) Positive Control--A quality assurance sample prepared to test positive for microbial growth.
- 176 (40) Quality assurance--The set of activities used to ensure that the process used in the
177 preparation of sterile drug preparations lead to preparations that meet predetermined standards
178 of quality.
- 179 (41) Quality control--The set of testing activities used to determine that the ingredients,
180 components (e.g., containers), and final compounded sterile preparations prepared meet
181 predetermined requirements with respect to identity, purity, non-pyrogenicity, and sterility.
- 182 (42) Reasonable quantity--An amount of a compounded drug that:
- 183 (A) does not exceed the amount a practitioner anticipates may be used in the practitioner's
184 office or facility before the beyond use date of the drug;
- 185 (B) is reasonable considering the intended use of the compounded drug and the nature of the
186 practitioner's practice; and
- 187 (C) for any practitioner and all practitioners as a whole, is not greater than an amount the
188 pharmacy is capable of compounding in compliance with pharmaceutical standards for identity,
189 strength, quality, and purity of the compounded drug that are consistent with United States
190 Pharmacopoeia guidelines and accreditation practices.
- 191 (43) Segregated Compounding Area--A designated space, either a demarcated area or room,
192 that is restricted to preparing low-risk level compounded sterile preparations with 12-hour or less
193 beyond-use date. Such area shall contain a device that provides unidirectional airflow of ISO
194 Class 5 air quality for preparation of compounded sterile preparations and shall be void of
195 activities and materials that are extraneous to sterile compounding.

- 196 (44) Single-dose container--A single-unit container for articles or preparations intended for
197 parenteral administration only. It is intended for a single use. A single-dose container is labeled
198 as such. Examples of single-dose containers include pre-filled syringes, cartridges, fusion-
199 sealed containers, and closure-sealed containers when so labeled.
- 200 (45) SOPs--Standard operating procedures.
- 201 (46) Sterilizing Grade Membranes--Membranes that are documented to retain 100% of a culture
202 of 10⁷ microorganisms of a strain of *Brevundimonas* (*Pseudomonas*) *diminuta* per square
203 centimeter of membrane surface under a pressure of not less than 30 psi (2.0 bar). Such filter
204 membranes are nominally at 0.22-micrometer or 0.2-micrometer nominal pore size, depending
205 on the manufacturer's practice.
- 206 (47) Sterilization by Filtration--Passage of a fluid or solution through a sterilizing grade
207 membrane to produce a sterile effluent.
- 208 (48) Terminal Sterilization--The application of a lethal process, e.g., steam under pressure or
209 autoclaving, to sealed final preparation containers for the purpose of achieving a predetermined
210 sterility assurance level of usually less than 10⁻⁶ or a probability of less than one in one million
211 of a non-sterile unit.
- 212 (49) Unidirectional Flow--An airflow moving in a single direction in a robust and uniform manner
213 and at sufficient speed to reproducibly sweep particles away from the critical processing or
214 testing area.
- 215 (50) USP/NF--The current edition of the United States Pharmacopeia/National Formulary.
- 216 (c) Personnel.
- 217 (1) Pharmacist-in-charge.
- 218 (A) General. The pharmacy shall have a pharmacist-in-charge in compliance with the specific
219 license classification of the pharmacy.
- 220 (B) Responsibilities. In addition to the responsibilities for the specific class of pharmacy, the
221 pharmacist-in-charge shall have the responsibility for, at a minimum, the following concerning
222 the compounding of sterile preparations:
- 223 (i) developing a system to ensure that all pharmacy personnel responsible for compounding
224 and/or supervising the compounding of sterile preparations within the pharmacy receive
225 appropriate education and training and competency evaluation;
- 226 (ii) determining that all personnel involved in compounding sterile preparations obtain continuing
227 education appropriate for the type of compounding done by the personnel;
- 228 (iii) supervising a system to ensure appropriate procurement of drugs and devices and storage
229 of all pharmaceutical materials including pharmaceuticals, components used in the
230 compounding of sterile preparations, and drug delivery devices;
- 231 (iv) ensuring that the equipment used in compounding is properly maintained;
- 232 (v) developing a system for the disposal and distribution of drugs from the pharmacy;

- 233 (vi) developing a system for bulk compounding or batch preparation of drugs;
- 234 (vii) developing a system for the compounding, sterility assurance, quality assurance, and
235 quality control of sterile preparations; and
- 236 (viii) if applicable, ensuring that the pharmacy has a system to dispose of hazardous waste in a
237 manner so as not to endanger the public health.
- 238 (2) Pharmacists.
- 239 (A) General.
- 240 (i) A pharmacist is responsible for ensuring that compounded sterile preparations are accurately
241 identified, measured, diluted, and mixed and are correctly purified, sterilized, packaged, sealed,
242 labeled, stored, dispensed, and distributed.
- 243 (ii) A pharmacist shall inspect and approve all components, drug preparation containers,
244 closures, labeling, and any other materials involved in the compounding process.
- 245 (iii) A pharmacist shall review all compounding records for accuracy and conduct periodic in-
246 process checks as defined in the pharmacy's policy and procedures.
- 247 (iv) A pharmacist shall review all compounding records for accuracy, **including the original**
248 **prescription drug order**, and conduct a final check.
- 249 (v) A pharmacist is responsible for ensuring the proper maintenance, cleanliness, and use of all
250 equipment used in the compounding process.
- 251 (vi) A pharmacist shall be accessible at all times, 24 hours a day, to respond to patients' and
252 other health professionals' questions and needs.
- 253 (B) Initial training and continuing education.
- 254 (i) All pharmacists who compound sterile preparations or supervise pharmacy technicians and
255 pharmacy technician trainees compounding sterile preparations shall comply with the following:
- 256 (I) complete through a single course, a minimum of 20 hours of instruction and experience in the
257 areas listed in paragraph (4)(D) of this subsection. Such training shall be obtained through
258 completion of a recognized course in an accredited college of pharmacy or a course sponsored
259 by an ACPE accredited provider;
- 260 (II) complete a structured on-the-job didactic and experiential training program at this pharmacy
261 which provides sufficient hours of instruction and experience in the facility's sterile compounding
262 processes and procedures. Such training may not be transferred to another pharmacy unless
263 the pharmacies are under common ownership and control and use a common training program;
264 and
- 265 (III) possess knowledge about:
- 266 (-a-) aseptic processing;
- 267 (-b-) quality control and quality assurance as related to environmental, component, and finished

268 preparation release checks and tests;

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

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

271 (-e-) sterilization techniques.

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

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

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

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

284 (3) Pharmacy technicians and pharmacy technician trainees.

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

288 (B) Initial training and continuing education.

289 (i) Pharmacy technicians and pharmacy technician trainees may compound sterile preparations
290 provided the pharmacy technicians and/or pharmacy technician trainees are supervised by a
291 pharmacist as specified in paragraph (2) of this subsection.

292 (ii) All pharmacy technicians and pharmacy technician trainees who compound sterile
293 preparations for administration to patients shall:

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

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

299 (-b-) a training program which is accredited by the American Society of Health-System
300 Pharmacists.

301 (II) and

302 (-a-) complete a structured on-the-job didactic and experiential training program at this

303 pharmacy which provides sufficient hours of instruction and experience in the facility's sterile
304 compounding processes and procedures. Such training may not be transferred to another
305 pharmacy unless the pharmacies are under common ownership and control and use a common
306 training program; and

307 (-b-) possess knowledge about:

308 (-1-) aseptic processing;

309 (-2-) quality control and quality assurance as related to environmental, component, and finished
310 preparation release checks and tests;

311 (-3-) chemical, pharmaceutical, and clinical properties of drugs;

312 (-4-) container, equipment, and closure system selection; and

313 (-5-) sterilization techniques.

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

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

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

321 (III) supervising pharmacist conducts periodic in-process checks as defined in the pharmacy's
322 policy and procedures; and

323 (IV) supervising pharmacist conducts a final check.

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

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

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

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

336 (4) Evaluation and testing requirements.

337 (A) All pharmacy personnel preparing sterile preparations shall be trained conscientiously and

338 skillfully by expert personnel through multimedia instructional sources and professional
339 publications in the theoretical principles and practical skills of aseptic manipulations, garbing
340 procedures, aseptic work practices, achieving and maintaining ISO Class 5 environmental
341 conditions, and cleaning and disinfection procedures before beginning to prepare compounded
342 sterile preparations.

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

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

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

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

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

351 (ii) not be allowed to compound sterile preparations for patient use until passing results are
352 achieved.

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

355 (i) aseptic technique;

356 (ii) critical area contamination factors;

357 (iii) environmental monitoring;

358 (iv) structure and engineering controls related to facilities;

359 (v) equipment and supplies;

360 (vi) sterile preparation calculations and terminology;

361 (vii) sterile preparation compounding documentation;

362 (viii) quality assurance procedures;

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

364 (x) handling of hazardous drugs, if applicable;

365 (xi) cleaning procedures; and

366 (xii) general conduct in the clean room.

367 (E) The aseptic technique of each person compounding or responsible for the direct supervision
368 of personnel compounding sterile preparations shall be observed and evaluated by expert
369 personnel as satisfactory through written and practical tests, and challenge testing, and such

370 evaluation documented. Compounding personnel shall not evaluate their own aseptic technique
371 or results of their own media-fill challenge testing.

372 (F) Media-fill tests must be conducted at each pharmacy where an individual compounds low or
373 medium risk sterile preparations. If pharmacies are under common ownership and control, the
374 media-fill testing may be conducted at only one of the pharmacies provided each of the
375 pharmacies are operated under equivalent policies and procedures and the testing is conducted
376 under the most challenging or stressful conditions. In addition, each pharmacy must maintain
377 documentation of the media-fill test. No preparation intended for patient use shall be
378 compounded by an individual until the on-site media-fill tests indicate that the individual can
379 competently perform aseptic procedures, except that a pharmacist may temporarily compound
380 sterile preparations and supervise pharmacy technicians compounding sterile preparations
381 without media-fill tests provided the pharmacist completes the on-site media-fill tests within
382 seven days of commencing work at the pharmacy.

383 (G) Media-fill tests must be conducted at each pharmacy where an individual compounds high
384 risk sterile preparations. No preparation intended for patient use shall be compounded by an
385 individual until the on-site media-fill tests indicate that the individual can competently perform
386 aseptic procedures, except that a pharmacist may temporarily compound sterile preparations
387 and supervise pharmacy technicians compounding sterile preparations without media-fill tests
388 provided the pharmacist completes the on-site media-fill tests within seven days of commencing
389 work at the pharmacy.

390 (H) Media-fill tests procedures for assessing the preparation of specific types of sterile
391 preparations shall be representative of the most challenging or stressful conditions encountered
392 by the pharmacy personnel being evaluated and, if applicable, for sterilizing high-risk level
393 compounded sterile preparations.

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

396 (J) Commercially available sterile fluid culture media, such as Soybean-Casein Digest Medium
397 shall be able to promote exponential colonization of bacteria that are most likely to be
398 transmitted to compounding sterile preparations from the compounding personnel and
399 environment. Media-filled vials are generally incubated at 20 to 25 degrees Celsius or at 30 to
400 35 degrees Celsius for a minimum of 14 days. If two temperatures are used for incubation of
401 media-filled samples, then these filled containers should be incubated for at least 7 days at
402 each temperature. Failure is indicated by visible turbidity in the medium on or before 14 days.

403 (K) The pharmacist-in-charge shall ensure continuing competency of pharmacy personnel
404 through in-service education, training, and media-fill tests to supplement initial training.
405 Personnel competency shall be evaluated:

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

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

408 (iii) whenever unacceptable techniques are observed; and

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

- 411 (L) The pharmacist-in-charge shall ensure that proper hand hygiene and garbing practices of
412 compounding personnel are evaluated prior to compounding, supervising, or verifying sterile
413 preparations intended for patient use and whenever an aseptic media fill is performed.
- 414 (i) Sampling of compounding personnel glove fingertips shall be performed for all risk level
415 compounding.
- 416 (ii) All compounding personnel shall demonstrate competency in proper hand hygiene and
417 garbing procedures and in aseptic work practices (e.g., disinfection of component surfaces,
418 routine disinfection of gloved hands).
- 419 (iii) Sterile contact agar plates shall be used to sample the gloved fingertips of compounding
420 personnel after garbing in order to assess garbing competency and after completing the media-
421 fill preparation (without applying sterile 70% IPA).
- 422 (iv) The visual observation shall be documented and maintained to provide a permanent record
423 and long-term assessment of personnel competency.
- 424 (v) All compounding personnel shall successfully complete an initial competency evaluation and
425 gloved fingertip/thumb sampling procedure no less than three times before initially being
426 allowed to compound sterile preparations for patient use. Immediately after the compounding
427 personnel completes the hand hygiene and garbing procedure (i.e., after donning of sterile
428 gloves and before any disinfecting with sterile 70% IPA), the evaluator will collect a gloved
429 fingertip and thumb sample from both hands of the compounding personnel onto agar plates or
430 media test paddles by having the individual lightly touching each fingertip onto the agar. The
431 test plates or test paddles will be incubated for the appropriate incubation period and at the
432 appropriate temperature. Results of the initial gloved fingertip evaluations shall indicate zero
433 colony-forming units (0 CFU) growth on the agar plates or media test paddles, or the test shall
434 be considered a failure. In the event of a failed gloved fingertip test, the evaluation shall be
435 repeated until the individual can successfully don sterile gloves and pass the gloved fingertip
436 evaluation, defined as zero CFUs growth. No preparation intended for patient use shall be
437 compounded by an individual until the results of the initial gloved fingertip evaluation indicate
438 that the individual can competently perform aseptic procedures except that a pharmacist may
439 temporarily supervise pharmacy technicians compounding sterile preparations while waiting for
440 the results of the evaluation for no more than three days.
- 441 (vi) Re-evaluation of all compounding personnel shall occur at least annually for compounding
442 personnel who compound low and medium risk level preparations and every six months for
443 compounding personnel who compound high risk level preparations. Results of gloved fingertip
444 tests conducted immediately after compounding personnel complete a compounding procedure
445 shall indicate no more than 3 CFUs growth, or the test shall be considered a failure, in which
446 case, the evaluation shall be repeated until an acceptable test can be achieved (i.e., the results
447 indicated no more than 3 CFUs growth).
- 448 (M) The pharmacist-in-charge shall ensure surface sampling shall be conducted in all ISO
449 classified areas on a periodic basis. Sampling shall be accomplished using contact plates at the
450 conclusion of compounding. The sample area shall be gently touched with the agar surface by
451 rolling the plate across the surface to be sampled.
- 452 (5) Documentation of Training. The pharmacy shall maintain a record of the training and
453 continuing education on each person who compounds sterile preparations. The record shall
454 contain, at a minimum, a written record of initial and in-service training, education, and the

- 455 results of written and practical testing and media-fill testing of pharmacy personnel. The record
456 shall be maintained and available for inspection by the board and contain the following
457 information:
- 458 (A) name of the person receiving the training or completing the testing or media-fill tests;
459 (B) date(s) of the training, testing, or media-fill challenge testing;
460 (C) general description of the topics covered in the training or testing or of the process
461 validated;
462 (D) name of the person supervising the training, testing, or media-fill challenge testing; and
463 (E) signature or initials of the person receiving the training or completing the testing or media-fill
464 challenge testing and the pharmacist-in-charge or other pharmacist employed by the pharmacy
465 and designated by the pharmacist-in-charge as responsible for training, testing, or media-fill
466 challenge testing of personnel.
- 467 (d) Operational Standards.
- 468 (1) General Requirements.
- 469 (A) Sterile preparations may be compounded:
- 470 (i) upon presentation of a practitioner's prescription drug or medication order based on a valid
471 pharmacist/patient/prescriber relationship;
- 472 (ii) in anticipation of future prescription drug or medication orders based on routine, regularly
473 observed prescribing patterns; or
- 474 (iii) in reasonable quantities for office use by a practitioner and for use by a veterinarian.
- 475 (B) Sterile compounding in anticipation of future prescription drug or medication orders must be
476 based upon a history of receiving valid prescriptions issued within an established
477 pharmacist/patient/prescriber relationship, provided that in the pharmacist's professional
478 judgment the quantity prepared is stable for the anticipated shelf time.
- 479 (i) The pharmacist's professional judgment shall be based on the criteria used to determine a
480 beyond-use date outlined in paragraph (6)(H) [~~(G)~~] of this subsection.
- 481 (ii) Documentation of the criteria used to determine the stability for the anticipated shelf time
482 must be maintained and be available for inspection.
- 483 (iii) Any preparation compounded in anticipation of future prescription drug or medication orders
484 shall be labeled. Such label shall contain:
- 485 (I) name and strength of the compounded preparation or list of the active ingredients and
486 strengths;
- 487 (II) facility's lot number;
- 488 (III) beyond-use date as determined by the pharmacist using appropriate documented criteria as

- 489 outlined in paragraph (6)(H)~~[(G)]~~ of this subsection;
- 490 (IV) quantity or amount in the container;
- 491 (V) appropriate ancillary instructions, such as storage instructions or cautionary statements,
492 including hazardous drug warning labels where appropriate; and
- 493 (VI) device-specific instructions, where appropriate.
- 494 (C) Commercially available products may be compounded for dispensing to individual patients
495 or for office use provided the following conditions are met:
- 496 (i) the commercial product is not reasonably available from normal distribution channels in a
497 timely manner to meet individual patient's needs;
- 498 (ii) the pharmacy maintains documentation that the product is not reasonably available due to a
499 drug shortage or unavailability from the manufacturer; and
- 500 (iii) the prescribing practitioner has requested that the drug be compounded as described in
501 subparagraph (D) of this paragraph.
- 502 (D) A pharmacy may not compound preparations that are essentially copies of commercially
503 available products (e.g., the preparation is dispensed in a strength that is only slightly different
504 from a commercially available product) unless the prescribing practitioner specifically orders the
505 strength or dosage form and specifies why the individual patient needs the particular strength or
506 dosage form of the preparation or why the preparation for office use is needed in the particular
507 strength or dosage form of the preparation. The prescribing practitioner shall provide
508 documentation of a patient specific medical need and the preparation produces a clinically
509 significant therapeutic response (e.g., the physician requests an alternate preparation due to
510 hypersensitivity to excipients or preservative in the FDA-approved product, or the physician
511 requests an effective alternate dosage form) or if the drug product is not commercially available.
512 The unavailability of such drug product must be documented prior to compounding. The
513 methodology for documenting unavailability includes maintaining a copy of the wholesaler's
514 notification showing back-ordered, discontinued, or out-of-stock items. This documentation must
515 be available in hard-copy or electronic format for inspection by the board.
- 516 (E) A pharmacy may enter into an agreement to compound and dispense
517 prescription/medication orders for another pharmacy provided the pharmacy complies with the
518 provisions of §291.125 of this title (relating to Centralized Prescription Dispensing).
- 519 (F) Compounding pharmacies/pharmacists may advertise and promote the fact that they provide
520 sterile prescription compounding services, which may include specific drug preparations and
521 classes of drugs.
- 522 (G) A pharmacy may not compound veterinary preparations for use in food producing animals
523 except in accordance with federal guidelines.
- 524 (H) Compounded sterile preparations, including hazardous drugs and radiopharmaceuticals,
525 shall be prepared only under conditions that protect the pharmacy personnel in the preparation
526 and storage areas.
- 527 (2) Microbial Contamination Risk Levels. Risk Levels for sterile compounded preparations shall

528 be as outlined in Chapter 797, Pharmacy Compounding--Sterile Preparations of the USP/NF
529 and as listed in this paragraph.

530 (A) Low-risk level compounded sterile preparations.

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

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

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

540 (III) Manipulations are limited to aseptically opening ampuls, penetrating disinfected stoppers on
541 vials with sterile needles and syringes, and transferring sterile liquids in sterile syringes to sterile
542 administration devices, package containers of other sterile products, and containers for storage
543 and dispensing.

544 (IV) For a low-risk preparation, in the absence of passing a sterility test the storage periods
545 cannot exceed the following periods: before administration the compounded sterile preparation
546 is stored properly and are exposed for not more than 48 hours at controlled room temperature,
547 for not more than 14 days if stored at a cold temperature, and for 45 days if stored in a frozen
548 state between minus 25 degrees Celsius and minus 10 degrees Celsius. For delayed activation
549 device systems, the storage period begins when the device is activated.

550 (ii) Examples of Low-Risk Compounding. Examples of low-risk compounding include the
551 following.

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

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

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

561 (i) The compounded sterile preparations are compounded in compounding aseptic isolator or
562 compounding aseptic containment isolator that does not meet the requirements described in
563 paragraph (7)(C) or (D) of this subsection (relating to Primary Engineering Control Device) or
564 the compounded sterile preparations are compounded in laminar airflow workbench or a
565 biological safety cabinet that cannot be located within the buffer area.

566 (ii) The primary engineering control device shall be certified and maintain ISO Class 5 for
567 exposure of critical sites and shall be located in a segregated compounding area restricted to

568 sterile compounding activities that minimizes the risk of contamination of the compounded
569 sterile preparation.

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

573 (iv) For a low-risk preparation compounded as described in clauses (i) - (iii) of this
574 subparagraph, administration of such compounded sterile preparations must commence within
575 12 hours of preparation or as recommended in the manufacturers' package insert, whichever is
576 less. However, the administration of sterile radiopharmaceuticals, with documented testing of
577 chemical stability, may be administered beyond 12 hours of preparation.

578 (C) Medium-risk level compounded sterile preparations.

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

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

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

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

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

593 (V) For a medium-risk preparation, in the absence of passing a sterility test the storage periods
594 cannot exceed the following time periods: before administration, the compounded sterile
595 preparations are properly stored and are exposed for not more than 30 hours at controlled room
596 temperature, for not more than 9 days at a cold temperature, and for 45 days in solid frozen
597 state between minus 25 degrees Celsius and minus 10 degrees Celsius.

598 (ii) Examples of medium-risk compounding. Examples of medium-risk compounding include the
599 following.

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

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

605 (III) Filling of reservoirs of injection and infusion devices with volumes of sterile drug solutions
606 that will be administered over several days at ambient temperatures between 25 and 40

- 607 degrees Celsius (77 and 104 degrees Fahrenheit).
- 608 (IV) Transfer of volumes from multiple ampuls or vials into a single, final sterile container or
609 product.
- 610 (D) High-risk level compounded sterile preparations.
- 611 (i) High-risk Conditions. High-risk level compounded sterile preparations are those compounded
612 under any of the following conditions.
- 613 (I) Non-sterile ingredients, including manufactured products not intended for sterile routes of
614 administration (e.g., oral) are incorporated or a non-sterile device is employed before terminal
615 sterilization.
- 616 (II) Any of the following are exposed to air quality worse than ISO Class 5 for more than 1 hour:
- 617 (-a-) sterile contents of commercially manufactured products;
- 618 (-b-) CSPs that lack effective antimicrobial preservatives; and
- 619 (-c-) sterile surfaces of devices and containers for the preparation, transfer, sterilization, and
620 packaging of CSPs.
- 621 (III) Compounding personnel are improperly garbed and gloved.
- 622 (IV) Non-sterile water-containing preparations are exposed no more than 6 hours before being
623 sterilized.
- 624 (V) It is assumed, and not verified by examination of labeling and documentation from suppliers
625 or by direct determination, that the chemical purity and content strength of ingredients meet
626 their original or compendial specifications in unopened or in opened packages of bulk
627 ingredients.
- 628 (VI) For a sterilized high-risk level preparation, in the absence of passing a sterility test, the
629 storage periods cannot exceed the following time periods: before administration, the
630 compounded sterile preparations are properly stored and are exposed for not more than 24
631 hours at controlled room temperature, for not more than 3 days at a cold temperature, and for
632 45 days in solid frozen state between minus 25 degrees Celsius and minus 10 degrees Celsius.
- 633 (VII) All non-sterile measuring, mixing, and purifying devices are rinsed thoroughly with sterile,
634 pyrogen-free water, and then thoroughly drained or dried immediately before use for high-risk
635 compounding. All high-risk compounded sterile solutions subjected to terminal sterilization are
636 prefiltered by passing through a filter with a nominal pore size not larger than 1.2 micron
637 preceding or during filling into their final containers to remove particulate matter. Sterilization of
638 high-risk level compounded sterile preparations by filtration shall be performed with a sterile 0.2
639 micrometer or 0.22 micrometer nominal pore size filter entirely within an ISO Class 5 or superior
640 air quality environment.
- 641 (ii) Examples of high-risk compounding. Examples of high-risk compounding include the
642 following.
- 643 (I) Dissolving non-sterile bulk drug powders to make solutions, which will be terminally sterilized.

- 644 (II) Exposing the sterile ingredients and components used to prepare and package compounded
645 sterile preparations to room air quality worse than ISO Class 5 for more than one hour.
- 646 (III) Measuring and mixing sterile ingredients in non-sterile devices before sterilization is
647 performed.
- 648 (IV) Assuming, without appropriate evidence or direct determination, that packages of bulk
649 ingredients contain at least 95% by weight of their active chemical moiety and have not been
650 contaminated or adulterated between uses.
- 651 (3) Immediate Use Compounded Sterile Preparations. For the purpose of emergency or
652 immediate patient care, such situations may include cardiopulmonary resuscitation, emergency
653 room treatment, preparation of diagnostic agents, or critical therapy where the preparation of
654 the compounded sterile preparation under low-risk level conditions would subject the patient to
655 additional risk due to delays in therapy. Compounded sterile preparations are exempted from
656 the requirements described in this paragraph for low-risk level compounded sterile preparations
657 when all of the following criteria are met.
- 658 (A) Only simple aseptic measuring and transfer manipulations are performed with not more than
659 three sterile non-hazardous commercial drug and diagnostic radiopharmaceutical drug
660 products, including an infusion or diluent solution, from the manufacturers' original containers
661 and not more than two entries into any one container or package of sterile infusion solution or
662 administration container/device.
- 663 (B) Unless required for the preparation, the compounding procedure occurs continuously
664 without delays or interruptions and does not exceed 1 hour.
- 665 (C) During preparation, aseptic technique is followed and, if not immediately administered, the
666 finished compounded sterile preparation is under continuous supervision to minimize the
667 potential for contact with nonsterile surfaces, introduction of particulate matter of biological
668 fluids, mix-ups with other compounded sterile preparations, and direct contact of outside
669 surfaces.
- 670 (D) Administration begins not later than one hour following the completion of preparing the
671 compounded sterile preparation.
- 672 (E) When the compounded sterile preparations is not administered by the person who prepared
673 it, or its administration is not witnessed by the person who prepared it, the compounded sterile
674 preparation shall bear a label listing patient identification information such as name and
675 identification number(s), the names and amounts of all ingredients, the name or initials of the
676 person who prepared the compounded sterile preparation, and the exact 1-hour beyond-use
677 time and date.
- 678 (F) If administration has not begun within one hour following the completion of preparing the
679 compounded sterile preparation, the compounded sterile preparation is promptly and safely
680 discarded. Immediate use compounded sterile preparations shall not be stored for later use.
- 681 (G) Hazardous drugs shall not be prepared as immediate use compounded sterile preparations.
- 682 (4) Single-dose and multiple dose containers.
- 683 (A) Opened or needle punctured single-dose containers, such as bags bottles, syringes, and

684 vials of sterile products shall be used within one hour if opened in worse than ISO Class 5 air
685 quality. Any remaining contents must be discarded.

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

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

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

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

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

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

700 (C) the United States Pharmacopeia/National Formulary containing USP Chapter 71, Sterility
701 Tests, USP Chapter 85, Bacterial Endotoxins Test, Pharmaceutical Compounding--Nonsterile
702 Preparations, USP Chapter 795, USP Chapter 797, Pharmaceutical Compounding--Sterile
703 Preparations, and USP Chapter 1163, Quality Assurance in Pharmaceutical Compounding; and

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

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

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

713 (i) be clean, well lit, and of sufficient size to support sterile compounding activities;

714 (ii) be maintained at a temperature of 20 degrees Celsius or cooler and at a humidity below
715 60%;

716 (iii) be used only for the compounding of sterile preparations;

717 (iv) be designed such that hand sanitizing and gowning occurs outside the buffer area but
718 allows hands-free access by compounding personnel to the buffer area;

719 (v) have non-porous and washable floors or floor covering to enable regular disinfection;

- 720 (vi) be ventilated in a manner to avoid disruption from the HVAC system and room cross-drafts;
- 721 (vii) have walls, ceilings, floors, fixtures, shelving, counters, and cabinets that are smooth,
722 impervious, free from cracks and crevices (e.g., coved), non-shedding and resistant to damage
723 by disinfectant agents;
- 724 (viii) have junctures of ceilings to walls coved or caulked to avoid cracks and crevices;
- 725 (ix) have drugs and supplies stored on shelving areas above the floor to permit adequate floor
726 cleaning;
- 727 (x) contain only the appropriate compounding supplies and not be used for bulk storage for
728 supplies and materials. Objects that shed particles shall not be brought into the clean room. A
729 Class B pharmacy may use low-linting absorbent materials in the primary engineering control
730 device;
- 731 (xi) contain an ante-area that contains a sink with hot and cold running water that enables
732 hands-free use with a closed system of soap dispensing to minimize the risk of extrinsic
733 contamination. A Class B pharmacy may have a sink with hot and cold running water that
734 enables hands-free use with a closed system of soap dispensing immediately outside the ante-
735 area if antiseptic hand cleansing is performed using a waterless alcohol-based surgical hand
736 scrub with persistent activity following manufacturers' recommendations once inside the ante-
737 area; and
- 738 (xii) contain a buffer area. The following is applicable for the buffer area.
- 739 (I) There shall be some demarcation designation that delineates the ante-area from the buffer
740 area. The demarcation shall be such that it does not create conditions that could adversely
741 affect the cleanliness of the area.
- 742 (II) The buffer area shall be segregated from surrounding, unclassified spaces to reduce the risk
743 of contaminants being blown, dragged, or otherwise introduced into the filtered unidirectional
744 airflow environment, and this segregation should be continuously monitored.
- 745 (III) A buffer area that is not physically separated from the ante-area shall employ the principle
746 of displacement airflow as defined in Chapter 797, Pharmaceutical Compounding--Sterile
747 Preparations, of the USP/NF, with limited access to personnel.
- 748 (IV) The buffer area shall not contain sources of water (i.e., sinks) or floor drains other than
749 distilled or sterile water introduced for facilitating the use of heat block wells for
750 radiopharmaceuticals.
- 751 (B) High-risk Preparations.
- 752 (i) In addition to the requirements in subparagraph (A) of this paragraph, when high-risk
753 preparations are compounded, the primary engineering control shall be located in a buffer area
754 that provides a physical separation, through the use of walls, doors and pass-throughs and has
755 a minimum differential positive pressure of 0.02 to 0.05 inches water column.
- 756 (ii) Presterilization procedures for high-risk level compounded sterile preparations, such as
757 weighing and mixing, shall be completed in no worse than an ISO Class 8 environment.

758 (C) Automated compounding device.

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

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

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

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

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

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

773 (-b-) manufacturer or distributor;

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

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

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

777 (-f-) date of loading;

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

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

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

784 (D) Hazardous drugs. If the preparation is hazardous, the following is also applicable.

785 (i) Hazardous drugs shall be prepared only under conditions that protect personnel during
786 preparation and storage.

787 (ii) Hazardous drugs shall be stored separately from other inventory in a manner to prevent
788 contamination and personnel exposure.

789 (iii) All personnel involved in the compounding of hazardous drugs shall wear appropriate
790 protective apparel, such as gowns, face masks, eye protection, hair covers, shoe covers or
791 dedicated shoes, and appropriate gloving at all times when handling hazardous drugs, including

792 receiving, distribution, stocking, inventorying, preparation, for administration and disposal.

793 (iv) Appropriate safety and containment techniques for compounding hazardous drugs shall be
794 used in conjunction with aseptic techniques required for preparing sterile preparations.

795 (v) Disposal of hazardous waste shall comply with all applicable local, state, and federal
796 requirements.

797 (vi) Prepared doses of hazardous drugs must be dispensed, labeled with proper precautions
798 inside and outside, and distributed in a manner to minimize patient contact with hazardous
799 agents.

800 (E) Blood-labeling procedures. When compounding activities require the manipulation of a
801 patient's blood-derived material (e.g., radiolabeling a patient's or donor's white blood cells), the
802 manipulations shall be performed in a ISO Class 5 biological safety cabinet located in a buffer
803 area and shall be clearly separated from routine material-handling procedures and equipment
804 used in preparation activities to avoid any cross-contamination. The preparations shall not
805 require sterilization.

806 (F) Cleaning and disinfecting the sterile compounding areas. The following cleaning and
807 disinfecting practices and frequencies apply to direct and contiguous compounding areas, which
808 include ISO Class 5 compounding areas for exposure of critical sites as well as buffer areas,
809 ante-areas, and segregated compounding areas.

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

813 (ii) These procedures shall be conducted at the beginning of each work shift, before each batch
814 preparation is started, when there are spills, and when surface contamination is known or
815 suspected resulting from procedural breaches, and every 30 minutes during continuous
816 compounding of individual compounded sterile preparations, unless a particular compounding
817 procedure requires more than 30 minutes to complete, in which case, the direct compounding
818 area is to be cleaned immediately after the compounding activity is completed.

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

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

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

- 834 (vi) In the buffer area, ante-area, and segregated compounding area, walls, ceilings, and
835 shelving shall be cleaned and disinfected monthly. Cleaning and disinfecting agents shall be
836 used with careful consideration of compatibilities, effectiveness, and inappropriate or toxic
837 residues.
- 838 (vii) All cleaning materials, such as wipers, sponges, and mops, shall be non-shedding, and
839 dedicated to use in the buffer area, ante-area, and segregated compounding areas and shall
840 not be removed from these areas except for disposal. Floor mops may be used in both the
841 buffer area and ante-area, but only in that order. If cleaning materials are reused, procedures
842 shall be developed that ensure that the effectiveness of the cleaning device is maintained and
843 that repeated use does not add to the bio-burden of the area being cleaned.
- 844 (viii) Supplies and equipment removed from shipping cartons must be wiped with a disinfecting
845 agent, such as sterile IPA. After the disinfectant is sprayed or wiped on a surface to be
846 disinfected, the disinfectant shall be allowed to dry, during which time the item shall not be used
847 for compounding purposes. However, if sterile supplies are received in sealed pouches, the
848 pouches may be removed as the supplies are introduced into the ISO Class 5 area without the
849 need to disinfect the individual sterile supply items. No shipping or other external cartons may
850 be taken into the buffer area or segregated compounding area.
- 851 (ix) Storage shelving emptied of all supplies, walls, and ceilings are cleaned and disinfected at
852 planned intervals, monthly, if not more frequently.
- 853 (x) Cleaning must be done by personnel trained in appropriate cleaning techniques.
- 854 (xi) Proper documentation and frequency of cleaning must be maintained and shall contain the
855 following:
- 856 (I) date and time of cleaning;
- 857 (II) type of cleaning performed; and
- 858 (III) name of individual who performed the cleaning.
- 859 (G) Security requirements. The pharmacist-in-charge may authorize personnel to gain access to
860 that area of the pharmacy containing dispensed sterile preparations, in the absence of the
861 pharmacist, for the purpose of retrieving dispensed prescriptions to deliver to patients. If the
862 pharmacy allows such after-hours access, the area containing the dispensed sterile
863 preparations shall be an enclosed and lockable area separate from the area containing
864 undispensed prescription drugs. A list of the authorized personnel having such access shall be
865 in the pharmacy's policy and procedure manual.
- 866 (H) Storage requirements and beyond-use dating.
- 867 (i) Storage requirements. All drugs shall be stored at the proper temperature and conditions, as
868 defined in the USP/NF and in §291.15 of this title (relating to Storage of Drugs).
- 869 (ii) Beyond-use dating.
- 870 (I) Beyond-use dates for compounded sterile preparations shall be assigned based on
871 professional experience, which shall include careful interpretation of appropriate information
872 sources for the same or similar formulations.

- 873 (II) Beyond-use dates for compounded sterile preparations that are prepared strictly in
874 accordance with manufacturers' product labeling must be those specified in that labeling, or
875 from appropriate literature sources or direct testing.
- 876 (III) When assigning a beyond-use date, compounding personnel shall consult and apply drug-
877 specific and general stability documentation and literature where available, and they should
878 consider the nature of the drug and its degradation mechanism, the container in which it is
879 packaged, the expected storage conditions, and the intended duration of therapy.
- 880 (IV) The sterility and storage and stability beyond-use date for attached and activated container
881 pairs of drug products for intravascular administration shall be applied as indicated by the
882 manufacturer.
- 883 (7) Primary engineering control device. The pharmacy shall prepare sterile preparations in a
884 primary engineering control device (PEC), such as a laminar air flow hood, biological safety
885 cabinet, compounding aseptic isolator (CAI), or compounding aseptic containment isolator
886 (CACI) which is capable of maintaining at least ISO Class 5 conditions for 0.5 micrometer
887 particles while compounding sterile preparations.
- 888 (A) Laminar air flow hood. If the pharmacy is using a laminar air flow hood as its PEC, the
889 laminar air flow hood shall:
- 890 (i) be located in the buffer area and placed in the buffer area in a manner as to avoid conditions
891 that could adversely affect its operation such as strong air currents from opened doors,
892 personnel traffic, or air streams from the heating, ventilating and air condition system;
- 893 (ii) be certified by a qualified independent contractor according to the appropriate Controlled
894 Environment Testing Association (CETA) standard (CAG-003-2006) for operational efficiency at
895 least every six months and whenever the device or room is relocated or altered or major service
896 to the facility is performed;
- 897 (iii) have pre-filters inspected periodically and replaced as needed, in accordance with written
898 policies and procedures and the manufacturer's specification, and the inspection and/or
899 replacement date documented; and
- 900 (iv) be located in a buffer area that has a minimum differential positive pressure of 0.02 to 0.05
901 inches water column. A buffer area that is not physically separated from the ante-area shall
902 employ the principle of displacement airflow as defined in Chapter 797, Pharmaceutical
903 Compounding--Sterile Preparations, of the USP/NF, with limited access to personnel.
- 904 (B) Biological safety cabinet.
- 905 (i) If the pharmacy is using a biological safety cabinet as its PEC for the preparation of
906 hazardous sterile compounded preparations, the biological safety cabinet shall be a Class II or
907 III vertical flow biological safety cabinet located in an ISO Class 7 area that is physically
908 separated from other preparation areas. The area for preparation of sterile chemotherapeutic
909 preparations shall:
- 910 (I) have not less than 0.01 inches water column negative pressure to the adjacent positive
911 pressure ISO Class 7 or better ante-area; and
- 912 (II) have a pressure indicator that can be readily monitored for correct room pressurization.

- 913 (ii) Pharmacies that prepare a low volume of hazardous drugs, are not required to comply with
914 the provisions of clause (i) of this subparagraph if the pharmacy uses a device that provides two
915 tiers of containment (e.g., closed-system vial transfer device within a BSC).
- 916 (iii) If the pharmacy is using a biological safety cabinet as its PEC for the preparation of non-
917 hazardous sterile compounded preparations, the biological safety cabinet shall:
- 918 (I) be located in the buffer area and placed in the buffer area in a manner as to avoid conditions
919 that could adversely affect its operation such as strong air currents from opened doors,
920 personnel traffic, or air streams from the heating, ventilating and air condition system;
- 921 (II) be certified by a qualified independent contractor according to the International Organization
922 of Standardization (ISO) Classification of Particulate Matter in Room Air (ISO 14644-1) for
923 operational efficiency at least every six months and whenever the device or room is relocated or
924 altered or major service to the facility is performed, in accordance with the manufacturer's
925 specifications and test procedures specified in the Institute of Environmental Sciences and
926 Technology (IEST) document IEST-RP-CC002.3;
- 927 (III) have pre-filters inspected periodically and replaced as needed, in accordance with written
928 policies and procedures and the manufacturer's specification, and the inspection and/or
929 replacement date documented; and
- 930 (IV) be located in a buffer area that has a minimum differential positive pressure of 0.02 to 0.05
931 inches water column.
- 932 (C) Compounding aseptic isolator.
- 933 (i) If the pharmacy is using a compounding aseptic isolator (CAI) as its PEC, the CAI shall
934 provide unidirectional airflow within the main processing and antechambers, and be placed in
935 an ISO Class 7 buffer area unless the isolator meets all of the following conditions:
- 936 (I) The isolator must provide isolation from the room and maintain ISO Class 5 during dynamic
937 operating conditions including transferring ingredients, components, and devices into and out of
938 the isolator and during preparation of compounded sterile preparations.
- 939 (II) Particle counts sampled approximately 6 to 12 inches upstream of the critical exposure site
940 must maintain ISO Class 5 levels during compounding operations.
- 941 (III) The CAI must be validated according to CETA CAG-002-2006 standards.
- 942 (IV) The pharmacy shall maintain documentation from the manufacturer that the isolator meets
943 this standard when located in worse than ISO Class 7 environments.
- 944 (ii) If the isolator meets the requirements in clause (i) of this subparagraph, the CAI may be
945 placed in a non-ISO classified area of the pharmacy; however, the area shall be segregated
946 from other areas of the pharmacy and shall:
- 947 (I) be clean, well lit, and of sufficient size;
- 948 (II) be used only for the compounding of low- and medium-risk, non-hazardous sterile
949 preparations;

- 950 (III) be located in an area of the pharmacy with non-porous and washable floors or floor
951 covering to enable regular disinfection; and
- 952 (IV) be an area in which the CAI is placed in a manner as to avoid conditions that could
953 adversely affect its operation.
- 954 (iii) In addition to the requirements specified in clauses (i) and (ii) of this subparagraph, if the
955 CAI is used in the compounding of high-risk non-hazardous preparations, the CAI shall be
956 placed in an area or room with at least ISO 8 quality air so that high-risk powders weighed in at
957 least ISO-8 air quality conditions, compounding utensils for measuring and other compounding
958 equipment are not exposed to lesser air quality prior to the completion of compounding and
959 packaging of the high-risk preparation.
- 960 (D) Compounding aseptic containment isolator.
- 961 (i) If the pharmacy is using a compounding aseptic containment isolator as its PEC for the
962 preparation of low- and medium-risk hazardous drugs, the CACI shall be located in a separate
963 room away from other areas of the pharmacy and shall:
- 964 (I) provide at least 0.01 inches water column negative pressure compared to the other areas of
965 the pharmacy;
- 966 (II) provide unidirectional airflow within the main processing and antechambers, and be placed
967 in an ISO Class 7 buffer area, unless the CACI meets all of the following conditions.
- 968 (-a-) The isolator must provide isolation from the room and maintain ISO Class 5 during dynamic
969 operating conditions including transferring ingredients, components, and devices into and out of
970 the isolator and during preparation of compounded sterile preparations.
- 971 (-b-) Particle counts sampled approximately 6 to 12 inches upstream of the critical exposure site
972 must maintain ISO Class 5 levels during compounding operations.
- 973 (-c-) The CACI must be validated according to CETA CAG-002-2006 standards.
- 974 (-d-) The pharmacy shall maintain documentation from the manufacturer that the isolator meets
975 this standard when located in worse than ISO Class 7 environments.
- 976 (ii) If the CACI meets all conditions specified in clause (i) of this subparagraph, the CACI shall
977 not be located in the same room as a CAI, but shall be located in a separate room in the
978 pharmacy, that is not required to maintain ISO classified air. The room in which the CACI is
979 located shall provide a minimum of 0.01 inches water column negative pressure compared with
980 the other areas of the pharmacy and shall meet the following requirements:
- 981 (I) be clean, well lit, and of sufficient size;
- 982 (II) be maintained at a temperature of 20 degrees Celsius or cooler and a humidity below 60%;
- 983 (III) be used only for the compounding of hazardous sterile preparations;
- 984 (IV) be located in an area of the pharmacy with walls, ceilings, floors, fixtures, shelving,
985 counters, and cabinets that are smooth, impervious, free from cracks and crevices, non-
986 shedding and resistant to damage by disinfectant agents; and

- 987 (V) have non-porous and washable floors or floor covering to enable regular disinfection.
- 988 (iii) If the CACI is used in the compounding of high-risk hazardous preparations, the CACI shall
989 be placed in an area or room with at least ISO 8 quality air so that high-risk powders, weighed in
990 at least ISO-8 air quality conditions, are not exposed to lesser air quality prior to the completion
991 of compounding and packaging of the high-risk preparation.
- 992 (iv) Pharmacies that prepare a low volume of hazardous drugs, are not required to comply with
993 the provisions of clauses (i) and (iii) of this subparagraph if the pharmacy uses a device that
994 provides two tiers of containment (e.g., CACI that is located in a non-negative pressure room).
- 995 (8) Additional Equipment and Supplies. Pharmacies compounding sterile preparations shall
996 have the following equipment and supplies:
- 997 (A) a calibrated system or device (i.e., thermometer) to monitor the temperature to ensure that
998 proper storage requirements are met, if sterile preparations are stored in the refrigerator;
- 999 (B) a calibrated system or device to monitor the temperature where bulk chemicals are stored;
- 1000 (C) a temperature-sensing mechanism suitably placed in the controlled temperature storage
1001 space to reflect accurately the true temperature;
- 1002 (D) if applicable, a Class A prescription balance, or analytical balance and weights. Such
1003 balance shall be properly maintained and subject to periodic inspection by the Texas State
1004 Board of Pharmacy;
- 1005 (E) equipment and utensils necessary for the proper compounding of sterile preparations. Such
1006 equipment and utensils used in the compounding process shall be:
- 1007 (i) of appropriate design, appropriate capacity, and be operated within designed operational
1008 limits;
- 1009 (ii) of suitable composition so that surfaces that contact components, in-process material, or
1010 drug products shall not be reactive, additive, or absorptive so as to alter the safety, identity,
1011 strength, quality, or purity of the drug preparation beyond the desired result;
- 1012 (iii) cleaned and sanitized immediately prior to and after each use; and
- 1013 (iv) routinely inspected, calibrated (if necessary), or checked to ensure proper performance;
- 1014 (F) appropriate disposal containers for used needles, syringes, etc., and if applicable,
1015 hazardous waste from the preparation of hazardous drugs and/or biohazardous waste;
- 1016 (G) appropriate packaging or delivery containers to maintain proper storage conditions for
1017 sterile preparations;
- 1018 (H) infusion devices, if applicable; and
- 1019 (I) all necessary supplies, including:
- 1020 (i) disposable needles, syringes, and other supplies for aseptic mixing;

- 1021 (ii) disinfectant cleaning solutions;
- 1022 (iii) sterile 70% isopropyl alcohol;
- 1023 (iv) sterile gloves, both for hazardous and non-hazardous drug compounding;
- 1024 (v) sterile alcohol-based or water-less alcohol based surgical scrub;
- 1025 (vi) hand washing agents with bactericidal action;
- 1026 (vii) disposable, lint free towels or wipes;
- 1027 (viii) appropriate filters and filtration equipment;
- 1028 (ix) hazardous spill kits, if applicable; and
- 1029 (x) masks, caps, coveralls or gowns with tight cuffs, shoe covers, and gloves, as applicable.
- 1030 (9) Labeling.
- 1031 (A) Prescription drug or medication orders. In addition to the labeling requirements for the
1032 pharmacy's specific license classification, the label dispensed or distributed pursuant to a
1033 prescription drug or medication order shall contain the following:
- 1034 (i) the generic name(s) or the official name(s) of the principal active ingredient(s) of the
1035 compounded sterile preparation;
- 1036 (ii) for outpatient prescription orders other than sterile radiopharmaceuticals, a statement that
1037 the compounded sterile preparation has been compounded by the pharmacy. (An auxiliary label
1038 may be used on the container to meet this requirement);
- 1039 (iii) a beyond-use date. The beyond-use date shall be determined as outlined in Chapter 797,
1040 Pharmacy Compounding--Sterile Preparations of the USP/NF, and paragraph **(6)(H)** ~~[(7)(G)]~~ of
1041 this subsection;
- 1042 (B) Batch. If the sterile preparation is compounded in a batch, the following shall also be
1043 included on the batch label:
- 1044 (i) unique lot number assigned to the batch;
- 1045 (ii) quantity;
- 1046 (iii) appropriate ancillary instructions, such as storage instructions or cautionary statements,
1047 including hazardous drug warning labels where appropriate; and
- 1048 (iv) device-specific instructions, where appropriate.
- 1049 (C) Pharmacy bulk package. The label of a pharmacy bulk package shall:
- 1050 (i) state prominently "Pharmacy Bulk Package--Not for Direct Infusion;"
- 1051 (ii) contain or refer to information on proper techniques to help ensure safe use of the

1052 preparation; and

1053 (iii) bear a statement limiting the time frame in which the container may be used once it has
1054 been entered, provided it is held under the labeled storage conditions.

1055 (10) Written drug information for prescription drug orders only. Written information about the
1056 compounded preparation or its major active ingredient(s) shall be given to the patient at the time
1057 of dispensing a prescription drug order. A statement which indicates that the preparation was
1058 compounded by the pharmacy must be included in this written information. If there is no written
1059 information available, the patient shall be advised that the drug has been compounded and how
1060 to contact a pharmacist, and if appropriate, the prescriber, concerning the drug. This paragraph
1061 does not apply to the preparation of radiopharmaceuticals.

1062 (11) Pharmaceutical Care Services. In addition to the pharmaceutical care requirements for the
1063 pharmacy's specific license classification, the following requirements for sterile preparations
1064 compounded pursuant to prescription drug orders must be met. This paragraph does not apply
1065 to the preparation of radiopharmaceuticals.

1066 (A) Primary provider. There shall be a designated physician primarily responsible for the
1067 patient's medical care. There shall be a clear understanding between the physician, the patient,
1068 and the pharmacy of the responsibilities of each in the areas of the delivery of care, and the
1069 monitoring of the patient. This shall be documented in the patient medication record (PMR).

1070 (B) Patient training. The pharmacist-in-charge shall develop policies to ensure that the patient
1071 and/or patient's caregiver receives information regarding drugs and their safe and appropriate
1072 use, including instruction when applicable, regarding:

1073 (i) appropriate disposition of hazardous solutions and ancillary supplies;

1074 (ii) proper disposition of controlled substances in the home;

1075 (iii) self-administration of drugs, where appropriate;

1076 (iv) emergency procedures, including how to contact an appropriate individual in the event of
1077 problems or emergencies related to drug therapy; and

1078 (v) if the patient or patient's caregiver prepares sterile preparations in the home, the following
1079 additional information shall be provided:

1080 (I) safeguards against microbial contamination, including aseptic techniques for compounding
1081 intravenous admixtures and aseptic techniques for injecting additives to premixed intravenous
1082 solutions;

1083 (II) appropriate storage methods, including storage durations for sterile pharmaceuticals and
1084 expirations of self-mixed solutions;

1085 (III) handling and disposition of premixed and self-mixed intravenous admixtures; and

1086 (IV) proper disposition of intravenous admixture compounding supplies such as syringes, vials,
1087 ampules, and intravenous solution containers.

1088 (C) Pharmacist-patient relationship. It is imperative that a pharmacist-patient relationship be

- 1089 established and maintained throughout the patient's course of therapy. This shall be
1090 documented in the patient's medication record (PMR).
- 1091 (D) Patient monitoring. The pharmacist-in-charge shall develop policies to ensure that:
- 1092 (i) the patient's response to drug therapy is monitored and conveyed to the appropriate health
1093 care provider;
- 1094 (ii) the first dose of any new drug therapy is administered in the presence of an individual
1095 qualified to monitor for and respond to adverse drug reactions; and
- 1096 (iii) reports of adverse events with a compounded sterile preparation are reviewed promptly and
1097 thoroughly to correct and prevent future occurrences.
- 1098 (12) Drugs, components, and materials used in sterile compounding.
- 1099 (A) Drugs used in sterile compounding shall be a USP/NF grade substances manufactured in
1100 an FDA-registered facility.
- 1101 (B) If USP/NF grade substances are not available shall be of a chemical grade in one of the
1102 following categories:
- 1103 (i) Chemically Pure (CP);
- 1104 (ii) Analytical Reagent (AR);
- 1105 (iii) American Chemical Society (ACS); or
- 1106 (iv) Food Chemical Codex.
- 1107 (C) If a drug, component or material is not purchased from a FDA-registered facility, the
1108 pharmacist shall establish purity and stability by obtaining a Certificate of Analysis from the
1109 supplier and the pharmacist shall compare the monograph of drugs in a similar class to the
1110 Certificate of Analysis.
- 1111 (D) All components shall:
- 1112 (i) be manufactured in an FDA-registered facility; or
- 1113 (ii) in the professional judgment of the pharmacist, be of high quality and obtained from
1114 acceptable and reliable alternative sources; and
- 1115 (iii) stored in properly labeled containers in a clean, dry area, under proper temperatures.
- 1116 (E) Drug preparation containers and closures shall not be reactive, additive, or absorptive so as
1117 to alter the safety, identity, strength, quality, or purity of the compounded drug preparation
1118 beyond the desired result.
- 1119 (F) Components, drug preparation containers, and closures shall be rotated so that the oldest
1120 stock is used first.
- 1121 (G) Container closure systems shall provide adequate protection against foreseeable external

1122 factors in storage and use that can cause deterioration or contamination of the compounded
1123 drug preparation.

1124 (H) A pharmacy may not compound a preparation that contains ingredients appearing on a
1125 federal Food and Drug Administration list of drug products withdrawn or removed from the
1126 market for safety reasons.

1127 (13) Compounding process.

1128 (A) Standard operating procedures (SOPs). All significant procedures performed in the
1129 compounding area shall be covered by written SOPs designed to ensure accountability,
1130 accuracy, quality, safety, and uniformity in the compounding process. At a minimum, SOPs shall
1131 be developed and implemented for:

1132 (i) the facility;

1133 (ii) equipment;

1134 (iii) personnel;

1135 (iv) preparation evaluation;

1136 (v) quality assurance;

1137 (vi) preparation recall;

1138 (vii) packaging; and

1139 (viii) storage of compounded sterile preparations.

1140 (B) USP/NF. Any compounded formulation with an official monograph in the USP/NF shall be
1141 compounded, labeled, and packaged in conformity with the USP/NF monograph for the drug.

1142 (C) Personnel Cleansing and Garbing.

1143 (i) Any person with an apparent illness or open lesion, including rashes, sunburn, weeping
1144 sores, conjunctivitis, and active respiratory infection, that may adversely affect the safety or
1145 quality of a drug preparation being compounded shall be excluded from working in ISO Class 5,
1146 ISO Class 7, and ISO Class 8 compounding areas until the condition is remedied.

1147 (ii) Before entering the buffer area, compounding personnel must remove the following:

1148 (I) personal outer garments (e.g., bandanas, coats, hats, jackets, scarves, sweaters, vests);

1149 (II) all cosmetics, because they shed flakes and particles; and

1150 (III) all hand, wrist, and other body jewelry or piercings (e.g., earrings, lip or eyebrow piercings)
1151 that can interfere with the effectiveness of personal protective equipment (e.g., fit of gloves and
1152 cuffs of sleeves).

1153 (iii) The wearing of artificial nails or extenders is prohibited while working in the sterile
1154 compounding environment. Natural nails shall be kept neat and trimmed.

- 1155 (iv) Personnel shall don personal protective equipment and perform hand hygiene in an order
1156 that proceeds from the dirtiest to the cleanest activities as follows:
- 1157 (I) Activities considered the dirtiest include donning of dedicated shoes or shoe covers, head
1158 and facial hair covers (e.g., beard covers in addition to face masks), and face mask/eye shield.
1159 Eye shields are optional unless working with irritants like germicidal disinfecting agents or when
1160 preparing hazardous drugs.
- 1161 (II) After donning dedicated shoes or shoe covers, head and facial hair covers, and face masks,
1162 personnel shall perform a hand hygiene procedure by removing debris from underneath
1163 fingernails using a nail cleaner under running warm water followed by vigorous hand washing.
1164 Personnel shall begin washing arms at the hands and continue washing to elbows for at least
1165 30 seconds with either a plain (non-antimicrobial) soap, or antimicrobial soap, and water while
1166 in the ante-area. Hands and forearms to the elbows shall be completely dried using lint-free
1167 disposable towels, an electronic hands-free hand dryer, or a HEPA filtered hand dryer.
- 1168 (III) After completion of hand washing, personnel shall don clean non-shedding gowns with
1169 sleeves that fit snugly around the wrists and enclosed at the neck.
- 1170 (IV) Once inside the buffer area or segregated compounding area, and prior to donning sterile
1171 powder-free gloves, antiseptic hand cleansing shall be performed using a waterless alcohol-
1172 based surgical hand scrub with persistent activity following manufacturers' recommendations.
1173 Hands shall be allowed to dry thoroughly before donning sterile gloves.
- 1174 (V) Sterile gloves that form a continuous barrier with the gown shall be the last item donned
1175 before compounding begins. Sterile gloves shall be donned using proper technique to ensure
1176 the sterility of the glove is not compromised while donning. The cuff of the sterile glove shall
1177 cover the cuff of the gown at the wrist. When preparing hazardous preparations, the
1178 compounder shall double glove or shall use single gloves ensuring that the gloves are sterile
1179 powder-free chemotherapy-rated gloves. Routine application of sterile 70% IPA shall occur
1180 throughout the compounding day and whenever non-sterile surfaces are touched.
- 1181 (v) When compounding personnel shall temporarily exit the buffer area during a work shift, the
1182 exterior gown, if not visibly soiled, may be removed and retained in the ante-area, to be re-
1183 donned during that same work shift only. However, shoe covers, hair and facial hair covers,
1184 face mask/eye shield, and gloves shall be replaced with new ones before re-entering the buffer
1185 area along with performing proper hand hygiene.
- 1186 (vi) During high-risk compounding activities that precede terminal sterilization, such as weighing
1187 and mixing of non-sterile ingredients, compounding personnel shall be garbed and gloved the
1188 same as when performing compounding in an ISO Class 5 environment. Properly garbed and
1189 gloved compounding personnel who are exposed to air quality that is either known or suspected
1190 to be worse than ISO Class 7 shall re-garb personal protective equipment along with washing
1191 their hands properly, performing antiseptic hand cleansing with a sterile 70% IPA-based or
1192 another suitable sterile alcohol-based surgical hand scrub, and donning sterile gloves upon re-
1193 entering the ISO Class 7 buffer area.
- 1194 (vii) When compounding aseptic isolators or compounding aseptic containment isolators are the
1195 source of the ISO Class 5 environment, at the start of each new compounding procedure, a new
1196 pair of sterile gloves shall be donned within the CAI or CACI. In addition, the compounding
1197 personnel should follow the requirements as specified in this subparagraph, unless the isolator
1198 manufacturer can provide written documentation based on validated environmental testing that

- 1199 any components of personal protective equipment or cleansing are not required.
- 1200 (14) Quality Assurance.
- 1201 (A) Initial Formula Validation. Prior to routine compounding of a sterile preparation, a pharmacy
1202 shall conduct an evaluation that shows that the pharmacy is capable of compounding a
1203 preparation that is sterile and that contains the stated amount of active ingredient(s).
- 1204 (i) Low risk preparations.
- 1205 (I) Quality assurance practices include, but are not limited to the following:
- 1206 (-a-) Routine disinfection and air quality testing of the direct compounding environment to
1207 minimize microbial surface contamination and maintain ISO Class 5 air quality.
- 1208 (-b-) Visual confirmation that compounding personnel are properly donning and wearing
1209 appropriate items and types of protective garments and goggles.
- 1210 (-c-) Review of all orders and packages of ingredients to ensure that the correct identity and
1211 amounts of ingredients were compounded.
- 1212 (-d-) Visual inspection of compounded sterile preparations, except for sterile
1213 radiopharmaceuticals, to ensure the absence of particulate matter in solutions, the absence of
1214 leakage from vials and bags, and the accuracy and thoroughness of labeling.
- 1215 (II) Example of a Media-Fill Test Procedure. This, or an equivalent test, is performed at least
1216 annually by each person authorized to compound in a low-risk level under conditions that
1217 closely simulate the most challenging or stressful conditions encountered during compounding
1218 of low-risk level sterile preparations. Once begun, this test is completed without interruption
1219 within an ISO Class 5 air quality environment. Three sets of four 5-milliliter aliquots of sterile
1220 Soybean-Casein Digest Medium are transferred with the same sterile 10-milliliter syringe and
1221 vented needle combination into separate sealed, empty, sterile 30-milliliter clear vials (i.e., four
1222 5-milliliter aliquots into each of three 30-milliliter vials). Sterile adhesive seals are aseptically
1223 affixed to the rubber closures on the three filled vials. The vials are incubated within a range of
1224 20 - 35 degrees Celsius for a minimum of 14 days. Failure is indicated by visible turbidity in the
1225 medium on or before 14 days. The media-fill test must include a positive-control sample.
- 1226 (ii) Medium risk preparations.
- 1227 (I) Quality assurance procedures for medium-risk level compounded sterile preparations include
1228 all those for low-risk level compounded sterile preparations, as well as a more challenging
1229 media-fill test passed annually, or more frequently.
- 1230 (II) Example of a Media-Fill Test Procedure. This, or an equivalent test, is performed at least
1231 annually under conditions that closely simulate the most challenging or stressful conditions
1232 encountered during compounding. This test is completed without interruption within an ISO
1233 Class 5 air quality environment. Six 100-milliliter aliquots of sterile Soybean-Casein Digest
1234 Medium are aseptically transferred by gravity through separate tubing sets into separate
1235 evacuated sterile containers. The six containers are then arranged as three pairs, and a sterile
1236 10-milliliter syringe and 18-gauge needle combination is used to exchange two 5-milliliter
1237 aliquots of medium from one container to the other container in the pair. For example, after a 5-
1238 milliliter aliquot from the first container is added to the second container in the pair, the second

1239 container is agitated for 10 seconds, then a 5-milliliter aliquot is removed and returned to the
1240 first container in the pair. The first container is then agitated for 10 seconds, and the next 5-
1241 milliliter aliquot is transferred from it back to the second container in the pair. Following the two
1242 5-milliliter aliquot exchanges in each pair of containers, a 5-milliliter aliquot of medium from each
1243 container is aseptically injected into a sealed, empty, sterile 10-milliliter clear vial, using a sterile
1244 10-milliliter syringe and vented needle. Sterile adhesive seals are aseptically affixed to the
1245 rubber closures on the three filled vials. The vials are incubated within a range of 20 - 35
1246 degrees Celsius for a minimum of 14 days. Failure is indicated by visible turbidity in the medium
1247 on or before 14 days. The media-fill test must include a positive-control sample.

1248 (iii) High risk preparations.

1249 (I) Procedures for high-risk level compounded sterile preparations include all those for low-risk
1250 level compounded sterile preparations. In addition, a media-fill test that represents high-risk
1251 level compounding is performed twice a year by each person authorized to compound high-risk
1252 level compounded sterile preparations.

1253 (II) Example of a Media-Fill Test Procedure Compounded Sterile Preparations Sterilized by
1254 Filtration. This test, or an equivalent test, is performed under conditions that closely simulate the
1255 most challenging or stressful conditions encountered when compounding high-risk level
1256 compounded sterile preparations. Note: Sterility tests for autoclaved compounded sterile
1257 preparations are not required unless they are prepared in batches of more than 25 units. This
1258 test is completed without interruption in the following sequence:

1259 (-a-) Dissolve 3 grams of non-sterile commercially available Soybean-Casein Digest Medium in
1260 100 milliliters of non-bacteriostatic water to make a 3% non-sterile solution.

1261 (-b-) Draw 25 milliliters of the medium into each of three 30-milliliter sterile syringes. Transfer 5
1262 milliliters from each syringe into separate sterile 10-milliliter vials. These vials are the positive
1263 controls to generate exponential microbial growth, which is indicated by visible turbidity upon
1264 incubation.

1265 (-c-) Under aseptic conditions and using aseptic techniques, affix a sterile 0.2-micron porosity
1266 filter unit and a 20-gauge needle to each syringe. Inject the next 10 milliliters from each syringe
1267 into three separate 10-milliliter sterile vials. Repeat the process for three more vials. Label all
1268 vials, affix sterile adhesive seals to the closure of the nine vials, and incubate them at 20 to 35
1269 degrees Celsius for a minimum of 14 days. Inspect for microbial growth over 14 days as
1270 described in Chapter 797 Pharmaceutical Compounding--Sterile Preparations, of the USP/NF.

1271 (III) Filter Integrity Testing. Filters need to undergo testing to evaluate the integrity of filters used
1272 to sterilize high-risk preparations, such as Bubble Point Testing or comparable filter integrity
1273 testing. Such testing is not a replacement for sterility testing and shall not be interpreted as
1274 such. Such test shall be performed after a sterilization procedure on all filters used to sterilize
1275 each high-risk preparation or batch preparation and the results documented. The results should
1276 be compared with the filter manufacturer's specification for the specific filter used. If a filter fails
1277 the integrity test, the preparation or batch must be sterilized again using new unused filters.

1278 (B) Finished preparation release checks and tests.

1279 (i) All high-risk level compounded sterile preparations that are prepared in groups of more than
1280 25 identical individual single-dose packages (such as ampuls, bags, syringes, and vials), or in
1281 multiple dose vials for administration to multiple patients, or are exposed longer than 12 hours

1282 at 2 - 8 degrees Celsius and longer than six hours at warmer than 8 degrees Celsius before
1283 they are sterilized shall be tested to ensure they are sterile and do not contain excessive
1284 bacterial endotoxins as specified in Chapter 71, Sterility Tests of the USP/NF before being
1285 dispensed or administered.

1286 (ii) All compounded sterile preparations, except for sterile radiopharmaceuticals, that are
1287 intended to be solutions must be visually examined for the presence of particulate matter and
1288 not administered or dispensed when such matter is observed.

1289 (iii) The prescription drug and medication orders, written compounding procedure, preparation
1290 records, and expended materials used to make compounded sterile preparations at all
1291 contamination risk levels shall be inspected for accuracy of correct identities and amounts of
1292 ingredients, aseptic mixing and sterilization, packaging, labeling, and expected physical
1293 appearance before they are dispensed or administered.

1294 (iv) Written procedures for checking compounding accuracy shall be followed for every
1295 compounded sterile preparation during preparation, in accordance with pharmacy's policies and
1296 procedures, and immediately prior to release, including label accuracy and the accuracy of the
1297 addition of all drug products or ingredients used to prepare the finished preparation and their
1298 volumes or quantities. A pharmacist shall ensure that components used in compounding are
1299 accurately weighed, measured, or subdivided as appropriate to conform to the formula being
1300 prepared.

1301 (C) Environmental Testing.

1302 (i) Viable and nonviable environmental sampling testing. Environmental sampling shall occur, at
1303 a minimum, every six months as part of a comprehensive quality management program and
1304 under any of the following conditions:

1305 (I) as part of the commissioning and certification of new facilities and equipment;

1306 (II) following any servicing of facilities and equipment;

1307 (III) as part of the re-certification of facilities and equipment;

1308 (IV) in response to identified problems with end products or staff technique; or

1309 (V) in response to issues with compounded sterile preparations, observed compounding
1310 personnel work practices, or patient-related infections (where the compounded sterile
1311 preparation is being considered as a potential source of the infection).

1312 (ii) Total particle counts. Certification that each ISO classified area (e.g., ISO Class 5, 7, and 8),
1313 is within established guidelines shall be performed no less than every six months and whenever
1314 the equipment is relocated or the physical structure of the buffer area or ante-area has been
1315 altered. All certification records shall be maintained and reviewed to ensure that the controlled
1316 environments comply with the proper air cleanliness, room pressures, and air changes per hour.
1317 Testing shall be performed by qualified operators using current, state-of-the-art equipment, with
1318 results of the following:

1319 (I) ISO Class 5 - not more than 3520 particles 0.5 micrometer and larger size per cubic meter of
1320 air;

1321 (II) ISO Class 7 - not more than 352,000 particles of 0.5 micrometer and larger size per cubic
1322 meter of air for any buffer area; and

1323 (III) ISO Class 8 - not more than 3,520,000 particles of 0.5 micrometer and larger size per cubic
1324 meter of air for any ante-area.

1325 (iii) Pressure differential monitoring. A pressure gauge or velocity meter shall be installed to
1326 monitor the pressure differential or airflow between the buffer area and the ante-area and
1327 between the ante-area and the general environment outside the compounding area. The results
1328 shall be reviewed and documented on a log at least every work shift (minimum frequency shall
1329 be at least daily) or by a continuous recording device. The pressure between the ISO Class 7 or
1330 ISO Class 8 and the general pharmacy area shall not be less than 0.02 inch water column.

1331 (iv) Sampling plan. An appropriate environmental sampling plan shall be developed for airborne
1332 viable particles based on a risk assessment of compounding activities performed. Selected
1333 sampling sites shall include locations within each ISO Class 5 environment and in the ISO Class
1334 7 and 8 areas and in the segregated compounding areas at greatest risk of contamination. The
1335 plan shall include sample location, method of collection, frequency of sampling, volume of air
1336 sampled, and time of day as related to activity in the compounding area and action levels.

1337 (v) Viable air sampling. Evaluation of airborne microorganisms using volumetric collection
1338 methods in the controlled air environments shall be performed by properly trained individuals for
1339 all compounding risk levels. For low-, medium-, and high-risk level compounding, air sampling
1340 shall be performed at locations that are prone to contamination during compounding activities
1341 and during other activities such as staging, labeling, gowning, and cleaning. Locations shall
1342 include zones of air backwash turbulence within the laminar airflow workbench and other areas
1343 where air backwash turbulence may enter the compounding area. For low-risk level
1344 compounded sterile preparations within 12-hour or less beyond-use-date prepared in a primary
1345 engineering control that maintains an ISO Class 5, air sampling shall be performed at locations
1346 inside the ISO Class 5 environment and other areas that are in close proximity to the ISO Class
1347 5 environment during the certification of the primary engineering control.

1348 (vi) Air sampling frequency and process. Air sampling shall be performed at least every 6
1349 months as a part of the re-certification of facilities and equipment. A sufficient volume of air shall
1350 be sampled and the manufacturer's guidelines for use of the electronic air sampling equipment
1351 followed. At the end of the designated sampling or exposure period for air sampling activities,
1352 the microbial growth media plates are recovered and their covers secured and they are inverted
1353 and incubated at a temperature and for a time period conducive to multiplication of
1354 microorganisms. Sampling data shall be collected and reviewed on a periodic basis as a means
1355 of evaluating the overall control of the compounding environment. If an activity consistently
1356 shows elevated levels of microbial growth, competent microbiology or infection control
1357 personnel shall be consulted. A colony forming unit (cfu) count greater than 1 cfu per cubic
1358 meter of air for ISO Class 5, greater than 10 cfu per cubic meter of air for ISO Class 7, and
1359 greater than 100 cfu per cubic meter of air for ISO Class 8 or worse should prompt a re-
1360 evaluation of the adequacy of personnel work practices, cleaning procedures, operational
1361 procedures, and air filtration efficiency within the aseptic compounding location. An investigation
1362 into the source of the contamination shall be conducted. The source of the problem shall be
1363 eliminated, the affected area cleaned, and resampling performed. Counts of cfu are to be used
1364 as an approximate measure of the environmental microbial bioburden. Action levels are
1365 determined on the basis of cfu data gathered at each sampling location and trended over time.
1366 Regardless of the number of cfu identified in the pharmacy, further corrective actions will be
1367 dictated by the identification of microorganisms recovered by an appropriate credentialed
1368 laboratory of any microbial bioburden captured as a cfu using an impaction air sampler. Highly

1369 pathogenic microorganisms (e.g., gram-negative rods, coagulase positive staphylococcus,
1370 molds and yeasts) can be potentially fatal to patient receiving compounded sterile preparations
1371 and must be immediately remedied, regardless of colony forming unit count, with the
1372 assistance, if needed, of a competent microbiologist, infection control professional, or industrial
1373 hygienist.

1374 (vii) Compounding accuracy checks. Written procedures for checking compounding accuracy
1375 shall be followed for every compounded sterile preparation during preparation and immediately
1376 prior to release, including label accuracy and the accuracy of the addition of all drug products or
1377 ingredients used to prepare the finished preparation and their volumes or quantities. At each
1378 step of the compounding process, the pharmacist shall ensure that components used in
1379 compounding are accurately weighed, measured, or subdivided as appropriate to conform to
1380 the formula being prepared.

1381 (15) Quality control.

1382 (A) Quality control procedures. The pharmacy shall follow established quality control procedures
1383 to monitor the compounding environment and quality of compounded drug preparations for
1384 conformity with the quality indicators established for the preparation. When developing these
1385 procedures, pharmacy personnel shall consider the provisions of USP Chapter 71, Sterility
1386 Tests, USP Chapter 85, Bacterial Endotoxins Test, Pharmaceutical Compounding--Non-sterile
1387 Preparations, USP Chapter 795, USP Chapter 797, Pharmaceutical Compounding--Sterile
1388 Preparations, USP Chapter 800, Hazardous Drugs--Handling in Healthcare Settings, USP
1389 Chapter 823, Positron Emission Tomography Drugs for Compounding, Investigational, and
1390 Research Uses, USP Chapter 1160, Pharmaceutical Calculations in Prescription Compounding,
1391 and USP Chapter 1163, Quality Assurance in Pharmaceutical Compounding of the current
1392 USP/NF. Such procedures shall be documented and be available for inspection.

1393 (B) Verification of compounding accuracy and sterility.

1394 (i) The accuracy of identities, concentrations, amounts, and purities of ingredients in
1395 compounded sterile preparations shall be confirmed by reviewing labels on packages,
1396 observing and documenting correct measurements with approved and correctly standardized
1397 devices, and reviewing information in labeling and certificates of analysis provided by suppliers.

1398 (ii) If the correct identity, purity, strength, and sterility of ingredients and components of
1399 compounded sterile preparations cannot be confirmed such ingredients and components shall
1400 be discarded immediately. Any compounded sterile preparation that fails sterility testing
1401 following sterilization by one method (e.g., filtration) is to be discarded and not subjected to a
1402 second method of sterilization.

1403 (iii) If individual ingredients, such as bulk drug substances, are not labeled with expiration dates,
1404 when the drug substances are stable indefinitely in their commercial packages under labeled
1405 storage conditions, such ingredients may gain or lose moisture during storage and use and shall
1406 require testing to determine the correct amount to weigh for accurate content of active chemical
1407 moieties in compounded sterile preparations.

1408 (e) Records. Any testing, cleaning, procedures, or other activities required in this subsection
1409 shall be documented and such documentation shall be maintained by the pharmacy.

1410 (1) Maintenance of records. Every record required under this section must be:

- 1411 (A) kept by the pharmacy and be available, for at least two years for inspecting and copying by
1412 the board or its representative and to other authorized local, state, or federal law enforcement
1413 agencies; and
- 1414 (B) supplied by the pharmacy within 72 hours, if requested by an authorized agent of the Texas
1415 State Board of Pharmacy. If the pharmacy maintains the records in an electronic format, the
1416 requested records must be provided in an electronic format. Failure to provide the records set
1417 out in this section, either on site or within 72 hours, constitutes prima facie evidence of failure to
1418 keep and maintain records in violation of the Act.
- 1419 (2) Compounding records.
- 1420 (A) Compounding pursuant to patient specific prescription drug orders or medication orders.
1421 Compounding records for all compounded preparations shall be maintained by the pharmacy
1422 and shall include:
- 1423 (i) the date and time of preparation;
- 1424 (ii) a complete formula, including methodology and necessary equipment which includes the
1425 brand name(s) of the raw materials, or if no brand name, the generic name(s) or official name
1426 and name(s) of the manufacturer(s) or distributor of the raw materials and the quantities of
1427 each; however, if the sterile preparation is compounded according to the manufacturer's
1428 labeling instructions, then documentation of the formula is not required;
- 1429 (iii) written or electronic signature or initials of the pharmacist or pharmacy technician or
1430 pharmacy technician trainee performing the compounding;
- 1431 (iv) written or electronic signature or initials of the pharmacist responsible for supervising
1432 pharmacy technicians or pharmacy technician trainees and conducting final checks of
1433 compounded pharmaceuticals if pharmacy technicians or pharmacy technician trainees perform
1434 the compounding function;
- 1435 (v) the container used and the number of units of finished preparation prepared; and
- 1436 (vi) a reference to the location of the following documentation which may be maintained with
1437 other records, such as quality control records:
- 1438 (I) the criteria used to determine the beyond-use date; and
- 1439 (II) documentation of performance of quality control procedures.
- 1440 (B) Compounding records when batch compounding or compounding in anticipation of future
1441 prescription drug or medication orders.
- 1442 (i) Master work sheet. A master work sheet shall be developed and approved by a pharmacist
1443 for preparations prepared in batch. Once approved, a duplicate of the master work sheet shall
1444 be used as the preparation work sheet from which each batch is prepared and on which all
1445 documentation for that batch occurs. The master work sheet shall contain at a minimum:
- 1446 (I) the formula;
- 1447 (II) the components;

- 1448 (III) the compounding directions;
- 1449 (IV) a sample label;
- 1450 (V) evaluation and testing requirements;
- 1451 (VI) specific equipment used during preparation; and
- 1452 (VII) storage requirements.
- 1453 (ii) Preparation work sheet. The preparation work sheet for each batch of preparations shall
1454 document the following:
- 1455 (I) identity of all solutions and ingredients and their corresponding amounts, concentrations, or
1456 volumes;
- 1457 (II) lot number for each component;
- 1458 (III) component manufacturer/distributor or suitable identifying number;
- 1459 (IV) container specifications (e.g., syringe, pump cassette);
- 1460 (V) unique lot or control number assigned to batch;
- 1461 (VI) expiration date of batch-prepared preparations;
- 1462 (VII) date of preparation;
- 1463 (VIII) name, initials, or electronic signature of the person(s) involved in the preparation;
- 1464 (IX) name, initials, or electronic signature of the responsible pharmacist;
- 1465 (X) finished preparation evaluation and testing specifications, if applicable; and
- 1466 (XI) comparison of actual yield to anticipated or theoretical yield, when appropriate.
- 1467 (f) Office Use Compounding and Distribution of Sterile Compounded Preparations
- 1468 (1) General.
- 1469 (A) A pharmacy may compound, dispense, deliver, and distribute a compounded sterile
1470 preparation as specified in Subchapter D, Texas Pharmacy Act Chapter 562.
- 1471 (B) A Class A-S pharmacy is not required to register or be licensed under Chapter 431, Health
1472 and Safety Code, to distribute sterile compounded preparations to a Class C or Class C-S
1473 pharmacy.
- 1474 (C) A Class C-S pharmacy is not required to register or be licensed under Chapter 431, Health
1475 and Safety Code, to distribute sterile compounded preparations that the Class C-S pharmacy
1476 has compounded for other Class C or Class C-S pharmacies under common ownership.
- 1477 (D) To compound and deliver a compounded preparation under this subsection, a pharmacy

1478 must:

1479 (i) verify the source of the raw materials to be used in a compounded drug;

1480 (ii) comply with applicable United States Pharmacopoeia guidelines, including the testing
1481 requirements, and the Health Insurance Portability and Accountability Act of 1996 (Pub. L. No.
1482 104-191);

1483 (iii) enter into a written agreement with a practitioner for the practitioner's office use of a
1484 compounded preparation;

1485 (iv) comply with all applicable competency and accrediting standards as determined by the
1486 board; and

1487 (v) comply with the provisions of this subsection.

1488 (E) This subsection does not apply to Class B pharmacies compounding sterile
1489 radiopharmaceuticals that are furnished for departmental or physicians' use if such authorized
1490 users maintain a Texas radioactive materials license.

1491 (2) Written Agreement. A pharmacy that provides sterile compounded preparations to
1492 practitioners for office use or to another pharmacy shall enter into a written agreement with the
1493 practitioner or pharmacy. The written agreement shall:

1494 (A) address acceptable standards of practice for a compounding pharmacy and a practitioner
1495 and receiving pharmacy that enter into the agreement including a statement that the
1496 compounded drugs may only be administered to the patient and may not be dispensed to the
1497 patient or sold to any other person or entity except to a veterinarian as authorized by §563.054
1498 of the Act;

1499 (B) require the practitioner or receiving pharmacy to include on a patient's chart, medication
1500 order or medication administration record the lot number and beyond-use date of a
1501 compounded preparation administered to a patient;

1502 (C) describe the scope of services to be performed by the pharmacy and practitioner or
1503 receiving pharmacy, including a statement of the process for:

1504 (i) a patient to report an adverse reaction or submit a complaint; and

1505 (ii) the pharmacy to recall batches of compounded preparations.

1506 (3) Recordkeeping.

1507 (A) Maintenance of Records.

1508 (i) Records of orders and distribution of sterile compounded preparations to a practitioner for
1509 office use or to an institutional pharmacy for administration to a patient shall:

1510 (I) be kept by the pharmacy and be available, for at least two years from the date of the record,
1511 for inspecting and copying by the board or its representative and to other authorized local, state,
1512 or federal law enforcement agencies;

- 1513 (II) maintained separately from the records of preparations dispensed pursuant to a prescription
1514 or medication order; and
- 1515 (III) supplied by the pharmacy within 72 hours, if requested by an authorized agent of the Texas
1516 State Board of Pharmacy or its representative. If the pharmacy maintains the records in an
1517 electronic format, the requested records must be provided in an electronic format. Failure to
1518 provide the records set out in this subsection, either on site or within 72 hours for whatever
1519 reason, constitutes prima facie evidence of failure to keep and maintain records.
- 1520 (ii) Records may be maintained in an alternative data retention system, such as a data
1521 processing system or direct imaging system provided the data processing system is capable of
1522 producing a hard copy of the record upon the request of the board, its representative, or other
1523 authorized local, state, or federal law enforcement or regulatory agencies.
- 1524 (B) Orders. The pharmacy shall maintain a record of all sterile compounded preparations
1525 ordered by a practitioner for office use or by an institutional pharmacy for administration to a
1526 patient. The record shall include the following information:
- 1527 (i) date of the order;
- 1528 (ii) name, address, and phone number of the practitioner who ordered the preparation and if
1529 applicable, the name, address and phone number of the institutional pharmacy ordering the
1530 preparation; and
- 1531 (iii) name, strength, and quantity of the preparation ordered.
- 1532 (C) Distributions. The pharmacy shall maintain a record of all sterile compounded preparations
1533 distributed pursuant to an order to a practitioner for office use or by an institutional pharmacy for
1534 administration to a patient. The record shall include the following information:
- 1535 (i) date the preparation was compounded;
- 1536 (ii) date the preparation was distributed;
- 1537 (iii) name, strength and quantity in each container of the preparation;
- 1538 (iv) pharmacy's lot number;
- 1539 (v) quantity of containers shipped; and
- 1540 (vi) name, address, and phone number of the practitioner or institutional pharmacy to whom the
1541 preparation is distributed.
- 1542 (D) Audit Trail.
- 1543 (i) The pharmacy shall store the order and distribution records of preparations for all sterile
1544 compounded preparations ordered by and or distributed to a practitioner for office use or by a
1545 pharmacy licensed to compound sterile preparations for administration to a patient in such a
1546 manner as to be able to provide an audit trail for all orders and distributions of any of the
1547 following during a specified time period:
- 1548 (I) any strength and dosage form of a preparation (by either brand or generic name or both);

- 1549 (II) any ingredient;
- 1550 (III) any lot number;
- 1551 (IV) any practitioner;
- 1552 (V) any facility; and
- 1553 (VI) any pharmacy, if applicable.
- 1554 (ii) The audit trail shall contain the following information:
- 1555 (I) date of order and date of the distribution;
- 1556 (II) practitioner's name, address, and name of the institutional pharmacy, if applicable;
- 1557 (III) name, strength and quantity of the preparation in each container of the preparation;
- 1558 (IV) name and quantity of each active ingredient;
- 1559 (V) quantity of containers distributed; and
- 1560 (VI) pharmacy's lot number.
- 1561 (4) Labeling. The pharmacy shall affix a label to the preparation containing the following
1562 information:
- 1563 (A) name, address, and phone number of the compounding pharmacy;
- 1564 (B) the statement: "For Institutional or Office Use Only--Not for Resale"; or if the preparation is
1565 distributed to a veterinarian the statement: "Compounded Preparation";
- 1566 (C) name and strength of the preparation or list of the active ingredients and strengths;
- 1567 (D) pharmacy's lot number;
- 1568 (E) beyond-use date as determined by the pharmacist using appropriate documented criteria;
- 1569 (F) quantity or amount in the container;
- 1570 (G) appropriate ancillary instructions, such as storage instructions or cautionary statements,
1571 including hazardous drug warning labels where appropriate; and
- 1572 (H) device-specific instructions, where appropriate.
- 1573 (g) Recall Procedures.
- 1574 (1) The pharmacy shall have written procedures for the recall of any compounded sterile
1575 preparation provided to a patient, to a practitioner for office use, or a pharmacy for
1576 administration. Written procedures shall include, but not be limited to the requirements as
1577 specified in paragraph (3) of this subsection.

- 1578 (2) The pharmacy shall immediately initiate a recall of any sterile preparation compounded by
1579 the pharmacy upon identification of a potential or confirmed harm to a patient.
- 1580 (3) In the event of a recall, the pharmacist-in-charge shall ensure that:
- 1581 (A) each practitioner, facility, and/or pharmacy to which the preparation was distributed is
1582 notified, in writing, of the recall;
- 1583 (B) each patient to whom the preparation was dispensed is notified, in writing, of the recall;
- 1584 (C) the board is notified of the recall, in writing, not later than 24 hours after the recall is issued;
- 1585 (D) if the preparation is distributed for office use, the Texas Department of State Health
1586 Services, Drugs and Medical Devices Group, is notified of the recall, in writing;
- 1587 (E) the preparation is quarantined; and
- 1588 (F) the pharmacy keeps a written record of the recall including all actions taken to notify all
1589 parties and steps taken to ensure corrective measures.
- 1590 (4) If a pharmacy fails to initiate a recall, the board may require a pharmacy to initiate a recall if
1591 there is potential for or confirmed harm to a patient.
- 1592 (5) A pharmacy that compounds sterile preparations shall notify the board immediately of any
1593 adverse effects reported to the pharmacy or that are known by the pharmacy to be potentially
1594 attributable to a sterile preparation compounded by the pharmacy.