“APPENDIX M: Physical Surveillance for Medical Commodities”
A publication of the US Defense Personnel Support Center.

The attached document “APPENDIX M: Physical Surveillance for Medical Commodities” was developed by the US Defense Personnel Support Center to assess physical quality attributes of US military medical supplies. A pdf image of the publication had been posted and was downloaded from:http://www.usamma.army.mil/dlar/appm6.txt but that site is no longer active. The downloaded pdf image file was scanned through an optical character recognition software package and the resulting document was manually compared to the pdf image and corrected to the best of our ability. The document represents a very significant effort to identify and characterize physical quality attributes of the included products and is an important contribution to helping to assure the quality of medical commodities.

APPENDIX M
Physical Surveillance for Medical Commodities.

Foreword
(Supplementation is Prohibited)

This appendix contains the special procedures to be used in performing storage surveillance for the medical commodity. Users of this publication are encouraged to submit recommended changes and comments to improve the publications, through channels, to the Commander, Defense Personnel Support Center, ATTN: DPSC-MQ, 2800 South 20thStreet, Philadelphia, PA 19101-8419.

This appendix should be read and reviewed in its entirety as the contents have been substantially revised. The revision incorporates procedures for scheduling of inspections, inspector marking requirements, and updated Depot Medical Storage Standards. Use of this appendix for training is encouraged.

Requisitions for additional copies of Appendix M will be forwarded to the applicable organization listed in Chapter1, paragraph 1-5C. Military Services requiring this appendix or the basic regulation should submit requisitions through normal Military Service publication channels. DLA activities will requisition additional copies in accordance with HQ DLA procedures.

By Order Of The Director

Gary C. Tucker Colonel, USA Staff Director, Administration

Distribution

Coordination: DLA-QL, DLA-OS, DLA-KS, DLA-LR, DLA-LP, DLA-SE, DLASC; Army, Navy, Air Force, and Marine Corps.

References

A. DoD Instruction 5000.2, Defense Acquisition Management Policies and Procedures.
B. DoD 4140.27-M, Shelf-Life Item Management Manual.
C. DoD 4145.19-R1, Storage and Materials Handling.
D. DoD 4160.21-M, Defense Utilization and Disposal Manual.
E. DLAM 4140.2, Volume III, Supply Operations Manual, Defense Depot Transporation and Supply Procedures.
F. DLAM 4155.2, Quality Assurance Program Manual for Defense Supply Centers and Defense Industrial Plant Equipment Center.
G. DLAM 8200.1, Procurement Quality Assurance.
H. DLAR 4140.55/AR 735-11-2/NAVMATINST 4355.73/AFR 400-54/MCO 4430.3, Reporting of Item and Packaging Discrepancies.
I. DLAR 4145.1, DLA Policy, Relationships and Concepts of Depot Operations (Storage and Transportation).
J. DLAR 4145.4, Care of Supplies in Storage (COSIS), Inspection, Reporting, and Readiness.
K. DLAR 4145.11/AR 740-7/NAVSUPINST 4440.146B/MCO 4450.11, Safeguarding of DLA Sensitive Inventory Items, Controlled Substances, and Pilferable Items of Supply.
L. DLAR 4145.21/TB MED 284/NAVSUPINST 4610.31/AFR 167-9, Preparation of Medical Materiel Requiring Freeze or Chill Environment for Shipments.
M. DLAM 4155.8, Quality Assurance Program Manual for DLA Depots.
N. DLAR 4155.28, Reporting and Processing Medical Materiel Complaints.
O. DLAR 4500.15/AR 55-38/NAVSUPINST 4610.33/AFR 75-18/MCO P4610.19, Reporting of Transportation Discrepancies in Shipments.
P. DLAR 4500.21, Transportation of Perishable Medical Items.
Q. MIL-STD-105, Sampling Procedures and Tables for Inspection by Attributes.
R. MIL-STD-129, Marking for Shipment and Storage.
S. SB-8-78 Series, Army Medical Department Supply Information.
T. DLAM 4145.11, Storage and Handling of Hazardous Materials.

APPENDIX M

1-1 Purpose

The purpose of this Appendix is to implement DLAR 4155.37 (basic), and to provide adequate guidance to all personnel responsible for the technical management, care, and storage of medical materiel, under the control of the Defense Personnel Support Center, Directorate of Medical Materiel (DPSC-M). The policy, procedures, instructions, and storage standards contained in this Appendix are designed to provide maximum assurance of serviceability and reliability of medical materiel. For commercial or locally-procured medical materiel, the standards in this Appendix may be used for a "like" standard depot-stocked item. The inspection procedures and standards contained or referenced herein will assist the inspection personnel in the evaluation of the condition, and/or identity, and shelf-life of medical materiel received from any source, and the stock readiness of medical materiel during storage and prior to issue to customers. Also, this manual lists the test/restorative actions required to maintain and/or return stocks to a ready-for issue status. In addition, the guidelines and technical data published herein may be used by the Military Services for surveillance of Service-owned stock.

1-2 Scope

These procedures and instructions apply to depot stock readiness inspection personnel and other personnel, assigned to support the depots, who are responsible for quality control and inspection functions as related to the receipt, storage, and shipment of medical materiel. This DLAM is applicable to HQ DLA, DLA Field Activities and Military Service Depots storing DLA-managed materiel.

1-3 Policy

Materiel in the custody of storage activities, will be subjected to periodic and systematic quality evaluation to ensure its readiness for issue. When quality deficiencies are noted, prompt action will be initiated to identify non-serviceable stocks and to correct the cause of such deficiencies.

1-4 Responsibilities

A. The Chief, Depot Operations Division, Directorate of Supply Operations, HQ DLA (DLA-OW) will:

Establish policy and staff supervision involving the preparation, distribution and use of depot storage standards. Review, publish and distribute depot storage standards submitted by the DSCs.

B. The Commander, DPSC will:

1) Develop and maintain procedural content for assigned depot storage standards.
2) Develop and maintain a master file of depot storage standards data.
3) Prepare and submit assigned depot storage standards and changes thereto to HQ DLA, DLA-OW for review and coordination, publication, and distribution. Copies provided for printing/publication must be reproducible.
4) Ensure that depot storage standards (manuals) are properly coordinated with the Military Services prior to submission to HQ DLA.
5) Update assigned depot storage standards at least annually or earlier, should the need exist.

C. The Commanders of DLA Depots and Military Services Activities storing DLA materiel will:

Implement the procedures specified in the depot storage standards.
Submit proposed procedures and/or procedural changes to this manual to DPSC-MQ through appropriate channels.

1-5 Technical Channels

A. Comments concerning quality control data, Appendix M instructions and/or corrections to this appendix shall be directed to:

Commander
Defense Personnel Support Center
Directorate of Medical Materiel
ATTN: Quality Assurance Division (DPSC-MQ)
2800 South 20th Street
Philadelphia, PA 19101-8419
Telephone: Autovon: 444-2187
Commercial: (215)737-2187

B. Technical inquiries regarding the quality of pharmaceuticals and chemicals should be directed to DPSC-MQB, AV 444-2191. Technical inquiries regarding equipment and medical devices should be directed to DPSC-MQA, AV 444-7753 or AV 444-8053.

C. The Military Services will requisition additional copies of Appendix M (NSN 0525-LP-415-5557) and updates (NSN 0525-LP-415-5558) through their normal publication channels. Submit applicable data changes through the below agencies:

Army Commanding Officer
U.S. Army Medical Materiel Agency (SGMMA-OC)
Frederick, MD 21701-5001
Telephone: Autovon: 343-2045
Commercial: (301)663-2045

Air Force Chief
Air Force Medical Logistics Office (FOR-O)
Frederick, MD 27101-5006
Telephone: Autovon: 343-7445
Commercial: (301)663-7445

Navy Officer-in-Charge
Naval Medical Materiel Support Command
Detachment
Fort Detrick, MD 27101-5015
Telephone: Autovon: 343-7219
Commercial: (301)662-9211

1-6 Training

A. To accomplish storage inspection for medical materiel, it is necessary that depots assign qualified personnel. These inspectors must have a basic understanding of the packaging, packing, labeling, storage functional requirements and the ability to perform visual and other simple test procedures for medical materiel.

B. Training requirements will be determined by the depots' training office and quality assurance offices based on needs determined by the immediate supervisor and observations made by DPSC based on customer complaints and quality audit reports. The depot training office may utilize this appendix, and the Defense Personnel Support Center's quality assurance guide entitled "Commodity Training for Depot Inspectors" to conduct in-house training. A copy of this training guide can be obtained from DPSC-MQ. Training required to develop proficiency in understanding packages and other specifications may be requested in accordance with the Department of Defense Directive 5010.16, Defense management Education and Training Program.

1-7 Definitions

A. Date Assembled. The date items or parts are assembled into either Components, Assemblies, Sets, Kits and Outfits (CASKOs); or the date various CASKOs are assembled into a unit.

B. Date Manufactured. The date an item, materiel, or commodity was fabricated, processed, produced, or formed for use. For drugs, chemicals, and biologicals, the date of manufacture for products submitted to the Food and Drug Administration (FDA) for certification prior to release is the date of the official certification notice. For products manufactured under license of the Agricultural Research Service (ARS) the date of manufacture conforms to the definitions established by ARS. The date of manufacture shall not be shown for medical items having expiration dates.

C. Date Packed. For all items required to be marked with the date of pack, the date will be that date on which the product was packaged in the unit container, regardless of dates of packing, shipping, or additional processing.

D. Expiration Date. The date beyond which non-extendible items (Type I Shelf-Life) should be discarded as no longer suitable for issue and use.

E. Hazardous Material. Items regulated for storage, handling, use, transportation or disposed by Federal Agency (DOT, EPA, OSHA or NRC) or state/local laws.

F. Inspection/Test Date. The date by which extendible items (Type II Shelf-Life) should be subjected to inspection, test, or restoration.

G. Inventory Control Point (ICP). An organizational unit or activity within the DoD supply system which is assigned the primary responsibility for the management of a group of items either for a particular Service/Agency or for the Defense Department as a whole.

H. Medical Critical Application Item. An item which is essential to the preservation of life in emergencies (e.g., Defibrillators and Resuscitators).

I. Military Unique Item. An item manufactured, fabricated, assembled or produced primarily for military use and is not commonly available in the commercial market place. Items requiring special packing and packaging for delivery to or use in a military combat environment are included.

J. Monographs. A monograph is a set of instructions explaining how an item, other than a Type I shelf-life item, is to be tested to determine its serviceability.

K. Shelf-Life. The total period of time beginning with the date of manufacture, cure, assembly, or pack that an item may remain in the combined wholesale (including manufacturer) and retail storage system and still remain suitable for issue and/or use by the end user. Shelf-life is not to be confused with service-life, which is a measurement of anticipated average or mean life of an item.

L. Shelf-Life Code. A code assigned to a shelf-life item to identify the period of time beginning with the date of manufacture, cure, assembly, or pack and terminated by the date by which an item must be used (expiration date) or subjected to inspection, test, restorative, or disposal action.

M. Supply Condition Code for Shelf-Life Items (MILSTRAP Supply Condition Codes "A", "B", "C"). These specific codes are expanded to provide standard criteria for signifying at the wholesale and retail level the remaining shelf-life of an item from date of manufacture, cure, assembly, pack, inspection, test or restoration action.

N. Shelf-Life Item. An item of supply possessing deteriorative or unstable characteristics to the degree that a storage time period must be assigned to ensure that it will perform satisfactorily in service.

Type I Shelf-Life Item. An item of supply which is determined, through an evaluation of technical test data and/or actual experience, to have a definite non-extendible shelf-life.

Type II Shelf-Life Item. An item of supply having an assigned shelf-life time period which may be extended after the completion of prescribed inspection, test, or restorative action.

Estimated Storage Life. Items which have an administratively determined storage life consisting of non-potency dated durable medical supply and equipment items, such as surgical and dental instruments (ESL Code X).

O. Storage Standards. Documents containing mandatory instructions for the inspection, testing and/or restoration of items in storage, encompassing storage criteria, preservative, packaging, packing and marking requirements, and time-phasing for inspection during the storage cycle to determine the materiel serviceability and the degree of degradation that has occurred. Storage Standards are required to be prepared by the managing wholesale ICP or other responsible organization for Type II shelf-life items only. They are used at the wholesale and retail level to determine if Type II shelf-life items have retained sufficient quantities of their original characteristics and are of a quality level which warrants extension of the assigned time period, and the length of such extension (remaining shelf-life).

P. Type I Medical Materiel Complaint. Materiel which has been determined by use or tests to be harmful or defective to the extent that use has or may cause death, injury, or illness.

Q. Type II Medical Materiel Complaint. Materiel other that equipment which is suspected of being harmful, defective, deteriorated, or otherwise unsuitable for use.

R. Type III Medical Materiel Complaint. Equipment which is determined to be unsatisfactory because of malfunction, design, defects (attributable to faulty materiel, workmanship, and/or quality inspection or performance).

2-1 Disposal

A. Suspension and Disposition Instructions for Inspected Stock

Recalls and Suspensions of Stock. In spite of the requirements for pre-award surveys of vendors, pre-award samples, verification samples, and source of destination inspections, materiel which has been acquired will occasionally be defective. DPSC-MQ will notify each depot, normally by message, of the suspect/defective items, including lot and contract numbers, when applicable. This procedure is the same whether the recall/suspension is originated by DPSC, FDA, VA or by the vendor/manufacturer. Depots shall isolate suspended or recalled materiel either by placarding or by physically relocating the materiel, separating it from all similar items that are suitable for issue.

Materiel Disposal. Medical materiel should be disposed of in accordance with the Defense Utilization and Disposal Manual, (DoD 4160.21-M), the United States Army Medical Materiel Agency's Medical Unique Management Data File (MUMDF) and TG 126, Waste Disposal Instructions, published by the U.S. Army Environmental Hygiene Agency, Aberdeen Proving Ground, MD, along with local environmental regulations. Non-controlled condemned hazardous FSC 6505items may be reported to the servicing DRMS for ultimate disposal.

2-2 Facilities

A. Recommended Inspection Facilities and Equipment. Quality evaluation is determined by examination for appearance, taste, order, texture, and other qualities involving sensory perception, and certain tests involving weighing, measuring, counting, and the application of certain physical procedures. To effectively accomplish the Quality Assurance mission, certain facilities and equipment are essential. The following is a recommended list of facilities that the depots should provide the inspection and quality audit elements.

1) Facilities Inspection Area
   a) Location. A fully enclosed room convenient to the medical storage area. It should not be used as a passageway. Entrance should be restricted to those having business therein. The working area should be consistent with the extent of the operation and should be heated/air conditioned.
   b) Ventilation. Well ventilated, free from dust and odors of all kinds.
   c) Lighting. The intensity of room light needed for critical color inspection should be on the order of 100foot candles. Fluorescent lighting shall be restricted to the special daylight type.
   d) Furnishings:
      (1) Inspection table and/or counters should be approximately three feet high and 30 to 36 inches wide. The tops should be of stainless steel, enameled steel, or an impervious synthetic material such as pressure laminate plastic.

(2) The sink, preferable of stainless steel with hot and cold running water, should be large enough to accommodate the largest pans that are used.
(3) Storage cabinets or work counter shelves used for storing equipment and supplies should be provided with hinged doors and/or sliding drawers.

Note: The inspection room should be kept scrupulously clean, and medical materiel discarded as soon as examinations have been completed.

2) Inspection Equipment. (Supplied by Inspection element or DPSC-MQ).

a) Caliper, gauge, digital (Model 5210-LXX-5165, Brown & Sharp).
b) Camera, instant print film (Model SLR680, Polaroid Corp).
c) Cleaner, ultrasonic (Bransonic 220, Branson Inst. Co.).
d) Clear glass cylinders - graduated. (6640-00-982-7495, 10 ml; 6640-00-889-7089, 100 ml).
e) Draining screen or colanders. (6530-00-299-8305, 6530-00- 299-8304).
f) Heater Plate - electric or gas. (6640-00-113-8336).
g) Inspection trays and pans - white enamel or plastic. (6530-00-794-0000).
h) Lamp - high intensity type.
i) Magnification lens. (6650-00-431-4375).
j) Metal rule, 32nd inch graduations. (5210-00-362-5100).
k) Meter, Hydrogen. (6630-01-064-7353) 12. Micrometer Caliper. (5210-00-540-2973).
l) Miscellaneous - glass rods, marking pencil, towel, paper cups, rubber scrapers, and assorted brushes.
m) Pans for warming products. (6530-00-299-8304)
n) Refrigerator.
o) Sealing/repack machine (plastic bags, (Model 224, Clamco Corp)).
p) Scale or balance. (6670-00-401-7195).
q) Strength tester, dielectric (Model 4045, Associated Research Inc.).
r) Tablet disintegration tester (Model 71B-M2-6, Van-Kel Industries).
s) Thermometer. (6685-00-010-8367, 0 to 150 C; 6685-00-444- 6500, 0 to 220 F).
t) Tin snips. (5110-00-221-1087).
u) Tools - hammer, pliers, file, and screw driver.
v) Forceps. (6515-00-333-8800, 6515-00-333-3700).
w) Ultra-violet light, specimen examining. (6530-00-663-2140).
x) Vacuum flip tester.
y) Vacuum Gauge. 27. Water bath, serological. (6640-00-145-1158)
z) Weight set, balance. (6670-00-401-8830)

2-3 Forms

A. DD FORM 1225, Storage Quality Control Report. (No Sample provided) DD Form 1225 will be utilized in the reporting of medical materiel which is or suspected as being defective, deteriorated or unserviceable. Disposition instructions will then be provided by DPSC on each DD Form 1225 and forwarded back to the initiating activity. This form is an On-Line form in Standard Automated Materiel Management System (SAMMS). B. SF 364, Report of Discrepancy. (Sample, Chapter 2, 2-5)

SF 364 will be utilized in the reporting and processing of customer-generated shipping type (item) discrepancies and packaging discrepancies and related supply, procurement and financial actions (DLAR 4140.55). The SF 364 is the basic document required to support adjustment of property and financial inventory accounting records and

may be used to support customer billing adjustments (charges/credits). Also, it provides information as a basis for claims against contractors and for management evaluations, as well as visibility of packaging deficiencies.

Activities will send the original and one copy of SF 364 to DPSC-MQ together with a copy of the receipt document (DD 1348-1), and the required number to their respective Service. Photographs of discrepant packaging should be provided if practical. Cost to repackage should be included in Block 12 (Remarks) to include materiel and labor costs. Discrepancies should be described in sufficient detail so as to permit an accurate determination of responsibility. Describe what the contract requirements are and the noncompliance features including the corrective action taken.

C. SF 380, Reporting and Processing Medical Materiel Complaints/Quality Improvement Report. (Sample, Chapter 2, 2-5).

Reference definitions of Type I, II, III, Medical Materiel Complaints, Chapter 1, paragraph 1-7.

SF 380 will be utilized in the reporting and processing of medical materiel complaints (DLAR 4155.28). Type I complaints will be reported by the most expeditious and urgent means of communication and then followed up with the SF 380. Examples of Types I, II and III medical materiel complaints are enclosed.

Activities will send four copies of all SF 380 to DPSC-MQ and the required number of other addressees as their Service directs.

D. SF 361, Transportation Discrepancy Report. (Sample, Chapter 2, 2-5).

SF 361 will be utilized in the reporting and processing of a materiel discrepancy while in the transportation system (DLAR 4500.15). The SF 361 is a dual purpose form used to either report a transportation type discrepancy or as a request for information to assist in resolving a potential discrepancy.

The SF 361 is a multipurpose form to be used as a request for information to assist in resolving a potential discrepancy, to report a transportation discrepancy or to establish the basis for the Defense Finance and Accounting Service Center to collect from a carrier on a transportation discrepancy. Activities will send the original and one copy of SF 361 to DPSC-MQ and the required number to their respective Service.

E. DD Form 1222, Request for and Results of Tests. (Sample 2-5)

Special testing of depot stocks shall be requested by DPSC-MQ on DD Form 1222 in accordance with instructions contained in DPSCM 4155.6. This request will be forwarded to the FDA or other testing facility.

The distribution of DD Form 1222 will be as follows:

Prior to Testing. In accordance with DLAM 8200.1/AR 702-4/NAVMATINST 4355.69A/AFR 74-15/MCO P4855.4A, Part 9, Procurement Quality Assurance.

After Completion of Testing. The test laboratory shall distribute the original and three copies of DPSC-MQ. F. DD Form 2477-1 - 2477-3, Extended Shelf-Life. (Sample 2-5) DD Form 2477-1 - 2477-3 will be utilized in the placarding of medical materiel in storage which needs to be remarked to comply with the procurement contract or MIL-STD-129. The depot will report medical materiel for remarking on DD Form 1225 and annotate the item in Condition Code "E". This will inform DPSC that the depot intends to remark the item without further guidance from DPSC. If the depot needs disposition instructions, then the item will be placed in Condition Code "L" and DD Form 1225 sent to DPSC-MQ for instructions.

Requirements

A. Use of Government Laboratories

General. In view of the assigned mission and work load of Government laboratories, request for testing of supplies must be controlled to prevent unnecessary testing. Medical materiel will be tested according to instruction by DPSC-MQ. This testing will usually be performed at an FDA laboratory.

Selection, Marking, and Shipment of Samples for Special Testing. Unless otherwise directed by DPSC-MQ three sample units representative of the suspect condition (abnormal containers/product) and three normally appearing container/product (all size containers bearing the same code/lot number) shall be selected at random from the lot of unserviceable supplies to be tested. Containers (samples) shall be labeled to show complete

contract information and to identify "abnormal" as opposed to "normal" containers. Samples shall be prepared to prevent physical and/or freezing damage in transit.

B. Marking (Identification) of Inspected Medical Materiel. When Type II shelf-life materiel is inspected or tested and then extended to a new inspection or test date, a yellow colored DoD Extended Shelf-Life notice (DD Form 2477 series) shall be attached in a conspicous place on the affected materiel whenever resources permit. However, it must be placed on both bin and bulk materiel, package, and/or containers prior to shipment. Once the Type II materiel is received, it becomes the receiver's (i.e., retail, end user) responsibility to promulgate the extension information to intermediate or unit packages, or containers if they are not so marked. There will be three different sized notices, hereinafter referred to as the largest (DD Form 2477-1), intermediate (DD Form 2477-2) and smallest (DD Form 2477-3). It should be noted that the DD Forms 2477 sseries shall not be used for medical materiel extended under the DoD or FDA Shelf-Life Extension Program or the DoD Shelf-Life Expansion Program. The Extended Shelf-Life notice shall be utilized as follows:

The NSN, next inspection or test date, Department of Defense Activity Address Code (DoDAAC) of the responsible inspecting organizaiton, and he initials or stamp of the inspecting official at the DoDAAC shall be entered.
For materiel in bulk storage the largest Extended Shelf-Life notice shall be placed in front of the storage location.
On shipments of unit load quantities which contain the same product; e.g., pallets or shrink, spin or stretch wrap pallets, the Extended Shelf-Life notice shall be securely attached to two sides of each unit load. When shrink, spin, or stretch wrap is used, the notice shall be inserted under the shrink, spin or stretch wrap. For these shipments, the largest notice is suggested.
On shipments of unit load quantities which contain more than one product and, on less than unit load quantities, the largest or intermediate DoD Extended Shelf-Life notice shall be attached to each individual shipping container.
For Type II materiel in bin storage, the smallest or intermediate Extended Shelf-Life notice shall be displayed at the location except for critical applicaiton items, as defined in Joint regulation DLAR 3200.1/AR 715-13/NAVSUPINST4120.30/AFR 400-40/MCO 4000.18C (reference (E)). When extended shelf-life items are shipped from the bin, an extension notice shall be placed on this materiel.
For that materiel on which the notices cannot be used; e.g., drums, cylinders, canisters, the revised inspection or test information shall be stenciled on this materiel or other appropriate means shall be used.

Sample Forms

3-1 Statistical Sampling Plan

A. Sampling procedures for storage surveillance are designed to provide the widest range of coverage with a minimum expenditure of man-hours consistent with the desired level of quality assurance. The primary purpose of surveillance sampling is to evaluate selected characteristics and detect any materiel that has deteriorated beyond established limits.

B. The sampling plan to be used is based upon MIL-STD-105 and is summarized for use in Table 3-1 below. The sampling plan for the electro-mechanical equipment and large packages is taken from the inspection level S1. The sampling plan for the normal sample size is the inspection level II. This sampling plan is to be utilized for medical surveillance inspections unless otherwise instructed by DPSC.

TABLE 3-1: **Master Sampling Table Electro-Mechanical Equipment and Normal**

Lot Size	Large Packages	Sample Size
2-50	3	8
51-90	3	13
91-150	3	20
151-280	3	32
281-500	3	50
501-1,200	5	80
1,201-3,200	5	125

3,201-10,000	5	200
10,001-35,000	5	315
35,001-150,000	8	500
150,001-500,000	8	800
500,001-OVER	8	1,250

3-2 Serviceability

A. Storage Quality Level (AQL) The AQL of any quantity of supplies is the maximum percent defective that, for the purpose of sampling inspection, may be considered satisfactory as a process average concerning those supplies received from vendors. The inspection criteria of MIL-STD105 provides the basis for determining the need for sampling procedures and tables for inspection by attributes.

B. Serviceability Quality Level (SQL) The SQL of any given quantity of supplies is the maximum percent defective that, for the purpose of sampling inspection, may be considered satisfactory as a process average for those supplies in storage, and shall be determined by DPSC-MQ.

C. Depot Medical Storage Standards Depot Medical Storage Standards, Chapter 7 of this Appendix, have been developed as directed in DLAR 4145.1 and 4145.4, DLAM 4155.2 and 4155.37 (basic). These standards have been established for specific classes of medical materiel assigned to DLA. Each standard designated in the Depot Medical Storage Standards listing is based on the relationship of age performance to deterioration characteristics, and is considered as the poorest level of quality which will be permitted for a given type of package in that product class prior to initiating corrective action. Storage standards are required for all troop-issued NSNs (AAC "D") but are not required for locally-procured medical supplies (AAC "L").

3-3 Acceptance And Rejection Determination

A. A Storage Quality Level (SQL) is assigned to each item in Chapter 7. Medical Storage Standards Listing, of this manual. The SQL is a nominal value expressed in terms of percent-defective that is specified for a given group of defects. Depending upon the sample size selected from Table 3-1 and the appropriate SQL, the acceptance number and rejection number are given in Table 3-2 (Chapter 3-8). Acceptance and Rejection Numbers Table. The acceptance and rejection numbers constitute a "warning signal". If the rejection number is reached or exceeded, it is an indication that certain depot care and maintenance improvements may be in order and necessary corrective action should be initiated immediately. When the rejection number is reached or exceeded, DD Form 1225, Storage Quality Control Report, is to be submitted to Commander, Defense Personnel Support Center, ATTN: DPSC-MQ.

B. As a result of inspection, those units which are found not to be serviceable in accordance with criteria contained in Chapter 7 of this manual shall be considered defection and/or suspect.

3-4 Age Category Determination

A. As indicated in Paragraph 3-1, it is necessary to determine the age of materiel at the time of inspection. In recent years, manufacturers have been required to place an expiration date, a date of manufacture, or date of pack on unit and intermediate packages and exterior containers. In the case of older materiel where the date of pack/manufacture is not reflected, inquiries may be directed to the Commander, Defense Personnel Support, ATTN: DPSC-MQ, citing the name of the manufacturer and the lot/control number reflected on the individual unit.

B. An approximate guide to the age of materiel may be obtained from the prefix designation of the applicable contract by DPSC or its predecessor agencies as follows:

Location	Agency/Prefix	Year
Military Medical Supply Agency (MMSA)	N62851	FY 1957-1959
	N-32	FY 1960-1961
Defense Medical Supply Center (DMSC)	DSA-2	FY 1962-1965
Defense Personnel Support Center (DPSC)	DPSC-120	FY 1965-1966
DSA/DLA-120-XX	DSA/DLA-120-XX	XX FY DESIGNATION

Note: XX Designates year.

3-5 Shelf-Life Materiel

A. The minimal acceptable expiration periods of dated items are contained in the National Inventory Record (NIR) and referred to as shelf-life codes. To preclude loss of stock, quantities of items procured are limited to those amounts which, based on the current demand forecast, could be rotated within the wholesale distribution system. In addition, quantities of items to be purchased with expiration dates prescribed by the manufacturers take into consideration sufficient time for delivery and use by the customers. The NIR further identifies those items by condition codes. Condition Code "A" stocks may be issued to both Continental United States and overseas activities. Condition Code "B" stocks are issued to CONUS activities, but can be issued to overseas activities with prior approval from the requisitioner. Condition Code "C" stocks are issued to selected customers. To preclude loss of stocks approaching or in Condition Code "C", larger customers are solicited to determine whether they could utilize the stock within the dating period. To minimize stock losses due to expiration of the dating period, it is of the utmost importance that condition reclassifications be processed and reported in a timely and expeditious manner.

B. Within the guidelines furnished in DoD 4140.27-M, Shelf Life Item Management Manual, medical items bearing expiration dates are reclassified from Condition Code "A" to Condition Code "B" or "C" based upon the number of months remaining in the unexpired dating period. Where the day of the month is not given the expiration date on the container, the materiel expires on the last day of that particular month.

C. Column (G) of Chapter 7, Medical Storage Standards Listing, lists the assigned shelf-life period for each item. The shelf-life data shown in Appendix M is the minimum shelf-life normally acceptable at the time of purchase. In case of conflict between the contract document and Appendix M, the contract data shall prevail. Note that an item may be accepted with a greater remaining shelf life (i.e., longer expiration dating) than specified in either Appendix M or in the contract. If this should occur, all future inspections and condition code changes shall be based on the labeled expiration date, rater than on the minimum dating shown in Appendix M. Any depot inspector who suspects that the labeled dating is erroneous should contact DPSC-MQ by telephone (AV 444-2187) for immediate clarification.

D. Customer Return. Customers will not return stock to the depot with three or less months remaining before the expiration date (Condition Code "C").

TABLE 3-3: Application Of Condition Code Changes To Shelf Life Items

Shelf-Life	
Condition Code	**Definition**
A	Shelf-life remaining is more than 6 months.
B	Shelf-life remaining is from 3 to 6 months
C	Shelf-life remaining is less than 3 months.

3-6 Nondestructive Sampling

Many items packaged in boxes, bags, or wrappers can be nondestructively opened and/or examined and returned to their container, provided the inspection is performed in a clean environment, it is not a thermo processed container/package and the container can be securely resealed. MIL-STD-2073, Vol III, explains how containers are to be repackaged; however, this procedure is not applicable to drugs, pharmaceuticals, and sterile products.

Destructive Sampling

A. Destructive sampling of medical materiel shall be performed as follows:

At time of receipt when necessary to establish identity and condition.
At time of warranty and subsequent inspections, as determined necessary to evaluate quality.

During cyclic inspection, if determined necessary by the Quality Control Auditor.
Three months prior to the expiration of inspection/test date established at the time of manufacture.
Additionally, "open container" inspection of supplies shall be performed as required, during the inspections performed after the date of the normally expected shelf-life.

B. Destructive sampling for medical controlled substances shall not be routinely performed unless result of closed package inspection/tests so indicate. Destructive sampling of controlled substances will first be coordinated with DPSC-MQ. Service components will abide by individual Service regulations.

C. Items to be dropped from accountability due to destructive sampling/laboratory testing and recoupment of warehouse-damaged stocks shall be reported in accordance with DLAM 4140.2, Vol. III, Chapter 70, PART 1, paragraph 370404. A DD Form 1225, Storage Quality Control Report, will be annotated and sent to DPSC-MQ for appropriate action.

TABLE 3-2: **Acceptable And Rejection Numbers**

4-1 Storage Materiels Handling And Shelf-Life Of Medical Materiel

A. The policy, methods, and procedures prescribed in the applicable Chapters of DoD 4145.19-R-1, governing storage and materiels handling operations involved in the receipt, storage, issue, and protection of supplies, will be used to assure that stocks on hand comply with DLA stock readiness objectives.

B. Inspection of medical materiel shipped to and from storage points that warehouse DPSC-owned supplies, and examination of conveyances used for shipping these supplies shall be persformed in accordance with instructions contained herein.

4-2 Requests Received By Depot From Contractors

Any and all requests received from contractors or their representatives concerning samples, inspection, or nonconforming supplies shall be referred to the Procuring Contracting Officer (PCO) through DPSC-MQ (215) 952-2187 or Autovon 444-2187.

4-3 Priority And Continuity Of Inspections

A. The inspection of medical materiel will be continuous, i.e., receipt, special, warranty, cyclic and prior to shipment inspections. Items having reached their storage life, items highly susceptible to damage, items that have been placed in a condition code for priority issue, and those items scheduled for warranty inspections, are to be inspected prior to shipment.

B. It is recognized that depot level inspection of medical materiel is generally limited to a visual inspection, normally excluding destructive testing, chemical analysis, or technical determinations of remaining shelf-life. A depot inspection is expected to be able to determine if an item should or should not be refrigerated or frozen in transit and whether it has been properly handled. The inspector is expected to determine from the item label and Appendix M if an item should be clear or colorless and whether it is so. Likewise, an inspector is expected to be able to accurately determine whether tablets have crumbled to powder, whether capsules are loose or stuck together, etc. Appendix M guidance must be followed whenever visual examination detects a potential problem with any of these items.

4-4 General Inspection Information

A. Metric Equivalents. In conversion from the English to metric system, the metric equivalent used by some manufacturers may be slightly different from that shown in the item identification. The metric equivalents listed in the Federal Supply Catalog should be considered as nominal quantity of contents.

B. Commercial Packaging and Packing. Since most medical items are packaged to commercial, rather than military specifications or standards, care must be exercised to ensure that unit and intermediate quantities are properly marked on containers; also that issue document quantities correspond to the package quantities. When the catalog issue quantity differs from the quantity shown on the package, the item(s) should be repackaged/remarked to correspond with the issue needs.

C. Military Packaging. Level A or Level B packaging will conform with either Section 5 of the specification or MIL-STD-2073, when required by war reserve, contingency, FMS, or other Service needs.

D. Tamper-Resistant Packaging.

1) Manufacturers are utilizing tamper-resistant packaging for certain over-the-counter (OTC) nonprescription drug products. A tamper-resistant package is one having an indicator, seal or barrier to entry, which if broken, breached or missing, can reasonably be expected to provide visible evidence to consumers that tampering has occurred. A tamper-resistant package may involve an immediate-container and closure system or secondary container or carton system or any combination of systems intended to provide a visual indication of package integrity. Further, each such package is required to bear a statement that is prominently placed so that consumers are alerted to the specific tamper-resistant feature of the package.
2) Due to the variety of tamper-resistant seals, packages, and designs being used, there is a corresponding variety in the statements being used to specify the specific tamper-resistant feature to be checked. The following are some examples of such statements illustrating specific tamper-resistant features:

    a) Sealed for your protection.
    b) If foil seal under cap is broken or missing when purchased, do not use.
    c) Protective overwrap on carton. Do not use if red stripe is missing.
    d) Do not use if safety seal broken.
    e) Each tablet sealed. Do not use if seal is torn.
    f) Safety sealed. Do not use if opened.
    g) Do not use if seal under cap is broken.
    h) Safety sealed. Do not use if film wrap is cut or torn.

3) Warehouse/supply personnel in opening cartons or handling materiel may accidentally damage or break the tamper-resistant feature. All personnel should be alert to the tamper-resistant feature, and if such damage has occurred, the damaged package should not be issued to customers. Please note that the list of tamper resistant statements cited above is not all inclusive since other similar statements may appear on the package.

4-5 Scheduling Of Inspections

A. Appropriate supervision and instructions (Depot Standard Operating Procedure (SOP) or Local Support Agreement) establishing responsibilities of the Director of Distribution Receiving, Storage, and Shipping Personnel; Surveillance Inspection activities, and Quality Assurance activities are essential to provide:
1) An effective scheduling of inspection programs.
2) Timely inspections and reporting of inspection results.
3) Realistic and updated locator information.

B. Upon completion of receipt inspection, the receiving medical materiel inspector or Quality Assurance/Quality Control (QA/QC) activity shall enter the date of the next inspection (warranty inspection) on the receipt control document or other appropriate form.

C. Acceptance inspections are a type of receipt inspection and are based on the date of receipt at destination regardless of contract acceptance point. For the purposes of the acceptance inspections, the date of receipt is the date the shipment arrives at destination. Warranty inspections may also be accomplished upon the direction of DPSC.

D. It is the responsibility of the storage activity to maintain appropriate controls to assure:

1) That pertinent and reliable inspection data are furnished DPSC to update records.
2) That supplies are scheduled for inspection on timely basis in accordance with the guidelines of DLAM 4155.2 and instructions contained herein, and that schedules also contain current and realistic information.
3) That computer-generated scheduling lists, or local forms used for manual scheduling, be furnished the inspector on a timely basis and that inspections are performed as scheduled and conducted in accordance with these instructions.

4) That detailed, factual, and meaningful report and/or correspondence be prepared and furnished to DPSC, ATTN: DPSC-MQ, on a timely basis.

4-6 Methods Of Inspection

A. Sampling Inspeciton (Statistical). A modified method of selection of samples may be used because supplies are usually warehoused in such a manner as to render true random selection of samples impractical or economically prohibitive, provided samples selected are representative of the "lot".

B. Full Inspection (100 Percent). Full inspection 100 percent inspection (screening) of the total quantity of an item in a specific lot or shipping unit. Full inspection will be limited to:

Requests by the contracting officer as a result of warranty action on an item.
Requests by DPSC-MQ
Instances where result of a sampling inspection indicate that full inspection is necessary and can be accomplished with facilities and personnel currently available at the storage activity.

4-7 Inspection of Assemblies

A. Major assemblies are inspected and reconstituted, as directed by DPSC, in accordance with DLAM 4140.2, volume III, Supply Operations Manual.

B. Minor assemblies will be inspected to ensure continued serviceability. When required, assistance of other technical personnel should be requested through appropriate channels. Medical materiel subject to deterioration will be rotated to ensure the fit-for-issue condition of the assembly. Minor assemblies will not be updated or modified without the specific approval of DPSC. Quality surveillance actions applicable to minor assemblies for controlled substance components will be reported to DPSC on DD Form 1225 and the affected minor assembly will be suspended in Condition Code "J" pending disposition instructions form DPSC. Only medical materiel meeting the exact description in the current Identification Lists of the Federal Supply Catalog, Department of Defense Section, will be utilized for assemblies.

C. When refurbishing major assemblies, screen contents against the Department of the Army Bulletin, SB-8-78 series.

D. Medical materiel is normally issued under the "First-In First-Out" principle of stock rotation; i.e., issuance of the oldest materiel first. However, the newest materiel must be supplied for assemblies due to the difficulty of stock rotation of items contained there. The expiration or inspection/test date will be the earliest expiration date of all medical materiel in the assembly.

4-8 Inspection of Major Medical Equipment

A. Each unit of those critical major equipment items coded as "V": in column (p) of the Depot Medical Storage Standards Listing will be inspected and tested at the time of issue, with the following exceptions:

1) Unless otherwise directed by the DPSC, newly purchased items in their original pack may be issued for three years from date of receipt. (NOTE: This does not apply to "new, unused" items returned to or transferred between depots, or to medical equipment which contain shelf-life items.)
2) Unless otherwise directed by DPSC, listed items subject to a regular cyclic surveillance which includes operational testing and necessary overhaul may be issued without further inspection for three years from date of restoration to issue status except for equipment which contain shelf-life items.

B. Inspection and testing will be performed by properly qualified technicians, equipped with tools, instruments, and utilities required for the purpose.

C. Materiel condition labels/tags, outlined in MIL-STD-129, will be used for other than serviceable materiel.

4-9 Inspection of Sensitive, Drug Abuse Control, and Pilferable Items of Supply

Guidance on sensitive items (Narcotics and Precious Metals), Pilferable and Drug Abuse Items are contained in DLAR 4145.11, Safeguarding of DLA Sensitive Inventory Items, Controlled Substances, and Pilferable Items of Supply.

A. Surveillance. When performing storage inspections it is important that the immediate container be examined for evidence of tampering. Close examination should be given to both the inner and outer seal, whichever is applicable, of the container since it may have been partially or totally removed and replaced. This may be a clue that some or all of the contents have been removed or exchanged. Some of the areas to look for are:

Is the seal as tight as normal?
Is the glue around the seal uniform and similar to containers previously received?
Is the glue excessive?
Are the contents correct, as best that can be determined without breaking the seal?

B. Receiving. Receipts from contractors, customers, or depot to depot shipments should be examined as stated above. Following these procedures could result in eliminating future difficulties in accountability.

4-10 Inspection of Refrigerated (Chill) And Frozen Medical Materiel

Medical materiel requiring refrigeration (chill) or freezing shall be properly received, stored, and shipped. DLAR 4145.21, preparation of Medical Materiel requiring freeze or chill environment for shipment, provides the requirements for the preparation and shipment of these items.

A. Receiving. On shipments of items listed in DLAR 4145.21 from depot to depot, shipments must be made under constant refrigeration (chill) or frozen as applicable. On shipments from contractor to depot, refer to the applicable contract for any shipping and storage instructions.

B. Storage. Personnel responsible for the storage of refrigerated and frozen medical materiel should make certain that materiel is stored as directed. Items requiring normal refrigeration should be stored in a temperature environment maintained between 2 and 8 degrees C (35 to 46 degrees F), while frozen items should be stored below 0 degrees C (32 degrees F). Personnel should exercise care to prevent the inadvertent storage of normal refrigeration items within freezer areas and vice versa. In the event that such discrepancies do occur, they should be reported promptly to the Commander, Defense Personnel Support Center, ATTN: DPSC-MQ.

C. Shipping. Personnel responsible for refrigerated shipments should make certain that materiel is shipped in accordance with DLAR 4145.21. The following special instructions should be applied to such shipments:

1) See DLAR 4500.21, Transportation of Perishable Medical Items, for transportation procedures.
2) Ensure proper shipping containers are used.
3) Ensure the correct amount of wet or dry ice is used.
4) Coordinate shipments to ensure re-icing enroute.
5) Ensure that proper labels and markings are affixed to container.
6) Medical shipments requiring freezing or refrigeration are not to be consolidated with other shipments.

D. Reporting of Discrepancies in Shipment Attributable to Transportation. Discrepancies discovered upon the receipt of medical materiel requiring refrigeration (chill), freezing or limited unrefrigeration, which result in loss, damage or destruction to such materiel, and can be attributed to the carrier, will be reported on SF 361, Transportation Discrepancy Report, in accordance with DLAR 4500.15, Reporting of Transportation Discrepancies in Shipments, to DPSC-MQ. In addition to the preparation and submission of SF 361, the following additional actions should be accomplished upon discovery of shipment discrepancies:

Place the materiel in proper chill or freezer space as required for the item.
Suspend the materiel from issue and use.

Report to: Commander, Defense Personnel Support Center, ATTN: DPSC-MQ.
Information to be furnished (As attachment to SF 361):

- National stock number.
- Nomenclature.
- Name of manufacturer.
- Date of manufacture or expiration date.
- Lot or control numbers.
- Contract and/or requisition numbers.
- Dollar value.
- Quantity.
- Suspension status (Condition Code).
- Present storage condition.
- Temperature during shipment or adverse storage conditions and prevailing temperature at time of receipt.
- Cause of the discrepancy.
- Source (place from which materiel was received).
- Carrier and Transportation Control Number, or Government Bill of Lading Number, with mode of shipment.
- Date and hour materiel delivered by carrier.
- Information appearing on DD Form 1502, Frozen Medical Materiel Shipment (Sample on Page 4-17); DD Form 1502-1, Chilled Medical Materiel Shipment (Sample on Page 4-18); or DD Form 1502-2, Limited Unrefrigerated Medical Materiel Shipment (Sample on Page 4- 19). (Note: Remove the form from the package and forward with the report to DPSC-MQ. If form cannot be furnished, the following information appearing on the form must be submitted:

  - Date and hour packed at origin, or removed from refrigeration or freezer.
  - Origin of shipment (place).
  - Pounds of ice and type, refrigerated carrier.
  - Time permitted for unrefrigerated transit.
  - Name of packer.
  - Date and hour materiel returned to refrigeration or freezer.

- Other details concerning condition of materiel.
- Name, place and telephone number of person most familiar with this situation.

Information cited in subparagraph 4(a) through 4(q) is included in the following special shipment forms.

Note: These forms are normally packed inside the shipping container.

E. Customer Returns. Customers will not return refrigerated or frozen medical materiel to the depots. The depots cannot determine if this type of medical materiel has been under constant refrigeration or continuously frozen. Therefore, station returns to the depots for refrigeration/frozen medical materiel will be suspended immediately in Condition Code "K" and reported to DPSC-MQ.

4-11 Inspection of Parenterals/Injectables

A. Definition. Parenterals are sterile preparation administered by injection under or through the skin or mucous membrane.

B. Method of Inspection.

1) Clarity and Completeness of Solution. Solutions of parenteral preparations shall be clear and free from undissolved or particulate matter the limits permitted in applicable serviceability quality level. NOTE: For dry solid products, prior to examination, the product must be constituted as directed in the labeling supplied by the manufacturer.

a) The containers are examined without accessory magnification (except for such optical correction as may be required to establish normal vision) against a black background and against a white background with illumination from a light at a point 25.4 centimeters (10 inches) from its source provides an intensity of illumination of not less than 100 and not more than 350 foot-candles as measured by a light meter. (Some biological products need not be clear and entirely free from turbidity, provided this is characteristic of the products.)

b) A fluorescent X-ray film illuminator can be used as a light source in illumination of the ampuls, vials, or bottles under examination for clarity.

c) In examining for clarity, invert the container several times or swirl gently. Do not agitate the solution. Agitation will incorporate air into the solution. Foreign matter (solid particles) is usually irregular in shape and will tend to settle to the bottom of the container, whereas lint or thread-like particles may float in the liquid. In contrast, fine air bubbles which may be seen during handling of the container may be recognized by a spherical or oval shape and movement to the surface of the solution.

d) In examining for completeness of solutions of dry solid products, note that the solid dissolves completely, leaving no visible residue as undissolved matter. In addition, this constituted solution is not significantly less clear than an equal volume of diluent or of purified water (Purified USP) contained in a similar container and examined similarly. e. In reporting lack of clarity in parenteral preparations, indicate the type and nature of the particulate matter, its extent, and number of containers found to contain particles and number of containers without particles.

2) Clarity of Suspensions

a) Suspensions shall contain fine, evenly dispersed powder or crystalline materiels in suitable vehicles. (NOTE: For dry solid products, prior to examination, the product must be constituted as directed in the labeling supplied by the manufacturer.)

b) Suspensions shall be free from foreign matter when examined, without accessory magnification, under ordinary room lighting. If separation of the suspension occurs, a uniform suspension shall be obtained after moderate shaking of the container for 20 seconds. The suspension shall remain homogeneous for at least three minutes. Suspensions in aqueous vehicles, after shaking as above, shall flow freely without binding when the contents of the final containers are aspirated through a 22-gauge, 1 inch hypodermic needle, using a suitable hypodermic syringe. Suspension in nonaqueous vehicles, after shaking as above, shall flow freely without binding when the contents of the final containers are aspirated through an 18-gauge, 1-1/2 inch hypodermic needle using a suitable hypodermic syringe. Requirements for suspension needing special treatment will be described in the procurement document.

3) Examination of Containers. The container may be glass or plastic bottle, ampul, multi-dose vial, tube, or bag complete with a closure which holds and is in direct contact with the medical product. Examine carefully each container sampled for evidence of physical damage such as cracks, breaks, tears, leakage, and interaction between contents and container. Those containers found defective are considered not suitable for use.

4-12 Inspection Of Tablets

A. Definition. Tablets are solid dosage forms containing one or more medicinal substances, except placebo tablets, with or without suitable diluents. Tablets are made in various shapes, colors, sizes, and weights, coated and uncoated, depending upon the amount of the medicinal substance(s) and the intended mode of administration or use. Various types of tablets are: Oral Tablets, Solution Tablets, Hypodermic Tablets, Ophthalmic Tablets, Buccal Tablets, Sublingual Tablets, Vaginal Tablets, Pellets, Impregnated or Laminated, including "delayed-action", "repeat-action", prolonged-action", and "sustained-action" tablets.

B. Characteristics of Tablets

1) Uniformity. All tablets within one contractual quantity shall be smooth and uniform in size, shape, and color. Tablets within one lot shall be of a uniform shade and hue. If one tablet bears identifying marking, all shall bear the identical marking. In addition, tablets shall show no evidence of defects as specified in subparagraph D.

2) Color. In reporting discoloration of tablets, identify the color, using the closest matching color in Federal Standard Number 595, Colors. Unless otherwise specified, any coloring materiel employed in the tablets shall be

uniformly and homogeneously distributed, with the possible exception of multilayer, impregnated, or laminated tablets.

C. Method of Inspection

1) Visual Examination. Tablets shall be placed on a white sheet of paper and both sides of each tablet examined, without accessory magnification, under ordinary room lighting. Turning can be affected by means of a spatula. Handling of tablets with bare hands should be avoided by the use of surgical gloves.
2) Odor Examination. Tablets shall be odorless if they are not flavored or do not contain active ingredients which are normally characteristically odorous. Tablets shall have no foreign odor or odor resulting from decomposition or deterioration. Tablets with an inspection Code "B4" shall be examined in the freshly opened immediate container; the cotton or other filler shall be removed from the immediate container during the exposure to air. After exposure to the air at room temperature (in a room from drafts) for the period specified herein, the contents of a freshly opened immediate container shall have no odor.

3) Quantity Tablets per container Exposure to Air in minutes

Tablets Per Container	Exposure to Air in Minutes
100 or less	5
101 to 500	10
1001 or more	25

D. Classification of Defects. Examination of all tablets shall be conducted using the following classification of defects, unless otherwise noted.

1) Major Defects
   a) Tablet not uniform in color (mottle).
   b) Color of tablets in bottle not uniform.
   c) Tablet not free of foreign odor.
   d) Tablet not uniform in shape or size.
   e) Tablet not free of breaks.
   f) Tablet not free of cracks.
   g) Tablet not free of embedded surface spots or contamination.
   h) Tablet not free of foreign particulate contamination.
   i) Bottle not free of extraneous materiel.
   j) Base tablet not fully covered (coated and film-coated tablets only).
   k) Tablet not uniformly polished, if polished (coated tablets only).
   l) Tablet not free of stickiness (film-coated tablets only).
   m) Tablet not free of splitting (uncoated and film-coated tablets only).
   n) Tablet not free of capping or cavitation (uncoated tablets only).
   o) Tablet not free of foreign materiel inside the tablet (uncoated tablets only).
   p) Solution not free of undissolved or particulate matter (solution, hypodermic, or tablets only).
2) Minor Defects
   a) Tablet not smooth.
   b) Tablet not free of surface blemishes, i.e., pits, pimples.
   c) Tablet not free of adhering surface spots.
   d) Tablet not free of chips.
   e) Tablet not free of overturned (projected) edges (uncoated and film-coated tablets only).
   f) Tablet not free of feathered edges (uncoated and filmcoated tablets only).
   g) Tablet not free of die spots (uncoated and film coated tablets).
   h) Tablet not free of cleavage (uncoated tablets only).
   i) Tablet not free of pitting (uncoated and film coated tablets only).
   j) Immediate container not internally and externally clean.
   k) Void space of immediate container not filled, when required.
   l) Brochure not included (or attached), when required.
   m) Labeling not legible.

A. Reporting Defective Tablets. In reporting defective tablets indicate in the report the number found with defects. A qualitative statement or photograph is to be submitted that will describe the magnitude or extent of the defects. In describing defects the following definitions apply to the terminology used:

Terminology	**Definition**
Break	The separation or dislodging of more than 10 percent of the tablet.
Capping or	The separation (or tendency toward separation) of a Cavitation portion of the upper or lower surface of the tablet.
Chip	An indentation on the edge of the tablet. The cross-section (largest dimension) of the chip in the tablet is more than 10 percent of the diameter of the tablet, but less than 10 percent of the tablet weight.
Cleavage	An indentation or "weak point" on the side of the tablet which may result in breakage of the tablet.
Crack	A break in the surface of the tablet.
Die spot	The small indentation in the surface of the tablet such as that caused by sticking to or the result of a gummed punch or die.
Excess powder	That amount of powder and tablet chips which are equivalent to more than 0.5 percent of the total weight of tablets in the immediate container.
Feathered side	Similar to an overturned edge except that the ridge resembles the teeth of a saw and the ridge (at its maximum) is 10 percent or less of the vertical length.
Foreign matter	Foreign materiel contained in the tablet is not visible from the surface.
Mottling or Non-	The irregular coloration of tablet. uniformity of Color
Overturned	The excess ridge at the point where the "face" (projected) edge (convex or flat surface) meets the vertical (perpendicular) surface of the tablet. This ridge (projection) is more than 10 percent of the vertical length.
Pitting	Small indentations the surface of the tablet such as that exhibited by porous tablets.
Smooth surface	A surface that is sooth to the touch excluding the effects of scoring or trademark impressions.
Splitting	A complete separation of the tablet into two or more substantial parts.
Surface spots	(a) Clearly defined particles which are embedded in or on the surface of the tablets. (b) Clearly defined particles which adhere to the surface but can be wiped or blown off of the surface. The particles (spots) are foreign, extraneous, or contaminant to the tablets. Examination is conducted without accessory magnification.
Uniformity	Self-explanatory. of shape or size

4-13 Inspection of Capsules

A. Definition. Capsules are solid dosage forms containing one or more medicinal substances, except for placebo capsules, with or without diluents, enclosed within either a hard or soft soluble container (shell). The container is prepared from a gelatin base containing glycerin or other suitable plasticizer in a proportion which may be varied to produce either a hard or soft capsule in the following shapes: conventional, bullet-like, elliptical (oval), oblong, round, tapered ends, or a special shape as specified in the procurement document. Hard capsules consist of two pieces (the base and the cap) and contain powders, granulations, or pellets. Soft capsules consist of two flexible pieces formed into a body and permanently sealed and contain liquids, powders, or semisolids.

B. Method of Inspection

1) Uniformity. Capsules within one lot and within one contractual quantity shall be of the same color, transparency, size and shape. If one capsule bears identifying markings, all capsules shall bear the identical marking. In addition, capsules shall show no evidence of defects as specified in Section C of the contract. Unless otherwise specified, any coloring materiel employed in the capsules shall be uniformly and homogeneously distributed, with the possible exception of the pellets in certain types of capsules.

2) Odor Examination. See Paragraph 4-12C to accomplish this test.

C. Classification of Defects. Examination of all capsules shall be conducted in accordance with the following classification of defects, unless otherwise noted.

Major Defects

Capsule not as specified (i.e., hard shell or soft shell).
Capsule not free of cracks, breaks, pinholes or splits where leakage of contents may occur.
Capsule not uniform in appearance.
Base and/or cap of capsule not as specified (hard capsules).
Capsule not uniform in color(s).
Capsule empty.
Capsule not free of embedded surface spots or contamination.
Capsule does not maintain tight closure or seal in the immediate container, or during normal handling, or dispensing.
Capsule fill not free from foreign matter (not visible through capsule shell).
Capsule not intact (i.e., cap separated from body).
Capsule not free of foreign odor, other than characteristic odor.
Immediate container not internally or externally clean.
Void space of immediate container not filled.
Brochure not included (or attached), when required.
Labeling not legible.
Immediate container not free of excess ingredient (capsule contents).

Minor Defects

Capsule not free of pits or dents.
Capsule not free of thin areas.
Capsule not free of specks, spots or blemishes.
Capsule not free of cap and/or body cutting into one another (hard capsules).
Capsule not smooth.
Capsule not free of adhering surface spots.

D. Reporting Defective Capsules. In reporting defective capsules indicate in the report the number found with defects. A qualitative statement or photograph is to be submitted that will describe the magnitude or extent of the defects. In describing defects, the following definitions apply to the terminology used:

Terminology	**Definition**
Break and Crack	A fracture in the surface of the capsule.
Dents	Small indentation in the surface of the capsule.
Excess Ingredient	That amount of fill from the capsules which is equivalent to more than 0.5 percent of the total weight of the capsules in the immediate container.
Foreign Matter	Foreign materiel contained in the capsule and not visible from the surface.
Mottling or Non-	The irregular coloration of the capsule. uniformity of color
Splitting	A complete separation of the capsule into two or more substantial parts.
Smooth Surface	A surface that is smooth to the touch excluding effects of trademark impressions.
Surface Spots	(a) Clearly defined particles which are embedded in or on the surface of the capsules. (b) Clearly defined particles which adhere to the surface but can be wiped or blown off of the surface. The particles (spots) are foreign, extraneous, or a contaminant to the capsules. Examination is conducted without accessory magnification.
Thin Area	A "weak point" on the surface of the capsule which may result in leaking from the capsule.
Uniformity	Self explanatory: of shape or size

4-14 Suspected Violations of the Federal Food, Drug, And Cosmetic Act

Suspected breaches of the Federal Food, Drug, and Cosmetic Act shall be reported in accordance with DLAM 4155.37, Appendix M, as follows:

A. Inspectors reporting such suspected violations shall continue with cyclic inspections after the report has been submitted, unless otherwise directed by DPSC-MQ.

B. Inspectors shall honor written requests by the Food and Drug Administration (FDA), through DPSC-MQ, for placement of suspect stocks in a "HOLD" (i.e., Condition Code "J") account pending results of testing.

C. FDA samples destroyed or collected from depots will be covered by a signed receipt.

D. Inspectors shall advise DPSC-MQ regarding instructions received from the PCO concerning, but not limited to, warranty actions, additional inspection and testing of medical supplies from contractors.

4-15 Surveillance of Medical Materiel

A. Materiel suspected as being defective, deteriorated or unserviceable will be reported to DPSC-MO using the on-line DD Form 1225 in SAMMS, listing all available data so that an objective evaluation can be made of the item's serviceability.

B. Estimated storage life (ESL) items do not have a specified potency or expiration date, but rather have an administratively determined storage life throughout which the materiel may reasonably be expected to retain its usefulness.

C. Surveillance inspections of Type I items need not be performed until the item has aged and migrates to Condition Code "C". At that time, the stock shall be inspected for count, visible physical condition, and identity. If the dollar value per line item equals or exceeds $1,000.00, prepare a DD Form 1225, Storage Quality Control Report, and report the item to DPSC-MO for possible replacement by the vendor. If the item reaches its labeled expiration date, destroy or dispose of it unless specifically directed otherwise by DPSC. Inventory records will automatically be adjusted through MOWASP.

D. Type II shelf-life items have an inspection or retest date which may be extended if testing or inspection confirms that the item has not deteriorated.

1) New materiel shall be inspected/sampled in the same manner as Type I items.
2) Returned materiel shall be inspected/sampled in the same manner as Type I items.
3) Surveillance inspections for Type II items shall be performed in the same manner as Type I items except that prior to preparing any reports or disposing of/destroying any materiel, depot inspectors shall determine if an applicable monograph exists. If there is a monograph, inspect/test accordingly. Materiel, which passes the inspection/test shall be remarked as specified in the monograph and placed in the new applicable condition code. Materiel which fails the inspection/test shall be destroyed or disposed. Where there is no monograph or where the inspection/testing requirements of the monograph cannot be met by the depot, the materiel shall be reported to DPSC-MO on a DD Form 1225, regardless of dollar value requesting disposition instructions. Materiel shall be retained until disposition is received. Submit follow-up documents as necessary in accordance with current procedures.

4-16 Identification and Marking of Inspected Materiel

A. As a result of surveillance inspections, either scheduled using the inspection criteria shown in the storage standards or inspections directed by the Directorate of Medical Materiel, DPSCMQ, materiel that is selected for examination during the course of these inspection must be marked to comply with guidelines listed in this appendix or disseminated in the form of special instructions from this DSC.

B. Acceptable means of marking inspected materiel while performing surveillance inspections are tags, labels, inspector stamps, and placards. Materiel condition marking requirements as outlined in MIL-STD-129, Military Standard Marking for Shipment and Storage, shall be adhered to.

C. The method employed will depend on the size of the container samples as well as the quantities involved. Materiel selected will be annotated as outlined below by surveillance personnel:
1. All samples selected using the applicable SQL will be appropriately marked to indicate that they were examined.
2. Only those items in bin storage locations found to be unserviceable or which must be suspended from issue will be tagged or labeled. Items so identified may be removed from a reserved bin storage location and placed in designated area for suspended materiel pending a determination as to disposition.
3. Unserviceable and suspended items in bulk/rack storage locations will be marked by attaching tags or labels to exterior containers. In the event that suspension/downgrading pertains to large quantities of materiel that are stacked in one or more locations, placards should be utilized for each location showing the assigned condition code and the reason for the suspension/downgrading. These placards should be prominently displayed at the front of each stack so that warehouse personnel are alerted about the condition of materiel to preclude the issue of unserviceable stocks.
4. Serviceable materiel will not require tagging or labeling other than for the actual samples selected and examined during the inspection.

D. If the inspection/test date of the Type II shelf-life item is extended, all containers (exterior) will be marked reflecting the next inspection/test and authority (source and DPSC Project Number) for extension. The retest date originally applied by the manufacturer will be lined through but not obliterated. DD Form 2477 shall be used as noted in chapter 2, paragraph 4B of this appendix.

E. Type I shelf-life items may require remarking with a corrected expiration date when empirical or test data results in a directed change to the assigned shelf-life period. These changes do not constitute an extension of the shelf-life period. In general, these corrections will be performed when information is disseminated by the Directorate of Medical Materiel, DPSC, to conduct special surveillance inspections to remark existing stocks with the revised shelf-life period. All containers (exterior, intermediate, and unit) will be marked with the revised shelf-life period and the authority (source and DPSC Project Number) for extension.

F. The marking of shelf-life data at the time of shipment will sometimes become necessary because of the difficulty of accomplishing this function at the time of scheduled or special surveillance inspections. All containers (exterior, intermediate, and unit) shall be marked.

G. The marking of surveillance data on containers of other that shelf-life items is not required except for the actual samples examined. There is no mandatory requirement to conduct inspections on estimated storage life items located in bin storage locations except for estimated storage life parenteral solutions that will be inspected at intervals. These parenterals will be suspended from issue upon reaching the end of their estimated storage life. These items are:

NSN	NOMENCLATURE
6505-00-074-4582	Quinine Dihydrochloride Injection
6505-00-108-4965	Atropine Injection, 2mg/ml (Syrette)
6505-00-129-5517	Morphine Injection, 16mg/1.5ml
6505-00-129-5518	Morphine Injection, 16mg/1.5ml, 5's
6505-00-299-9673	Atropine Sulfate Injection, USP, 2mg/ml, 25ml
6505-00-687-4417	Atropine Injection, 2mg/ml (Syrette), 12's
6505-01-125-3248	Pralidoxime Chloride Injection

H. If an estimated storage life item is reclassified as a shelf-life item or an assigned shelf-life period is changed, surveillance personnel should take necessary action to reflect proper shelf-life markings on materiel in stock. These changes will normally be directed to be performed in instructions disseminated by DPSC. When notified of such a change, surveillance personnel should direct their efforts in ensuring that all in-stock materiel is marked to reflect the current shelf-life period/expiration date.

I. In a similar fashion, if an item is reclassified from a shelf-life item to an estimated storage life item, the materiel will be marked ensuring that all identifying shelf-life markings are lined through but are not obliterated and include

the authority (source and DPSC Project Number). Label or placards may be employed to instruct warehousing personnel to perpetuate corrected markings to interior containers when opened.

J. In some instances, medical materiel is received from a contractor or by way of a customer return that when originally procured was designated as an estimated storage life item but has since been classified as a shelf-life item. Under these circumstances, materiel should only be remarked if within the newly designated shelf-life period. If materiel is older than the shelflife period it should remain unmarked, placed in suspense, and be reported to DPSC-MQ for disposition instructions.

K. If a commercially procured item is received reflecting an expiration date or inspection/test date, even though designated as an estimated storage life item, depots should first determine whether the item is included in the medical shelf-life program by referring to either the storage standards or the most recent "Shelf-Life Items" listing distributed by this DSC. (If the item is confirmed to be an estimated storage life item, necessary action should be taken to reflect both the date of pack/manufacture and First Inspection Date in the surveillance (locator) record file as would be accomplished for any other estimated storage life item.) Under no circumstances should materiel be suspended solely because of the appearance of expiration date or inspection/test date markings on containers. Depots should not expend any of their resources to obliterate shelf-life markings from containers unless directed to do so by DPSC.

L. The above referenced remarking may be accomplished immediately for all on hand stock down to the unit package upon receipt of DPSC instructions, or depots may remark all exteriors in bulk storage and all intermediates/unit issues in bin storage immediately. All packages must be remarked prior to shipment.

4-17 Monographs

Chapter 5 contains specific inspection information on those items that either can be extended at the storage activity concerned, based on local testing accomplished in accordance with the applicable monograph, or require special instructions not included elsewhere. A monograph is a set of instructions explaining how an item, other than a Type I shelf-life item, is to be inspected or tested to determine its serviceability. It is recognized that some monographs require the use of equipment, supplies, facilities or expertise that, although commonly available at a medical treatment facility, may not be available in a depot. When a monograph requires the use of specialized equipment unavailable (and uneconomical) in a depot, or the inspector cannot perform the inspection or test due to lack of expertise or training, the monograph item shall be reported to DPSC-MQ who will arrange for necessary inspection or testing and provide appropriate instructions to either rework and extend the shelf-life or to dispose of the materiel.

4-18 Sample Forms

5-1

This section contains specific inspection/test information on those items that either can be extended at the storage activity concerned, based on local testing accomplished in accordance with the applicable Monograph, or require special instruction not included elsewhere. If the equipment, supplies, facilities, or expertise are not available at the/your depot, or if the inspector cannot perform the inspection or test due to lack of experience or training, the monograph item will be reported to DPSC-MQ who will arrange for necessary inspection or testing and provide appropriate instructions to either rework and extend the shelf-life or to dispose of the materiel.

Nomenclature
Adhesive Liquid, Surgical, Dermatome, Special
Adhesive Ties, Surgical
Ampoule, Dissolved Oxygen Testing
Bandage, Cotton, Elastic
Bandage, Cotton, Plaster of Paris, Impregnated, Hard-Coated
Bandage, Gauze, Tubular, Elastic Netting

Bottle, Infusion, Glass, 1000 ml
Burn-Trauma Treatment Kit
Cartridge, Water Demineralizer, Ion Exchange
Cement, Zinc Oxide and Eugenol, Dental
Cytotoxic (Antineoplastic) Drug
Developer, X-Ray Film Processing
Drapes, Surgical, Plastic, Disposable
Envelope, Drug Dispensing
Envelope, Sterilization, Paper, Self-Sealing
Film, Radiographic, Polyester Base
Fixer, X-Ray Film Processing
Flashlight, Eye Examining Flashlight, Surgical
Formaldehyde Solution, USP
Generator, Carbon Dioxide-Hydrogen, Anaerobic Culture Apparatus
Light, Laryngoscope (Batteries Contained Therein)
Mask, Oronasal
Point, Pulp Canal, Dental, Gutta Percha, 100's
Preventive Dentistry Paste
Skin Closure, Adhesive, Surgical
Skin Marker
Slide, Microscope
Sponge, Intestinal, Gauze, Radiopaque, 3/8 In, 500's
Tablet Set, Milk Pasteurization Testing Set
Tape, Adhesive, Surgical and Bandage
Tape, Sealing, Sterilization Indicator, Gas or Steam
Tube, Biological Culture Sampling, Sterile Disposable, with Transport Media
Tube, Blood Collecting Vacuum, without Anticoagulant

5-2 Individual Monographs

1) Adhesive Liquid, Surgical, Dermatome, Special

a) Description. The adhesive within one lot shall have a uniform appearance.
b) Signs of Deterioration. Physical deterioration is evidence by:
   i) Adhesive will not pour.
   ii) Adhesive contains large lumps.

c) Inspection. When the inspection/test date is reached, the adhesive shall be examined for evidence of deterioration by shaking the container, then pouring the adhesive from its container.
d) Extension. Materiel free of defects may be extended for 15 months. Extensions may continue periodically (15-month intervals) until the materiel is considered unserviceable.

Adhesive Ties, Surgical

Description. Adhesive ties within one lot shall have a uniform appearance. It is acceptable for the adhesive mass to appear slightly yellow.

Signs of Deterioration. Physical deterioration is evidence by:
Adhesive mass not uniform.
Adhesive mass separates from the fabric backing upon removal of the facing.
Facing cannot be completely peeled from the adhesive mass.
Adhesive excluded beyond the periphery of the adhesive tie.

Inspection. When the inspection/test is reached, the adhesive ties shall be examined for evidence of deterioration by peeling the facing from the adhesive mass. A visual examination under ordinary desk lamp lighting is sufficient. If adverse storage conditions (heat and humidity) prevail, more frequent inspections may be required.

Extension. Materiel free of defects may be extended for 12 months. Extensions may continue periodically (12-month intervals) until materiel is considered unserviceable.

3) Ampoule, Dissolved Oxygen Testing

a) Description. Ampoule of reagent used for testing the condition of boiler feedwater. The reagent is enclosed in the vacuum-sealed glass ampoule.

b) Sampling Unit for Inspection: Individual ampoule.

c) Inspection Lot: Boxes of ampoules having some contract number and expiration or inspection/test date.

d) Sample Size: 20 ampoules with not more than four ampoules being selected from a single box in the inspection lot.

e) Acceptance Number: Accept the lot with up to one defective unit Rejection Number and reject lot with two or more defective units in the sample size.

f) Inspection. When inspection/test date is reached, the glass ampoule shall be inspected for evidence of deterioration of the liquid content. Deterioration is indicated by the presence of participation and a yellowish color, in lieu of a clear liquid appearance.

g) Extension. If the ampoule is not deteriorated, the shelf-life may be extended six months. The total life of the item should not exceed twenty-four months. Deteriorated stock is to be disposed of.

1) Bandage, Cotton, Elastic

a) Description. Bandages within one lot shall have a uniform appearance.

b) Signs of Deterioration. Physical deterioration is evidence by:

i) Adhesive mass not uniform.

ii) Adhesive mass separates from the fabric backing upon unwinding.

c) Inspection. When the inspection/test date is reached, the bandages are to be examined for evidence of deterioration by unwinding the roll. A visual examination under ordinary desk lamp lighting is sufficient. If adverse storage conditions (heat and humidity) prevail, more frequent inspections may be required.

d) Extension. Materiel free of defects may be extended for 12 months. Extensions may continue periodically (12-month intervals) until materiel is considered unserviceable.

Bandage, Cotton, Plaster of Paris, Impregnated, Hard-Coated

Description. The bandages shall consist of a fabric impregnated with plaster of paris and shall form a hard-coated, non-dusting surface. The plaster shall be uniformly spread and firmly bonded to the fabric. The finished bandages, when used in accordance with the manufacturer's instructions, shall be suitable for forming orthopedic casts for immobilization purposes.

Signs of Deterioration. Physical deterioration is evidenced by: a. Bandages failing to show uniform and complete water penetration. Bandage has dry spots or areas (will not wet-out) after immersion for 5 seconds. b. Plaster showing signs of presetting, feels gritty, or is not smooth when wet. c. Bandages having decreased cast strength (applies to bandages 4 inches in width, or greater, only).

Inspection. When inspection/test date is reached, bandages are to be examined for evidence of deterioration by the following test method: (Note: For testing splints, 4 by 15 inches, use splints with one overlapping the previous splint by at least 1 inch. For testing splint, 5 by 30 inches, use 6 splints.)

Presetting. The intact rolled bandage or equivalent rolled splints shall be immersed vertically in a container of water at a temperature of 70-75 degrees Fahrenheit, for 5 seconds. Remove bandage from water and wring the sample by twisting it between your hands. The bandage shall be considered deteriorated (Preset) if it will not wet-out, or if plaster feels gritty and not smooth in manipulation. If bandage is deteriorated, stop testing and dispose of bandages in lot. If bandage is not deteriorated, proceed as in subparagraph b below.

Cast Strength. Prepare bandage as described in subparagraph a. Working within the limits of setting time (4 to 7 minutes for fast setting bandages or splints and 2 to 4 minutes for extra-fast setting bandages), wrap the wrung-out bandage around a 2-inch diameter pipe covered with wax paper. Keep edges of bandage even. Remove bandage from pipe after 10 minutes and let stand for 1 hour. Place bandage on the floor with the opening (core) running parallel with the floor. Step on the sample with arch of your shoes. Personnel performing this test should hold on to some stable equipment or structure to prevent falling. The bandage shall be considered deteriorated if it crushes under the weight of a person weighing 200, plus or minus 10, pounds. If bandage is deteriorated, dispose of lot.

Extension. If bandage is not deteriorated, the retest date can be extended 12 months. Extensions may continue periodically at 1-year intervals until bandage is no longer useable.

1) Bandage, Gauze, Tubular, Elastic Netting

a) Description. The Elastic Netting Bandages are packaged in dispenser cartons. Bandages within one lot shall have a uniform appearance.

b) Signs of Deterioration. Deterioration is evidenced by lack of stretch and/or a lack of recovery after being stretched.

c) Inspection. When the inspection/test date is reached, the bandage shall be examined for evidence of deterioration as follows. Put two marks on the bandage one yard apart, stretch the bandage by hand until the marks are two yards apart. Release the bandage. After the bandage has remained in the relaxed state for ten minutes, the measured distance between the marks should be 48 inches maximum.

d) Extension. Materiel free of defects may be extended for 12 months.

Bottle, Infusion, Glass, 1000 ml

Description. Infusion bottle with water in bottom and capped with a rubber stopper to maintain vacuum.

Signs of Deterioration

Loss of vacuum.

ii)Rubber stoppers which are tacky or contain bloom (bloom is caused by migration of particles to the surface and is indicated by white or yellow spots or areas).

iii)Fogging - the inside of the glass bottles has a hazy appearance, not necessarily uniform. The fogging may be accompanied by the appearance of white spots, randomly disturbed on the inside surface and may be of varying size.

iv) Absence of water in bottle.

c) Sampling. Sampling shall be conducted in accordance with Chapter 3, Tables 3-1 and 3-2. SQL/1.0 Unit of Inspection/Infusion bottle Inspection Lot/Infusion bottles from same contract with same contract date

d) Inspection.

i) Equipment. One-gallon aspiration bottle with external tube fitting. Flexible vinyl or latex tubing, 1 meter long; 20 gauge, 1- 1/2 inch long blood collecting needle.

Procedure. Secure needle to one end of tubing and attach other end to the aspiration bottle fitting. Fill aspirator bottle with 1500 ml of water. Allow some of this water to fill tubing and needle. Push needle through aspirator bottle stopper and allow bottle to draw in water, keeping aspirator bottle and infusion bottle water levels the same in the process. Remove needle from infusion bottle and hold tubing higher than aspirator bottle, allowing tubing water to drain back into the aspirator bottle. Measure water quantity in aspirator bottle and residual water in tubing and subtract from 1500 ml to get amount of water in infusion bottle. The infusion bottle shall contain a minimum of 1000 ml of water to have an acceptable vacuum.

e) Extension. If there are no other signs of deterioration, shelf-life of infusion bottle may be extended for 12 months on a one-time basis only.

1) Burn-Trauma Treatment Kit

a) Description. The Burn-Trauma Treatment Kit has been assigned a Type II shelf-life for 48 months established by the Sodium Chloride Irrigation, USP, component, which is a Type I 48 month shelf-life item.

b) Disposition For DLA Depots Only. At the end of the inspection/test dating period, the depot will suspend the item and advise DPSC-MQ of this action.

c) Reconditioning Procedure. If it is the decision of DPSC-MQ to recondition the kits and extend their shelf-life, a work order will be issued to the depot to proceed as follows:

i) The nylon carrying case and stretcher (if applicable) shall be examined for physical damage or deterioration such as cuts, tears, fraying, mildew, or mold.

ii) If adhesive tape is a component, it shall be examined for uniformity of adhesive mass and for separation of the adhesive from the backing.

iii) Each sterile pack shall be examined for open seals or damage to the envelope that would void the sterility of the contents

iv) The two 32 ounce (1000ml) containers of Sodium Chloride Irrigation, USP, shall be discarded and replaced with new stock, NSN 6505-01-075-0678, Sodium Chloride Irrigation, USP, 0.90% Sodium Chloride per 1000ml, 12's, as applies.

d) Extension. If the condition of the kit and its components is satisfactory, the integrity of the sterile packs has been maintained, and the Sodium Chloride Irrigation has been replaced, the shelf-life of the kit may be extended for the appropriate number of months corresponding to the shelf-life remaining on the new Sodium Chloride Irrigation.
e) Disposition for End User Activities Only. Use above reconditioning/extension procedures. No reports required.

Cartridge, Water Demineralizer, Ion Exchange

Description. Cartridges within the contractual quantity shall be of the same construction and consist of a plastic truncated cone and filled with resins. The top and bottom of the cartridges shall have holes to permit water flow. Porous filter cloth shall be placed under the cap and over the bottom. Pores shall be of such size that they shall permit the flow of water but prevent the loss of resins from the cartridge.

Signs of Deterioration. Physical deterioration is evidenced by:
Examination of cartridges for deformation, tears, cuts, cracks.
Components of cartridge not properly secured to body.
Outside of cartridge not free of dirt, grease, or foreign matter.
Discoloration of resins.

Inspection. When the inspection/test date is reached, the samples shall be examined for signs of physical deterioration and tested for performance. Sampling shall be conducted in accordance with Chapter 3, Tables 3-1 and 3-2. SQL/6.5 Unit of Inspection/1 cartridge/Inspection/Cartridge having the same contract number and the same inspection test date.

Testing Requirements.
A demineralizer confirming to the requirements of NSN 4610- 00-782-5817.
Power source – 115 volts, 60 Hz.
Test solution. Twenty-four (24) liters of solution for use on each sample cartridge shall be prepared and shall be composed of 3 grams of sodium chloride (NaCL) in 9 liters of water. The temperature of the test solution shall not exceed 120 degrees F (48.9 degrees C).
Test Method. A cartridge shall be inserted (narrow end down) into the tower shelf of the demineralizer. The cartridge shall be firmly pressed into the shelf so that a watertight seal is made. The demineralizer shall be connected to the power source. One and onehalf (1-1/2) liters of test solution shall be slowly passed through the filter cartridge. After the 1-1/2 liters have been poured and accumulated in the lower chamber of the tower, additional test solution shall be slowly poured through the cartridge. Demineralizer meter readings shall be taken after each liter and recorder (NaCL content in ppm) after each additional liter of test solution has been accumulated in the lower chamber. The cartridge shall be considered defective if the amount of dissolved sodium chloride indicated by the conductivity meter readings exceed 5 ppm.

Special Notes: Presence of moisture in the protective package or sample cartridge, found prior to testing, shall not be considered as evidence of deterioration.
During testing, if the test solution does not flow freely through the cartridge, the cartridge shall be removed from the demineralizer and flushed under running water (top to bottom to top). After flushing, the cartridge shall be reinserted into the demineralizer and retested.

Extension. If the test cartridges are considered suitable, the inspection/test date can be extended for 12 months.

1) Cement, Zinc Oxide and Eugenol, Dental

a) Description. Zinc Oxide and Eugenol Dental Cement is for use as an intermediate restorative material.
b) Signs of Deterioration. A unit of issue package of each lot number shall be examined for deterioration as evidence by:

i) The powder is not free flowing and has hard agglomerated particles.
ii) The liquid is not clear, not light yellow in color, and not as fluid as water. The liquid has an odor other than is characteristic of clove. The liquid shows signs of evaporation.

c) Inspection. When inspection/test date is reached, the cement is to be examined for evidence of deterioration by the following test method: The test mix shall be in accordance with manufacturer's instructions and shall be a one-scoop mix. The mix shall be completed approximately one minute and shall be smooth and pliable. Separate test mix into two equal portions and check on one portion at two minutes by folding the mix gently; the paste should be pliable. Check the same portion in a like manner at 1-minute intervals thereafter. The mix shall become progressively less pliable and harder until the mix is hard as indicated by chipping from the mass. The mix shall be pliable for 3 minutes (work time) and should chip between 5 and 10 minutes (set time).

d) Extension. If above test conditions are met, the shelf-life of the materiel may be extended an additional year.

Cytotoxic (Antineoplastic) Drug

Description. It is highly toxic, mutagenic, teratongenic and carcinogenic, therefore, proper safeguards should be taken with regard to this item. It should be stored separately from other items and labeled. Specific instructions on the storage, handling, administering and disposal for supply and medical personnel should be established to conform with local conditions. Cytotoxic drugs are to be packaged with adequate amounts of packing/cushioning materials to reduce the possibility of container breakage during shipment. These drugs should not be comingled in shipments with other items. Bins and shelves used for storing cytotoxic drugs should have barriers or other systems that will reduce the change of such drugs falling to the floor.

Procedure for Breakage, Spills/Disposal. In the event of breakage of spillage of antineoplastic drugs, the most important first step is to quarantine the spillage area from all personnel until assigned personnel can clean up the area. The following action will be taken.

When antineoplastic drugs are found to be damaged or spilled, never attempt to open damaged container.

Area supervisors will immediately be notified.

The entire container will be placed in a plastic bag and put into an approved container properly labeled or marked. If damaged contents have leaked onto the floor, the following steps and material should be used in the cleanup process.

Use disposable gloves, mask and protective clothing, gown, etc., wear a fully fastened long sleeved disposable gown or washable garments. Wear a face mask or respirator where airborne particles of aerosol is generated or when a flow hood is not available. The gloves worn should be of polyvinyl chloride material. (*Note*: Drug manufacturer should specify the appropriate glove material; rubber may not provide protection).

Notify employee health and/or safety officer of incident and potential exposure.

Put on gown, gloves, face and eye protection before proceeding with clean up.

Do not use sponges to clean the spillage area where antineoplastic were damaged.

Proceed to clean area with assigned material. (Pail of water, pail of sand, broom and a shovel).

Once the area of damage or spilled antineoplastic drugs is cleaned, and damaged items are located in isolation, the following steps of disposal of waste material should be taken.

- Place all contaminated equipment and material, including gloves, masks and gowns in double plastic bags labeled, "CONTAMINATED CHEMICAL CANCER CAUSING MATERIAL."
- Place broken glass, syringes and vials with excess liquids or unused IV liquids in disposable plastic lined boxes. Do not clip needles as this may generate aerosol of drugs. Recap needes with plastic covers and place them in boxed which are sealed and labeled for disposal. Do not expose depot personne to cuts or punctures from glass or needles contaminated with drugs.

In the event of exposure to antineoplastic drugs, the following steps should be taken.

Remove the person to fresh air.

If any area of skin comes into direct contact with antineoplastic drugs, wash the contaminated skin area immediately with a generous amount of water.

If the eyes are affected, flush eyes with generous amounts of water flowing away from tear ducts.

Following any skin of direct eye contact with antineoplastic agents, proceed immediately to the employee health physician after washing affected areas.

Additional responsibility at defense depots.

- When a spill occurs the supervisor (Loose Issue, Receiving, and Shipping) will immediately evacuate the area of all personnel, turn off al fans and close all doors. The supervisor will also identify which antineoplastic agent if involved in the breakage/spillage.
- Notification will be made immediately to the Depot Director, the Chief, Engineering Division, and the Chief, Protective Section, who will be responsible for the disposal of all waste materials after clean up has been completed.
- The supervisor will assign two clean-up team members, who will proceed to the Chief Receiving Office to identify spilled item in accordance with material data sheets located there. They will also pick up their spill kits located in the receiving area.
- The two team members will don all necessary protective clothing in accordance with manufacturer's data sheet needed for the clean-up before entering spill area.

- Clean-up procedures will be handled by both team members. No other personnel will be authorized into the area until the entire decontamination process has been completed.
- After the clean-up/decontamination process has been completed, all waste materials including, disposable equipment, and contaminated drugs will be placed in the spill kit container, properly sealed, and marked as such.
- All waste containers will be kept in a secured area until disposition. Protective Section will dispose and monitor destruction in accordance with instructions on manufacturer's material data sheet.
- All non-disposable equipment used for clean-up will be taken to a designated clean-up area for decontamination and cleaned in accordance with instructions on manufacturer's material data sheet.
- After clean-up has been completed a stock adjustment and a report of survey will be completed and submitted.

Equipment. A spill kit will be a disposable cardboard container containing the following items in accordance will requirement of the manufacturer.

Norton disposable respirator
Pair safety goggles (dust proof)
Pair lightweight rubber gloves (used as inserts)
Pair heavy duty rubber gloves
Disposable gown (water resistant)
- Disposable shower cap

Pair foot covers (water resistant)
Large plastic bag (with ties)
- Small plastic bags (with ties)

Wet-dry kari-vac, and render (equal to micro-quat sweeping compound)

1) *Developer, X-Ray Film Processing*

a) Description. Developer units within the contractual quantity shall be of the same formulation, suitable for use in the processing medical radiographic film.

b) Signs of Deterioration. Physical or chemical deterioration is evidenced by:
i) Leakage or evaporation of the contents.
ii) Color change (darkening) when compared with fresh stock from the same manufacturer.
iii) Particulate matter in the solution.

c) Inspection. When the inspection/test date is reached, all packages from each lot shall be examined visually on the exterior surfaces for evidence of leakage. Dispose of those units which show evidence of leaking. The liquid contents of five packages of each lot shall be examined for color change and the presence of particulate matter. Should any of the above be found, dispose of the entire lot in accordance with local regulations.

d) Extension. If no signs of deterioration are visible, the developer lot may be extended for a period of 6 months. Re-inspection and continued inspection may be continued until the developer is 4 years old, at which time the balance of the lot on hand should be disposed of.

1) *Drapes, Surgical, Plastic, Disposable*

a) Description. Drapes shall be individually packaged in a peel-open bag that shall maintain sterility. Drapes within one lot shall have a uniform appearance.

b) Signs of Deterioration. Physical deterioration is evidenced by:
i) Brittleness.
ii) Mildew.
iii) Mold.
iv) Discoloration.
v) Loss of adhesion.
vi) Sterile package torn, damaged, broken, or open.

c) Storage. Storage shall be at 15 to 30 degrees C (59 to 86 degrees F).

d) Inspection. When the inspection/test date is reached, the drapes are to be examined for evidence of deterioration by completely unfolding the drape. A visual examination under ordinary desk lamp lighting is sufficient. If storage conditions other than that stated above prevail, more frequent inspections may be required.
e) Extension. Materiel free of defects may be extended 6 months. Extension may continue periodically (6-month intervals) until materiel is considered unserviceable.

Envelope, Drug Dispensing

Description. Shall be an envelope, suitable for dispensing drugs, made of white woven paper.

Signs of Deterioration. Physical deterioration is evidenced by:

Envelope paper is brittle and cracks when flexed.
Seams open when envelope is being opened.
Inability of adhesive to secure envelope flap when moistened and allowed to dry.

Sampling. Sampling shall be conducted in accordance with Chapter 3, Tables 3-1 and 3-2 of this manual. SQL/6.5 Unit of Inspection/Packaging of 100's Inspection Lot/Packages of drug dispensing envelopes having same contract number and inspection/test date.

Inspection. When the inspection/test date is reached, each envelope shall be selected in sequence from each sample package and shall be examined for the signs of deterioration listed above. A visual examination under ordinary desk lamp lighting is sufficient. The sample package shall be considered defective if the total number of defective envelopes exceeds 12. Materiel free of defects may be extended for 12 months. Extensions may continue periodically (12- month intervals) until materiel is considered unserviceable.

1) Envelope, Sterilization, Paper, Self-Sealing, 500's, Type I and II

a) Description. Sterilization envelopes are used to hold hypodermic needles and dental syringes autoclaving at 250 degrees Fahrenheit, and to maintain sterility thereafter. Each envelope is marked with ink that changes color to give a positive indication that the contents have been subjected to conditions of sterilization.
b) Signs of Deterioration. Deterioration is evidenced by:
i) Easily torn or brittle paper.
ii) Mildew, mold, discoloration, growth, or decay caused by fungi.
iii) Separation of materiel seams.
iv) Loss of adhesion for the self-sealing flaps.

c) Special Inspection and Test Requirements. When the inspection test date is reached, samples of each lot of envelopes shall be examined for the above-listed signs. The sampling plan shall be in accordance with Chapter 3, Tables 3-1 and 3-2 of this manual. Material found acceptable may be extended for 12 months.
d) Extensions. Extensions may continue periodically (12-month intervals) until the material is determined to be unserviceable. More frequent inspection may be necessary if this materiel was stored under excessive heat and humidity.

Film, Radiographic, Polyester Base

Description. Film within the contractual quantity shall be the same type of medium speed, high contrast, medical X-ray film. Cleared film shall be of a uniform shade of clear blue tinted polyester base suitable for processing in automatic X-ray film processors or by manual means.

Signs of Deterioration. Physical deterioration is evidenced by:

Films sticking together within the package.
Interior bag not lightproof, torn, cut or has pin holes.
Unexposed film, cleared in fixer only, is gray shade, mottled, or grainy in appearance.
Unexposed film, cleared in developer and fixer, is recorded on a densitometer to have a base plus fog density above 0.28.

Inspection. When the expiration date is greater than 15 months after the date of manufacture, one package of each lot shall be examined for fog growth. Processed film shall have a densitometer reading less than 0.28. Lots not meeting the above shall be disposed of through the local Precious Metals Recovery Program.

Test Film.

The processing of test films shall be accomplished in automatic film processing equipment. If not available at the depot, a nearby military hospital can provide access to the required equipment.

The automatic processor should be checked for freshly-mixed developer and fixer. Assure that developer-starter was added to the developer. Determine if chemical manufacturer's mixing instructions and replenishment rates were followed. If not, follow film manufacturer's service data instructions. If the hospital uses Process Control "daily sensitometery control strips" and can demonstrate that the automatic processor is in control, the above need not be followed.

Set automatic processor to the film manufacturer's service data recommendations for the processor's cycle item. Process two films.

Record the sensitometery readings at 10 places on each film. Average the 10 readings for each film sample. The average density should not exceed 0.28.

Extension. Materiel with total density less than 0.28 may be returned to stock for an additional six months. (Clear one film in fixer only and record density readings. The base density should be entered on the record with the other readings).

Special Notes:

- Any lot number with less than 10 PGs of stock on hand need not be run if other lots of similar age are being run at the same time.
- Refrigerated film must be brought to room temperature prior to testing.
- The unused portions of open film boxes must be returned to the lot location within the warehouse for further retesting in six months, if needed.
- When the lot number is no longer available, open film may be disposed of. Densitometers are suitable items for recording readings of processed film.
- It is recommended that all film be stored under refrigeration. Film shipped for a period longer than 10 days during summer months should be refrigerated also. Film should always be shipped the fastest way possible to the user.
- If questions arise, submit documented sample to DPSC-MQ for analysis.

Fixer, X-Ray Film Processing

Description. Fixer units within the contractual quantity shall be of the same formulation, suitable for use in the processing of medical radiographic film.

Signs of Deterioration. Physical or chemical deterioration is evidence by:

Leakage or evaporation of the contents.

Sulfurization of part "A" component of the fixer is evidenced by the presence of white or yellow particulate matter in the solution.

Special Inspection and Test Requirements. When the inspection/test date is reached, all packages from each lot shall be examined visually on the exterior surfaces for evidence of leakage. Dispose of those units which show evidence of leakage. The liquid contents of the components of five packages of each lot shall be examined for evaporation. The part "A" components of five packages of each lot shall be examined for the presence of white or yellow particulation, by pouring a quantity into a clear glass container and subjecting the fluid to visual examinations. A more definitive test of the fixer is to mix a quantity from each lot and use them to process XRay films. Should any deviation be noted in the processing cycle, the fixer should be disposed of in accordance with local regulations.

Extensions. If the fixer component is clear, or no evaporation is observed, the developer lot may be extended for a period of 6 months. Reinspection and continued extension may be continued until the fixer is 3 years old, at which time the balance of the lot on hand should be disposed of.

Flashlight, Eye Examining Flashlight, Surgical

Description. Disposable flashlights are for use during eye examination and surgical procedures. Flashlights within one contractual quantity shall be uniform in appearance.

Signs of Deterioration. Physical deterioration is evidenced by:

Leakage of batteries.

Tears or holes in the sterile package (for surgical flashlight only, NSN 6515-00-149-1482).

Failure of the lamp to glow brightly for a period of 45 seconds with apparent decrease in brightness when switched to on position. Repeat test a second time after three minutes.

Sampling. Sampling shall be conducted in accordance with Chapter 3, Tables 3-1 and 3-2 of this manual. SQL/2.5 Unit of Inspection/Flashlight Inspection Lot Flashlights from the same contract with the same retest date.

Inspection. When the inspection/test date is reached, the flashlights are to be examined for evidence of deterioration. A visual examination under normal lighting is sufficient.

Extension. If samples meet the above criteria, the lot may be extended for a period of 12 months. Lots of materiel shall only be extended once.

Formaldehyde Solution, USP

Description. The U.S. Pharmacopoeia states that on long standing, especially in the cold, solution becomes cloudy, because of the separation of Paraformaldehyde. This cloudiness disappears when the solution is warmed.

Special Storage and Shipping Notes. Formaldehyde is not to be stored or shipped at a temperature below 15 degrees C (50 degrees Special attention is to be taken to assure that it is not stored or shipped at temperatures below 59 degrees F.

Generator, Carbon Dioxide-Hydrogen, Anaerobic Culture Apparatus

Description. Generator envelopes should comply with the test described below and the shelf-life extended as indicated.

Signs of Deterioration. Failure to satisfy the test criteria described below or failure to perform satisfactorily in the anaerobic culture apparatus.

Sampling. Sampling shall be conducted in accordance with Chapter 3, Tables 3-1 and 3-2 of this manual. SQL/1.0 Unit of Inspection/1 Envelope Inspection Lot/Boxes of envelopes having same contract number and inspection test date.

Inspection.

Set up the anaerobic system without the culture plates. The change in color of the indicator from blue to white indicates anaerobiosis has been attained. If indicator remains blue, the shelf-life of the generator may not be extended. If indicator turns white, then proceed to paragraph b.

Separate the white tablet from a generator package. Examine the tablet for signs of deterioration. The tablet shall have a smooth, white surface without any blemishes or signs of pitting. Add the tablet to 10 ml of water at room temperature in a suitable receptacle. Vigorous bubbling indicates the tablet is suitable for continued use and may be extended.

Extension. If the materiel meets the criteria of paragraphs a and b above, the materiel may be extended for six months.

Special Notes:

The simplified shelf-life extension test may be performed by field units and service depots, etc., for the purpose of determining the suitability of materiel, and they need not request information concerning extension of shelf-life or disposition instructions from DPSC.

For all extended materiel, the user should run controls so as to satisfy himself/herself as to the efficiency of the system.

Light, Laryngoscope (Batteries contained therein)

Description. The laryngoscope lights are used during laryngeal examination and surgical procedures. The batteries for the lights within one contractual quantity shall be uniform in appearance.

Signs of Deterioration. Physical deterioration is evidenced by:

Leakage, discoloration, corrosion, or swelling of batteries.

Failure of light to glow brightly with batteries included for a period of 45 seconds with no apparent decrease in brightness when switched to the "ON" position. Repeat test a second time after three minutes.

Sampling. Sampling shall be conducted in accordance with Chapter 3, Tables 3-1 and 3-2 of this manual. SQL/2.5 Unit of Inspection/Light, Laryngoscope Inspection Lot/Lights, Laryngoscope from same contract with same retest date.

Inspection. When the inspection/test date is reached, the laryngoscope light batteries are to be examined for evidence of deterioration. A visual examination under normal lighting is sufficient.

Extension. If samples meet the above criteria, the batteries of the lot may be extended for 12 months. The batteries may be extended only once.

Mask, Oronasal

Description. Masks within the contractual quantity shall be of the same design. The shell of the mask shall be of clear, transparent, semirigid plastic, securely fastened to a contoured rubber body.

Signs of Deterioration. Physical deterioration is evidenced by:

Separation or loosening of the contoured rubber body from the plastic shell.
Decay or tackiness of the contoured rubber body.
Rubber body no longer pliable but hard or brittle.
Change of color of plastic shell.

Inspection. When the inspection/test date is reached, the masks are to be examined for deterioration. A visual examination under ordinary lighting conditions is sufficient.

Extension. Materiel free of defects may be extended for 1 year. Extensions may continue periodically (1-year intervals) until materiel is no longer considered suitable for issue.

Point, Pulp Canal, Dental Standardized Gutta Percha, 100's

Description. Points within one lot shall have a uniform appearance.

Signs of Deterioration. Physical deterioration is evidenced by brittleness and hardness.

Inspection. When the issue date is greater than eighteen months (18 months) after the date of manufacture, the point is to be examined for evidence of deterioration. A visual examination under ordinary desk lamp lighting is sufficient.

Extension. Materiel free of defects may be extended for 12 months. Extensions may continue periodically (12-month intervals) until the materiel is considered no longer useable.

Note: Subject materiel is now a Type II, 24-month shelf-life item. Any materiel not having an inspection test date of 18 months beyond date of MFR should have appropriate marking applied and records adjusted.

Preventive Dentistry Paste

Description. Preventive Dentistry Paste is used for cleaning, polishing, and impregnating tooth enamel with an anticariogenic agent. The paste shall be pink in color, smooth-flowing, and uniform in appearance, with a mild strawberry odor and flavor.

Signs of Deterioration. Deterioration evidenced by:

Drying-out of the paste in the tube.
Separation of components of the paste.
Deterioration of the odor and flavor.

Inspection. When the inspection/test date is reached, samples of each lot of paste shall be examined for the above-listed signs. Lots which show no signs of deterioration shall be tested for acidity (pH). The pH shall not be greater than 3.5 when tested with a pH meter, using a sample diluted with an equal part of water by weight.

Extension. Materiel found acceptable may be extended for 12 months. Extensions may continue periodically (12 month intervals) until the materiel is determined to be unserviceable.

Skin Closure, Adhesive, Surgical

Description. Skin closures within one lot shall have a uniform appearance.

Signs of Deterioration. Physical deterioration is evidenced by:

Adhesive remaining on the card when the skin closures are removed from the card.
Cards delaminate or tear when skin closure are removed from the card.

Inspection. When the inspection/test date is reached, the skin closure shall be examined for evidence of deterioration.

Extension. Materiel free of defects may be extended for 12 month. Extensions may continue periodically (12-month intervals) until the materiel is considered unserviceable.

Skin Marker

Description. Skin markers within the contractual quantity shall be of the same design. The markers are sterile, disposable, fine tipped, nontoxic pens with a protective cap marked with a graduated scale from 0 to 8 cm in 0.5 cm increments. Markers are an 18-month, Type II, shelf-life item.

Signs of Deterioration

No ink flow.

Writing on paper shows skipping or smudging due to irregular ink flow.

Sampling. Sampling shall be conducted in accordance with Chapter 3, Tables 3-1 and 3-2. An SQL of 6.5 applies. The inspection lot shall have the same contract number and inspection test date.

Inspection. When the inspection/test date is reached, remove the protective cap from the test samples and place the skin markers in a horizontal position for 5 minutes. After this time period, apply several lines of handwriting to a sheet of writing paper and examine for signs of deterioration, as indicated above.

Extension. If the materiel is considered acceptable, the expiration date can be extended for 12 months.

Slide, Microscope

Description. Slides within one contractual quantity shall be uniform in appearance.

Signs of Deterioration. Physical deterioration is evidenced by:

Slides stuck together - in an attempt to remove one slide from the box, two or more slides are found to stick together and cannot be easily separated with the fingers.

Fogging - the slides have a hazy appearance, not necessarily uniform, on the slide surface. The fogging may be accompanied by the appearance of white spots, randomly distributed on the surface and may be of varying size.

Dirty or smudged areas - an oily-like deposit or foreign substance.

Etching/Crazing/Checking - an advanced state of deterioration. Slides cannot be noticeably improved or cleaned by wiping with a tissue dampened with either water, ethyl alcohol, isopropyl alcohol, acetone, combinations of the above, or a commercial glass cleaner.

Sampling. Sampling shall be conducted in accordance with Chapter 3, Tables 3-1 and 3-2. SQL/6.5 Unit of inspection/1 Box Inspection Lot/Boxes of microscope slides having same number and inspection test date.

Inspection. When issue date is greater than 2 years after date of manufacture, slides are to be examined for evidence of deterioration. A visual examination under ordinary desk lamp lighting is sufficient. Each slide shall be selected in sequence from each sample box, and shall be examined for the signs of deterioration listed above. The sample box shall be considered defective if the total number of slides that adhere and do not separate properly from the box exceeds 15.

Extension. If materiel is considered suitable, the retest date can be extended for 12 months. It should be noted that, for all extended materiel, the user may find some slides adhering to each other. For users, it is recommended that these slides be cleaned and used as appropriate.

Sponge, Intestinal, Gauze, Radiopaque, 3/8 In, 500's

Description. These sponges are packaged in a holder which has an adhesive backing. The sponge holders within one lot shall have a uniform appearance.

Signs of Deterioration. Deterioration for these items is evidenced by the holders having decreased capacity to adhere to any surface.

Inspection. When the inspection date is reached, the sponge holders shall be examined for evidence of deterioration by removing the adhesive backing from the sponge holder and verifying if it sticks to any metal surface. If the holder sticks, the materiel is considered free of defects.

Extension. Materiel free of defects may be extended for 12 months. Extensions may continue periodically (at 12-month intervals).

1) Tablet Set, Milk Pasteurization Testing Set

a) Description. Tablet Set consists of two bottles of tablets with which to conduct phosphatase field test on milk and milk products for the purpose of controlling pasteurization of these products. Tablets are for replacements in TESTING SET. MILK PASTEURIZATION, Scharer, NSN 6640-00-435-5200.

b) Signs of Deterioration.

i) Friability.

ii) Objectionable odor or odor change. Compare with fresh stock.

iii) Bottles, closures, or liners have interacted physically or chemically with the tablets.

iv) Change in color. Compare with fresh stock.

c) Sampling. Shall be conducted in accordance with Chapter 3, Tables 3-1 and 3-2 of this manual. SQL/6.5 Unit of Inspection/Tablet Set/Inspection Lot/Tablets sets having the same contract number and inspection date, or the same lot number.

d) Inspection.

i) Equipment

- One Scharer Phosphatase type milk pasteurization testing set, NSN 6640-00-435-5200.
- One water bath with 40 degrees C operating capability.
- One incubator with 40 degrees C operating capability.

ii) Test Controls

- Negative control - milk that has been boiled and cooled.
- Positive control - 300cc (1/2 pint) boiled milk with 0.5cc raw milk added or, as an alternative, 0.5cc boiled milk with a drop of a 0.005% solution of phenol added
- Test procedure. One buffered substrate tablet and one phenol indicator tablet shall be selected from a sample tablet set. A Buffered substrate solution and a phenol indicator solution shall be prepared using the test set and manufacturer's instructions.
- A phosphatase test shall be conducted with each test control, using the test set and manufacturer's instructions. The resultant color of the alcohol layer in each test tube shall be examined in accordance with the manufacturer's instructions.

iii) Criteria. The tablet set shall be considered defective when a blue coloration exists in the test tube (i.e., alcohol layer) containing the negative control and/or when a distinct blue coloration is not produced in the test tube (ie., alcohol layer) containing the positive control.

e) Extension. If materiel is considered to be suitable, the expiration date may be extended for six (6) months.

Tape, Adhesive, Surgical and Bandage

Description. Adhesive tape and bandage within one lot shall have a uniform appearance.

Signs of Deterioration. Physical deterioration is evidenced by:

Adhesive mass not uniform.

Adhesive mass separates from the backing upon unwinding adhesive tape. Adhesive mass separates from backing upon removal of the bandage facing.

Adhesive exhuded beyond the periphery of the backing.

Adhesive is stringy or gummy.

Adhesive mass strings out in long threads when the adhesive coated backing is applied to and removed from the thumb nail.

Unable to unwind entire roll of adhesive tape. g. Reference inspection codes.

Inspection and Test Requirements. When the inspection/test date is reached, the adhesive tape or bandage is to be examined for evidence of deterioration. A visual examination under ordinary desk lamp lighting is sufficient. If adverse storage conditions (heat and humidity) prevail, more frequent inspections may be required. Materiel free of defects may be extended. Extensions may continue periodically (12-month intervals) until materiel is considered unserviceable.

Special Note. Since these items are utilized in kits, DLA depots will assure that materiel is shipped with at least 12 months shelf- life remaining.

Tape, Sealing, Sterilization Indicator, Gas or Steam

Description. Paper tape backing changes color when subjected to gas or steam sterilization (as applicable). The change in color does not indicate that the materiel to be sterilized is actually sterile, only that the materiel was subjected to a sterilization cycle.

Signs of Deterioration. Physical deterioration is evidenced by:

Failure to change color when subjected to the applicable sterilization cycle.

Unwinding from the roll. Tape should unwind easily without sticking to itself and without leaving a residue. Unwind about 30 inches before inspecting.

Adhesion to a paper surface. Tape should be applied to a sample surgical pack and inspected for adhesion. The tape should remain in place on the pack with normal handling of the pack.

Sampling. Sampling shall be conducted in accordance with Chapter 3, Tables 3-1and 3-2.

SQL/2.5 Unit of Inspection/Roll Inspection Lot/Rolls from the same lot

Inspection. When the inspection/test date is reached, the tape is to be examined for evidence of deterioration. A visual examination, under normal lighting, is sufficient. If a sterilizer is available to the examiner, the color change may be confirmed. If no sterilizer is available, extension may be determined from the visual criteria only, on a one-time basis.

Extension. If samples meet the above criteria, the lot may be extended for a period of 18 months. Lots of materiel shall only be extended once if extension is based only on visual criteria. If the color change is confirmed in addition to the visual criteria, a second extension of 18 months is authorized. No more than two extensions are authorized.

Tube, Biological Culture Sampling, Sterile, Disposable, with Transport Media

Description. Biological culture sampling tubes are used to collect and hold biological cultures moist for 72 hours. This monograph is applicable only to tubes manufactured by M & H Plastics, Inc.

Sampling. Sampling shall be conducted in accordance with Chapter 3, Tables 3-1 and 3-2. SQL/6.5 Unit of Inspection/Individual biological culture tube Inspection Lot/Biological culture tubes having same contract number and inspection test date

Inspection. a. Visually inspect the condition of the break-away seal (i.e., the heat seal) above the liquid chamber. The biological culture tube shall be considered defective if the break-away seal has opened. b. If the break-away seal is deemed to be adequately in place, the biological culture tube shall be tested by having the swab tip moistened by following the manufacturer's instructions. The biological culture tube shall be considered acceptable if sufficient transport media is released to completely cover and completely moisten the swab tip.

Extension. If the biological culture tubes are considered acceptable, the expiration date may be extended for 12 months.

Tube, Blood Collecting Vacuum, without Anticoagulant

Description. Test tube with rubber stopper to maintain existing vacuum.

Signs of Deterioration.

Loss of vacuum.

Rubber stoppers which are tacky or contain bloom. (Bloom is caused by migration of particles to the surface and is indicated by white or yellow spots or ares.)

Sampling. Sampling shall be conducted in accordance with Chapter 3, Tables 3-1 and 3-2. SQL/1.0 Unit of Inspection/Tube Inspection/Tubes from the same contract and with the same expiration date.

Inspection. The following test is required to be performed by a professional staff member. As indicated in MIL-T-36974, NCCLS Standard AHS-1, Standard for Evacuated Tubes for Blood Specimen Collection, or as follows:

Equipment

Buret Stand.
50 ml buret.
Flexible, vinyl, or latex tubing, 1 meter long 20 gauge
1-1/2 inch blood collection needle.

Needle shall be secured to one end of tubing and other end of tubing shall be secured to buret tip Fill buret, tubing, and needle with water. Remove all air from system. Refill buret to "0". Open stopcock, push needle through stopper and allow tube to draw completely, keeping tube meniscus at the same level as burst meniscus. Read and record volume of water drawn to 0.1 ml. Close stopcock. The above method may be modified providing the precision of the modified method is sufficient to separate tubes into the categories shown below.

Extension. If stoppers have not deteriorated, expiration date may be extended as shown below:

NSN	12 Months		6 Months
6630-00-145-1137	Draw ml	7.0 or more	6.5 - 6.0
6630-00-145-1143	Draw ml	15.0 or more	14.5 - 14.9
6630-00-145-1534	Draw ml	7.0 or more	6.5 - 6.9

6630-01-045-5809	Draw ml	7.0 or more	6.5 - 6.9
6630-00-250-4264	Draw ml	7.0 or more	6.5 - 6.9
6630-01-083-1409	Draw ml	7.0 or more	6.5 - 6.9

6-1 Explanation of Depot Medical Storage Standards

A. Storage Conditions. Depot storage standards have been developed for medical materiel. Appendix M provides data regarding ideal storage conditions. Storage at less than ideal conditions may accelerate aging and deterioration. Whenever a difference is noted between Appendix M guidance and the labeled or marked storage conditions, the materiel should be maintained in the more stringent condition (i.e., refrigeration rather than room temperature) and the differences reported to DPSC-MQ via telephone or DD Form 1225, Storage Quality Control Report.

B. Application of Medical Storage Standards. Medical storage standards shall be used in conjunction with Standards Data set forth in Chapter 3 of this appendix and appropriate Master Tables (Single or Multiple) of MIL-STD-105 to determine the applicable rejection number of a lot to be inspected. The rejection number constitutes a warning signal. If the rejection number equals or exceeds requirements of warranty provisions, corrective action will be taken to:

1. Alert the PCO through Chief, DPSC-MQ by phone and/or written report (if required by DPSC) regarding results of warranty inspections.
2. Transfer nonconforming supplies from vendors to Condition Code "L" and placard the stocks to preclude issue pending completion of warranty action.
3. Transfer nonconforming supplies from stocks to Condition Code "J" as required, pending completion of inspections and/or tests.
4. Furnish DD Forms 1225 to DPSC, ATTN: DPSC-MQ when supplies are downgraded to condition Code "C" or transferred to Condition Code "H", "L", or "J". (DLA depots only)
5. Placard stocks to reflect Condition Codes "B", "C", "H", "L", or "J" as applicable. Placards shall also reflect (as needed) the extent of inspection required prior to shipment.
6. Placard stocks to reflect updated inspection/test dates and latest inspection dates.

6-2 Definition And Listing Of Codes

A. National Stock Number (NSN) - The 13 digit NSN consisting of the 4 digit Federal Supply Classification Code and the 9 digit National Item Identification Number (NIIN). The NIIN consists of a 2 digit National Codification Bureau Code designating the cataloging office of the NATO or other friendly country which assigned the number, and a 7 digit (XXX-XXXX) nonsignificant number. The NSNs shall be listed in consecutive numerical sequence.

B. Approved Item Name (Federal Item Name) - The basic name shall be separated from modifiers by a comma. A space shall separate the words in a basic noun phrase. Hyphens shall be reflected by the use of a dash. The approved item name will be shown in upper case letters.

C. Source of Supply - (NEW CODE, NOT USED by DPSC Medical)

D. Defect Codes (Inspection Codes) - A two-digit (alphanumeric) code used to alert inspection personnel to potential defects that require special attention and to establish the elements to be inspected. Use of these defect codes does not preclude inspection personnel from performing other normal inspection, test or surveillance practices. See Table 6-1a and b.

E. Inspection Level - The inspection level is a three digit code selected from MIL-STD-105, that determines the relationship between the lot or batch size and the sample size. The inspection level to be used for any particular requirements will be prescribed by the responsible authority. Three inspection levels: I, II, and III, are given for general use. Unless otherwise specified, inspection level II will be used. However, Inspection Level I may be specified when less discrimination is needed, or Level III may be specified for greater discrimination. Four additional special levels: S-1, S-2, S-3 and S-4, are given in the same table and may be used where relatively small

samples sizes are necessary and large sampling risks can or must be tolerated. In the designation of inspection levels S-1 to S-4, care must be exercised to avoid Storage Quality Levels (SQLs) inconsistent with these inspection levels.

F. Storage Quality Level (SQL) - The maximum percent defective (or maximum number of defects per hundred units) that, for purpose of sampling inspection can be considered satisfactory as a process average. For a more detailed description of the SQL and its use, refer to MIL-STD-105. 1. An SQL major is the SQL to be used in determining if a lot is serviceable based on the number of items with major defects identified by the severity of defect code 1, i.e., the first position of the defect code. 2. An SQL minor is the SQL to be used in determining if a lot is serviceable based on the number of items with minor defects identified by the severity of defect code 2, i.e., the first position of the defect code. 3. If a major SQL and minor SQL differentiation is not made by individual Service/Agency, the minor SQL shall be used.

G. Shelf-Life Months (Shelf-Life) - The total period of time in months (2 digits) beginning with the date of manufacture, cure, assembly, or pack and terminated by the date by which an item must be used (expiration date) or subjected to inspection, test, restoration, or disposal action.

H. Shelf-Life Type - (NEW CODE) - A one digit code to identify shelf-life type. This code may be left blank for DLA managed items. Code 1. Type I Shelf-Life Item. An item of supply which is determined through an evaluation of technical test data and/or actual experience to be an item with a definite nonextendible period of shelf-life. Code 2. Type II Shelf-Life Item. An item of supply having an assigned shelf-life time period that may be extended after completion of inspection, test, or restoration action. See Table 6- 2.

I. 1st Inspection Month - A two digit number used to identify the time in months when the first inspection is due as governed by item criticality and storage environment. It will be computed from the date of manufacture, date of cure, date of assembly, or date of pack (apply one as appropriate). If the date of manufacture, date of cure, date of assembly, or date of pack is not known, the first inspection will be performed immediately.

J. Reinspection Month - A two digit number used to identify the time in months when an item is scheduled for reinspection if still in storage as governed by item criticality and storage environment. It will be computed from the date of last inspection.

K. Reinspection Limit - A single digit to depict the number of reinspections permitted as governed by item criticality and storage environment, e.g., the number "1" indicates one reinspection, "0" indicates on reinspections, and a dash "-" indicates unlimited reinspections.

L. Type of Storage Code (Storage Code) - A two digit alpha/numeric code which identifies the minimum level of storage environment required for the level of protection and inspection frequency. The storage code will be used to set the inspection frequency. An NSN can have up to three different storage codes based on the level of protection (i.e., level A, B, and C) used. If an NSN is stored in any environment other than described herein, the inspection frequency will be adjusted accordingly. See Table 6-3.

M. Hazardous Characteristic Code (Hazardous Materiel Compatibility) - A two digit (alpha/numeric) code that is used to provide a means of categorizing hazardous materials (HM). HCCs are assigned by trained scientific or engineering personnel, thereby uniformly identifying HM that is managed by all Government Activites. HCCs assist personnel with limited chemical backgrounds to properly receive, handle, store and process HM. In addition, HCCs can be used to provide remedial action, spill response, and cleanup information; to provide data for packaging recoupment operations; and to assist in the identificatio of potential hazardous wastes. The HCC serves as an identifer for the different hazard characteristics to whcih personnel may be exposed; as a means of automating the processing of HM transactions; and as a tool for HM storage space management. See Table 6-4.

N. Packaging/Preservation Method Code - A two digit alpha/numeric code used to identify the characteristics necessary to determine packaging/preservation methods requirements. the packaging/preservation methods/submethods prescribed by MIL-P-116 shall be used to the maximum extent possible to indicate the requirements for storage. ICP appendices may utilize other Military/Federal specifications, standards, or other Directive, e.g. packaging sheets, however, the use of same shall be minimized. See Table 6-5.

O. Level of Protection Code (Packing Code) - A one-digit code (A, B, or C) which represents the minimum level of packaging protection recommended for the storage condition described by the storage code. Level A. This packaging provides maximum protection. It is needed to protect materiel under the most sever worldwide shipment, handling, and storage conditions. Level B. This packaging provides intermediate protection. It is needed to protect materiel under anticipated favorable environmental conditions of worldwide shipment, handling, and storage. Level C. This packaging provides minimum protection. It is needed to protect materiel under known favorable conditions. The following criteria determine the requirements for this degree of protection.

P. Identification Marking Code (Item Markings) - A two digit alpha/numeric code which any special identification marking required. They are used for compressed gas cylinders and are prescribed in MIL-STD-101. See Table 6-6a and b.

Q. Test Requirements Code (TRC) - (NOT USED by DPSC Medical).

R. Special Requirements Code (SRC) - A two digit alpha or numeric code which indicates special charactertistics of an item to be applied during receiving, storage, and shipping operations. There is no limit to the number of SRC codes which may be applied to an item. See Table 6-7.

S. Additional Requirements Code (ARC) - A maximum three digit alpha/numeric code to provide any additional information required by the storage activity as specified in each ICP's storage standards. DPSC Medical uses this field for Estimated Storage Codes. See Table 6-8.

T. Technical Publication Reference (TPR) - (NEW CODE) A twenty five digit space which outlines any additional procedures not identified in the storage standard coding structure. This column will identify the appropriate publication which contains these additional procedures, i.e., Technical Order (TO) for Air Force (AF), Army Regulation (AR) or Technical Manual (TM) for Army, DLA Manual (DLAM) or DLA Regulation (DLAR) for DLA, TM for Navy, and Marine Corps Order (MCO) or TM for the Marine Corps, Coast Guard.

U. Primary Segregation Code (PSC) - (NEW CODE) The PSCs listed below will be used to indicate the requirements for segregation of hazardous materiel in storage. The hazardous storage segregation matrix provides a technique to assure that hazardous materiels are afforded correct storage using the PSC. See Table 6-9.

TABLE 6-1a **Inspection Codes, Code Sequence**	
Code	**Explanation**
A1	Brittleness. Easily broken, snapped or torn.
A2	Friability Easily pulverized.
A3	Crumbling/cracking. Broken into small pieces or the development of a fissured surface condition (food, drugs, and chemicals).
A4	Hardening. To be firm, indurated, inflexible, or not easily penetrated, as opposed to soft. An increase in the durometer reading above the allowable scale
A5	Caking. Congealed or compacted into a solid cake or mass, or the inability to reconstitute suspension. Drugs or chemicals reported will be restricted to those instances where the contents cannot be readily removed from the container with the aid of a spatula, where the materiel cannot readily pulverize, or where there is deviation from the normal stability or suspendibility of the materiel.
A6	Coagulation/Solidification. To become solid, viscuous, jellylike, or the change of a liquid to a thickened curdlike state.
A7	Loss of crispness, e.g., crackers.
B1	Bacterial Reaction. Evidence of fermentation/yeast/bacteria which have survived the canning process or have gained access to the container through damage or manufacturing imperfections. (Includes flippers, springers and swellers.)
B2	Chemical Change. Changes due to oxidation/rancidity or acid reaction/hydrogen swells.
B3	Mildew/Mold/Dry Rot. Any discoloration, growth or decay caused by fungi.
B4	Odor Change. Change in the normal odor of the chemical. The term odorless, as applied to drugs other than tablets, refers to examination after exposure to the air for 15 minutes, of a freshly opened package whose net contents are not more than 25 grams. For larger packages, a portion of about 25 grams of the drug is to be quickly removed from its package to an open evaporating dish of about 100 milliliter capacity for 15 minutes before checking for odor.
B5	Decay/Rot.
B6	Flavor Change. Flavor not normal for product
B7	Physical Change. Interferes with dehydration or solubility. Product texture soft, mushy.
B8	Product Intermingling. Grease transfer.
C1	Corrosion/Rust/Oxidation/Verdigris. Eroding or chemical deterioration of metals. Includes galvanic corrosion (dissimilar metals).
C2	Pitting/Porosity. Containing surface depression, hollows, or pores (as opposed to smooth).
C3	Cuts/Abrasions/Scratches/Fraying/Deformed/Warping. Excessive wear, dents or bends.
C4	Worn or Used. (Must be new.)
C5	Kinked, Tangled, Twisted or Otherwise Deformed (as applied to wire, rope, string, thread, tape).
C6	Burrs, Splinters.
C7	Connecting or Mating Surfaces. Must be free of flaws. Critical or close tolerance items.
C8	Moving parts do not move freely or as required.
C9	Missing Components.
D1	Liquefaction. Passing from dry, solid or semi-solid to a liquid state.
D2	Sublimation/Freezer Burn/Dehydration. Passing from the solid to the gaseous state without apparently liquefying which results in loss of contents of the material.
D3	Evaporation/Leakage. The loss of fluid or critical oil.
D4	Moisture Entrapment. Critical on electronic tubes.
D5	Separation, Liquid. Solution separates into layers.
D6	Decomposition. Evidenced by strong odor or evolution of gas.
D9	Leakers. Due to pinholes, improper closure.
E1	Particulation/Precipitation/Flocculation/Sedimentation/Crystallization. The appearance of undissolved material in solutions.
E2	Turbidity. Cloudiness or haziness of solutions as opposed to clearness (clarity).
E3	Contamination. Appearance of matter which is foreign to or deleterious to the product or substance in which it is contained.
E4	Discoloration. Change to a color that is not normal for the materiel.

TABLE 6-1a **Inspection Codes, Code Sequence**	
Code	**Explanation**
E5	Foreign Objects, such as loose material, dirt chips, insulation (excess) wax, lacquer.
F1	Freezing Damaged. Evidence of freezing. Chilled (perishable) and canned (nonperishable) products (presence of ice crystals).
F2	Defrosting. Evidence of defrosting and refreezing.
G1	Fusion. Melting or joining of materiel.
G2	Separation. (Solids).
G3	Peeling/Flaking/Chipping. Loss of exterior coatings due to failure to properly adhere.
G4	Etching/Crazing/Chipping. Loss of exterior coatings due to failure to properly adhere.
G5	Detinning or Flaking of Enamel of Can lining.
H1	Dent, Lined, or Internal Coated Container (any dent in surface which would affect internal lining or coating is a major dent).
H2	Dent, Metal container. Liquid (dent on chine or seam is a major defect).
H3	Damaged parts.
H4	Breakage. Glass or Ceramic.
H5	Telescoping (of roller material).
H6	Insulation (cracked, broken or crazed, missing or damaged).
H7	Threads Damaged.
H8	Threads (protectors missing).
H9	Gauge(s) Pressure, panel or dial, discolored, incomplete or illegible.
J1	Welding. Incomplete. Improperly cleaned. Poor fusion.
J2	Soldering. Insufficient or excessive solder. Poor connection.
J3	Defective Metal to glass seal.
J4	Defective cover to tube seal (hose).
J5	Seals broken (security/safety).
J6	Locking (pin/device) damaged or missing.
J7	Suspension link missing.
J8	Heat seal failure.
J9	Closure failure. Staples, stitching, glue, or tape failure to make proper closure.
K1	Insect or Rodent Infestation
K2	Water Damage.
K3	Spots, stains, and dirt.
L1	Vacuum loss.
L2	Charge. Loss 10 percent or more.
L3	Charge. Loss 10 ounces or more.
L4	Lubrication insufficient.
L5	Adhesion (loss of).
M1	Technical Data/Color Code. Marking missing; incomplete or illegible. (See identification marking code as indicated).
M2	Preservation and Packaging for protection mandatory.
M3	Seals or Caps required. (For cable under pressure, thread protection, dust protection).
M4	Data plate missing.
M5	Sterile package broken.
M6	Inspection tag missing.
M7	Special instructions/warning plate missing, incomplete or illegible.
M8	Plating missing or poorly applied.
M9	Defective seals, gaskets, "O" rings.
P1	Cloth deterioration (thin or bare spots).
P2	Rips, holes, tears (Fabrics).
Q1	Coated cloth blistered.
Q2	Tackiness (excessive).
Q3	Coating missing.
Q4	Wrinkles (embedded).
Q5	Cracks or cracking (leather).
R1	Metal scales.
S1	Stiffness/Dryness (leather).
T1	Continuity Failure (Elec.).

TABLE 6-1a **Inspection Codes, Code Sequence**	
Code	**Explanation**
T2	Operational test not performed.
T3	Blocked orifice.
T4	Bottle not suspended in center of chamber.
T5	Continuity broken (single piece).
T6	Holes, mounting, blocked, out of alignment, off size, not drilled, or incorrect quantity.
U1	Wormholes (wood).
U2	Checks/Splits (wood).
W1	Reinforcement failure. Metal straps, wire, tape.
W2	Skidding/handling damaged or inadequate.
W3	Blocking and/or bracing inadequate.

TABLE 6-1b **Inspection Codes**	
Alphabetical Sequence	
	T2
Abrasions	C3
Acid Reaction	B2
Adhesion	L5
Bacterial Reaction	B1
Bend	C3
Binding	C8
Blocking and/or Bracing	W3
Bottle, (suspension)	T4
Breakage (Ceramic Glass)	H4
Brittleness	A1
Burn (Freezer)	D2
Burrs	C6
Caking	A5
Change (Physical)	B7
Charge, Loss 10 ounces	L3
Charge, Loss 10 percent	L2
Checks (wood)	U2
Chemical Change	B2
Chipping	G3
Chrystallization	E1
Closure (failure)	J9
Cloth deterioration	P1
Coagulation	A6
Coating, Cloth blistered	Q1
Coating, missing	Q3
Contamination	E3
Continuity broken	T5
Continuity failure (Elec)	T1
Corrosion	C1
Cracking	A3
Cracks (Leather)	Q5
Crazing	G4
Crispness (Loss of)	A7
Crumbling	A3
Cuts	C3
Damaged (parts)	H3
Data Plate (missing)	M4
Decay/Rot	B5
Decomposition	D6
Deformed (hollow core)	C3
Deformed wire cable	C5
Defrosting (damage)	F2

Dehydration	D2
Delamination	G2
Dents (Food Containers)	H1
Dents (General)	C3
Dents (Metal Containers)	H2
Detinning (can lining)	G5
Dirt	K3
Discoloration	E4
Dry Rot	B3
Dryness	S1
Etching	G4
Evaporation	D3
Fermentation	B1
Flaking	G3
Flaking (can lining)	G5
Flavor (change)	B6
Flocculation	E1
Fraying	C3
Freezing Burn	D2
Freezing damage	F1
Friability	A2
Fusion	G1
Gauge(s) pressure	H9
Hardening	A4
Heat Seal	J8
Holes (Rips and Tears)	P2
Holes, Mounting	T6
Hydrogen Swells	B1
Inspection Tag, missing	M6
Insulation	H6
Intermingling (product)	B8
Kinked	C5
Leakage	D3
Leakers	D9
Liquefaction	D1
Locking Device/Pin	J6
Lubrication	L4
Manuals	M7
Marking (Technical)	M1
Metal Scales	R1
Mildew	B3
Missing Components	C9
Moisture Entrapment	D4
Mold	B3
Objects (Foreign)	E5
Odor (Change)	B4
Odor (Objectionable)	B4
Orifice (Blocked)	T3
Packaging	M2
Particulation	E1
Peeling	G3
Pitting	C2
Plate (Special/Warning)	M7
Plating	M8
Porosity	C2
Precipitation	E1
Preservation	M2
Rancidity	B2
Reinforcement Failure	W1

Rips (Cloth)	P2
Rodent Infestation	K1
Rot/Decay	B5
Rust	C1
Scratches	C3
Seals (Dust)	M3
Seals (Gaskets)	M9
Seals (Hose) Cover	J4
Seals (Metal to Glass)	J3
Seals (Pressure)	M3
Seals Broken (Security)	J5
Sedimentation	E1
Separation (Liquids)	D5
Separation (Solids)	G2
Single piece infestation (Insect and Rodent)	K1
Skidding/Handling	W2
Soldering	J2
Solidification	A6
Splinters	C6
Splits (Wood)	U2
Spots	K3
Stains	K3
Sterile Package Broken	M5
Stiffness (Leather)	S1
Sublimation	D2
Surface (Critical)	C7
Tackiness (excessive)	Q2
Tangled	C5
Tears (Cloth)	P2
Telescoping	H5
Test (Operational not Oxidation Metal performed)	C1
Thin or bare spots, Link (Suspension)	J7
Threads (Damaged)	H7
Threads (Protectors)	H8
Turbidity	E2
Twisted	C5
Used (Worn)	C4
Vacuum	L1
Verdigris	C1
Warping	C3
Water Damage	K2
Wear (Excessive)	C3
Welding	J1
Wormholes (Wood)	U1
Wrinkles (Embedded)	Q4
Yeast/Bacteria	B1

TABLE 6-2 **Shelf-Life Months Codes**

(This table should be cross-referenced. There did not appear to be any "Type II" Codes listed)

Shelf-Life Period	**Type I**	**Type II**
Nondeteriorative	0	0
1 month	A	
2 months	B	
3 months	C1	
4 months	D	
5 months	E	
6 months	F2	
9 months	G3	
12 months	H4	
15 months	J	
18 months	K5	
21 months	L	
24 months	M6	
27 months	N	
30 months	P	
36 months	Q7	
48 months	R8	
60 months	S9	
Medical and IRPOD Items with Shelf-Life of Greater Than 60 months	X	X

TABLE 6-3 **Type of Storage Code**

Code	**Type Of Facility**	**Code**	**Facility Characteristics**
A	Warehouse, Heated, Ground	1	General Purpose Level
B	Warehouse, Heated, Dock	2	Controlled Level Humidity
C	Warehouse, Unheated	3	Flammable Ground Level
D	Warehouse, Unheated	4	Security Dock Level
E	Shed	5	Chill
F	Magazine, Igloo	6	Freeze
G	Magazine, Above Ground	7	Heavy Duty
H	Open, Improved	8	Acid
I	Open, Unimproved	9	Compressed Gas
J	Other		

Examples: A1 = Warehouse, heated ground level, general purpose, D3 = Warehouse, unheated, dock level, flammable

Note: Standards will provide a mandatory/preferred storage code. Alternate storage codes/conditions may be provided because of the nonavailability of preferred storage space. Storage activities should make every effort to use the preferred storage condition designated by the DSC.

TABLE 6-4 **Hazardous Storage Compatibility Codes**		
Code	**Definition**	**Abbreviated Definition**
A1	Radioactive Materiel, reg	Radioactive regulated
B1	Corrosive, organic base	Corrosive org base
B2	Corrosive, inorganic base	Corrosive inorg base
C1	Corrosive, organic acid	Corrosive org acid
C2	Corrosive, inorganic acid	Corrosive inorg acid
E1	Explosive, Class A	Explosive class a
E2	Explosive, Class B	Explosive class b
E3	Explosive, Class C	Explosive class c
F1	Flammable/Combustible Liquid	Flam/comb liquid ia class ia
F2	Flammable/Combustible Liquid	Flam/comb liquid ib class ib
F3	Flammable/Combustible Liquid	Flam/comb liquid ic class ic
F4	Flammable/Combustible Liquid	Flam/comb liquid ii class ii
F5	Flammable/Combustible Liquid	Flam/comb liquid IIIA class iiia
F6	Flammable/Combustible Liquid	Flam/comb liquid IIIB class iiib
G1	Compressed Gas, flammable	Flam gas toxipoison toxic/poison A
G2	Compressed Gas, flammable	Flam gas nontoxic nontoxic
G3	Compressed Gas, nonflammable	Nonflam gas toxipoison toxic/poison A
G4	Compressed Gas, nonflammable	Nonflam gas nontoxic nontoxic
G5	Chlorine	Chlorine
G6	Oxygen/Oxidizer	Oxygen/oxidizer
G7	Acetylene	Acetylene
J1	Irritant	Irritant
L1	Low Hazard	Low hazard
M1	Magnetic Materiel	Magnetic materiel
N1	Non-hazardous	Non-hazardous
P1	Toxic Chemical, pesticide	Toxic chem herbicide herbicide
P2	Toxic Chemical, pesticide	Toxic chem pesticide non-herbicide
R1	Reactive chemical, oxidizer	Reactivechem oxidizer
R2	Reactive chemical, reducer	Reactivechem reducer
R3	Water reactive chemical	Water reactive chem
R4	Pyrophoric reactive chemical	Pyrophoric reactchem
S1	Multiple Hazardous Chemical	Multiple hazardous
T1	Toxic Chemical, carcinogen	Toxic carcinogen
T2	Toxic Chemical	Toxic bioaccumulative bioaccumulative
T3	Acute Toxic Chemical	Acute toxic chemical
T4	Chronic Toxic Chemical	Chronic toxic chem
T5	Toxic Chemical, etiologic	Toxic etiologic agnt agent
X1	Variable hazardous	Variable hazardous

TABLE 6-5 **Packaging Codes**	
Code	**Method/Submethod**
11I	Preservative coating (with greaseproof wrap as required). 3Y
IA	Water/vapor proof enclosure (with preservative as required). 3V
IA-5	Rigid metal container, sealed. 3W
IA-6	Rigid container (items immersed in preservative, oil type), sealed. 3G
IA-8	Water/vapor proof bag, sealed, cushioning inside. 3T
IA-13	Rigid container other than all metal, sealed. 3Q
IA-14	Container, bag, sealed, container. 3P
IA-15	Container, bag, sealed. 3H
IA-16	Floating bag, sealed. 1Y
IB	Strippable compound coating (hot or cold dip). 12
IB-1	Direct application of strippable compound. 1B
IB-2	Aluminum foil wrap, strippable compound. 2Y
IC	Waterproof or waterproof greaseproof enclosure (with preservative as required). 2E
IC-1	Greaseproof, waterproof, bag, sealed. 2M
IC-2	Container, bag, sealed. 2D
IC-3	Waterproof, bag, sealed. 2S
IC-4	Rigid container other than all metal, sealed. 2A
IC-7	Blister pack - single or multiple compartment, individually sealed. 2B
IC-9	Skin pack, greaseproof, waterproof, vacuum formed. 2F
IC-10	Skin pack, waterproof, vacuum formed. 4Y
II	Water/vapor proof barrier with desiccant (with preservatives as required). 4H
IIa	Floating bag, sealed. 4Q
IIb	Container, bag, sealed, container. 4G
IIc	Water/vapor proof bag, sealed. 4V
IId	Rigid metal container, sealed. 4P
IIe	Container, bag, sealed. 4T
IIf	Rigid container, other than all metal, sealed. 10
III	Physical and mechanical protection only.

TABLE 6-6a **Item Identification Marking Codes**	
Code	**Explanation**
A1	Color Stripe.
A2	Color Dots.
A3	Color Bands.
A4	Markings will be yellow.
A6	Markings will be white.
A7	Markings will be blue.
A8	Markings will be black.
B1	Operating or handling instruction plate or stencil.
B2	Maintenance Instruction plate.
B3	Identification plate.
B4	Identification Tag.
B5	Caution Stencil.
B6	Underwriters' Laboratories, Inc. Label.
C1	Manufacture date, cure date, assembly date, expiration date (Type I Shelf-life items), Inspection/Test date (Type II shelf-life items) and pack date.
C2	U.S. Marking.
C3	Specification Number.
C4	Military Standard or Army Navy Number.
C5	Part Number/National Stock Number.
C6	Technical Requirements: markings/size/thickness/length/heat number/lot-batch number/weight/capacity/operating limits/materiel code.
C7	Manufacturer's name or trademark.
C8	Commodity Identification noun/type/class/grade/trade name.
C9	Contract or order number.
D1	Components colored.
D2	End item colored.
D3	ALKYL D-Carborane yellow, brown, brown, yellow.
D4	ALKYL Pentaborone yellow, brown, brown, yellow.
D5	Argon, oil pumped gray, white, white, gray.
D6	Difluorochloroethane gray, yellow, yellow, orange.
D7	Dihydrotetraborane yellow, brown, brown, yellow.
D8	Oxygen fluoride green, brown, green, brown.
D9	Ozone brown, green, green, green.
E1	Acetylene yellow, yellow, yellow, yellow.
E2	Acrolein yellow, brown, black, brown.
E3	Aerosol Insecticide buff, buff, buff, buff.
E4	Air (Oil pumped) black, green, green, black.
E5	Air (water pumped) black, green, black, black.
E6	Ammonia brown, yellow, orange, orange.
E7	Argon-Oxygen gray, green, white, gray.
E8	Argon (water pumped) gray, white, gray, gray.
E9	Boron trichloride gray, brown, gray, brown.
F1	Boron trichloride gray, brown, brown, brown.
F2	Bromoacetone brown, black, black, brown.
F3	Bromochloromethane buff, gray, buff, buff.
F4	Bromochloromethane red, gray, red, red (fire extinguisher).
F5	Bromotrifluoromethane orange, white, gray, orange.
F6	Bromotrifluormethane red, white, gray, red (fire extinguisher).
F7	Butadiene yellow, white, buff, buff.
F8	Carbon dioxide gray, gray, gray, gray.
F9	Carbon dioxide red, red, red, red (fire extinguisher).
G1	Carbon monoxide yellow, brown, brown, brown.
G2	Chloroacetone black, brown, black, brown.
G3	Chlorine brown, brown, brown, brown.
G4	Chlorine trifluoride brown, green, brown, brown.
G5	Chloropicrin Brown, orange, orange, brown.

TABLE 6-6a **Item Identification Marking Codes**	
Code	**Explanation**
G6	Cyanogen yellow, brown, yellow, brown.
G7	Diborane yellow, brown, brown, yellow (industrial).
G8	Cyclopropane orange, yellow, blue, blue (medical).
G9	Cyclopropane orange, chromium plated.
H1	Dibromodifluoromethane buff, white, buff, buff.
H2	Dibromodifluoromethane red, white, red, red (fire only).
H3	Pentaborne yellow, brown, brown, yellow.
H4	Propylene gray, yellow, yellow, yellow.
H5	Dichlorotetrafluoroethane orange, gray, yellow, yellow.
H6	Difluoroethane gray, yellow, orange, orange.
H7	Dimethylamine yellow, blue, white, buff (Anhydrous).
H8	Dimethylether yellow, brown, buff, buff.
H9	Dispersant, dichlorodifluoromethane buff, gray, gray, buff.
J1	Ethane yellow, blue, yellow, yellow.
J2	Ethyl chloride buff, blue, yellow, buff.
J3	Ethyl nitrite yellow, buff, buff, buff.
J4	Ethylamine (Anhydrous) yellow, blue, blue, buff.
J5	Ethylene (Industrial) blue, yellow, buff, buff.
J6	Ethylene (Medical) yellow, blue, blue, blue.
J7	Ethylene Oxide yellow, blue, buff, buff.
J8	Fumigant, carbon dioxide, ethylene, oxide buff, blue, buff, buff.
K1	Helium (oil free or medical) buff, gray, gray, gray.
K2	Helium (oil pumped) gray, orange, gray, gray.
K3	Helium Oxygen buff, white, green, green.
K4	Hydrogen yellow, black, yellow, yellow.
K5	Hydrogen bromide black, brown, brown, brown.
K6	Hydrogen chloride brown, white, brown, brown (anhydrous).
K7	Hydrogen cyanide yellow, brown, white, brown (anhydrous).
K8	Hydrogen fluoride green, brown, brown, brown (anhydrous).
K9	Hydrogen sulfide brown, yellow, brown, brown.
L1	Krypton (oil pumped) gray, buff, buff, gray.
L2	Krypton (water pumped) gray, buff, gray, gray.
L3	Manufactured gases brown, yellow, yellow, yellow (specifycoal, oil, water, producer).
L4	Methane yellow, white, yellow, yellow.
L5	Methylamine yellow, brown, yellow, buff.
L6	Methyl Bromide brown, black, brown, brown.
L7	Methyl Bromide (fire extinguisher) red, brown, red, red.
L8	Methyl chloride yellow, brown, orange, orange.
L9	Methyl mercaptan brown, yellow, yellow, brown.
M1	Methyl sulfide yellow, brown, buff, brown.
M2	Methylene chloride gray, blue, orange, orange.
M3	Monochlorotetrafluoroethane refrigerant no. 22 orange, orange, orange, orange.
M6	Natural gas yellow, brown, yellow, yellow.
M7	Neon (oil pumped) white, buff, gray, gray.
M8	Neon (water pumped) white, buff, buff, gray.
M9	Nickel carbonyl yellow, white, yellow, brown.
N1	Nitric oxide brown, buff, brown, brown.
N2	Nitrogen gray, black, orange, gray.
N3	Nitrogen (oil pumped) gray, black, gray, gray.
N4	Nitrogen (water pumped) gray, black, black, gray.
N5	Nitrogen dioxide brown, buff, buff, brown.
N6	Nitrogen oxygen black, white, green, green.
N7	Nitrosyl chloride brown, white, white, brown.
N8	Nitrous Oxide blue, blue, blue, blue.
N9	Oxygen (aviator's) green, white, green, green.
P1	Oxygen (electrolytic) green, white, white, green.
P2	Oxygen (industrial) green, green, green, green.

TABLE 6-6a **Item Identification Marking Codes**	
Code	**Explanation**
P3	Oxygen (medical) white, green, green, green.
P4	Oxygen Carbon Dioxide gray, white, green, green.
P5	Petroleum (liquified) yellow, orange, yellow, yellow.
P6	Phenylcarbylamine Chloride brown, gray, gray, brown.
P7	Phosgene brown, orange, brown, brown.
P8	Propylene yellow, gray, buff, buff.
P9	Sulfur Dioxide brown, gray, brown, brown.
Q1	Sulfur hexafluoride gray, white, black, gray.
Q2	Tetrafluoroethylene (inhibited) buff, white, white, buff.
Q5	Trimethylamine yellow, blue, orange, buff.
Q6	Vinyl bromide buff, blue, blue, buff.
Q7	Vinyl chloride yellow, orange, buff, buff.
Q8	Vinyl methyl ether (inhibited) yellow, black, buff, buff.
Q9	Xenon (oil pumped) white, black, black, gray.
R1	Xenon (water pumped) white, black, gray, gray.
S1	Trichlorofluoromethane, F-11 orange, orange, orange, orange.
S2	Dichlorofluormethane, F-12 orange, orange, orange, orange.
S3	Chlorofluoromethane, F-13 orange, orange, orange, orange.
S4	Dichlorofluoromethane, F-21 orange, orange, orange, orange.
S5	Chlorofluoromethane, F-22 orange, orange, orange, orange.
S6	Trichlorofluoromethane, F-113 orange, orange, orange, orange.
S7	Dichlorofluoromethane, F-114 orange, orange, orange, orange.
S8	Chlorofluoromethane, F-124A orange, orange, orange, orange.
S9	Fluorine brown, green, green, brown.

TABLE 6-6b **Item Identification Marking Codes**	
Code	**Explanation**
A1	Color Stripe.
A2	Color Dots.
A3	Color Bands.
A4	Markings will be yellow.
A6	Markings will be white.
B1	Operating or handling instruction plate or stencil.
B3	Identification plate.
B5	Caution Stencil.
B6	Underwriters' Laboratories, Inc. Label.
C2	U.S. Marking.
C3	Specification Number.
C4	Military Standard or Army Navy Number.
C5	Part Number/National Stock Number.
C6	Technical Requirements markings/size/thickness/length/heat number/lot-batch number/weight/capacity/operating limits/materiel code.
C8	Commodity Identification noun/type/class/grade/trade name.
C9	Contract or order number.
D1	Components colored.
D2	End item colored.
D3	ALKYL D-Carborane yellow, brown, brown, yellow.
D4	ALKYL Pentaborone yellow, brown, brown, yellow.
D5	Argon, (oil pumped) gray, white, white, gray.
D6	Difluorochloroethane gray, yellow, yellow, orange.
D7	Dihydrotetraborane yellow, brown, brown, yellow.
D8	Oxygen fluoride green, brown, green, brown.
D9	Ozone brown, green, green, green.
E1	Acetylene yellow, yellow, yellow, yellow.
E2	Acrolein yellow, brown, black, brown.
E3	Aerosol Insecticide buff, buff, buff, buff.
E4	Air (Oil pumped) black, green, green, black.
E5	Air (water pumped) black, green, black, black.
E6	Ammonia brown, yellow, orange, orange.
E7	Argon-Oxygen gray, green, white, gray.
E8	Argon, (water pumped) gray, white, gray, gray.
E9	Boron trichloride gray, brown, gray, brown.
F1	Boron trichloride gray, brown, brown, brown.
F2	Bromoacetone brown, black, black, brown.
F3	Bromochloromethane buff, gray, buff, buff.
F4	Bromochloromethane red, gray, red, red (fire extinguisher).
F5	Bromotrifluoromethane orange, white, gray, orange.
F6	Bromotrifluormethane red, white, gray, red (fire extinguisher).
F7	Butadiene yellow, white, buff, buff.
F8	Carbon dioxide gray, gray, gray, gray.
F9	Carbon dioxide red, red, red, red (fire extinguisher).
G1	Carbon monoxide yellow, brown, brown, brown.
G2	Chloroacetone black, brown, black, brown.
G3	Chlorine brown, brown, brown, brown.
G4	Chlorine trifluoride brown, green, brown, brown.
G5	Chloropierin Brown, orange, orange, brown.
G6	Cyanogen yellow, brown, yellow, brown.
G7	Diborane yellow, brown, brown, yellow (industrial).
G8	Cyclopropane orange, yellow, blue, blue (medical).
G9	Cyclopropane orange, chromium plated.
H1	Dibromodifluoromethane buff, white, buff, buff.
H2	Dibromodifluoromethane red, white, red, red (fire only).
H3	Pentaborne yellow, brown, brown, yellow.

TABLE 6-6b **Item Identification Marking Codes**	
Code	**Explanation**
H4	Propylene gray, yellow, yellow, yellow.
H5	Dichlorotetrafluoroethane orange, gray, yellow, yellow.
H6	Difluoroethane gray, yellow, orange, orange.
H7	Dimethylamine yellow, blue, white, buff (Anhydrous).
H8	Dimethylether yellow, brown, buff, buff.
H9	Dispersant, dichlorodifluoromethane buff, gray, gray, buff.
J1	Ethane yellow, blue, yellow, yellow.
J2	Ethyl chloride buff, blue, yellow, buff.
J3	Ethyl nitrite yellow, buff, buff, buff.
J4	Ethylamine (Anhydrous) yellow, blue, blue, buff.
J5	Ethylene (Industrial) blue, yellow, buff, buff.
J6	Ethylene (Medical) yellow, blue, blue, blue.
J7	Ethylene Oxide yellow, blue, buff, buff.
J8	Fumigant, carbon dioxide, ethylene, oxide buff, blue, buff, buff.
K1	Helium (oil free or medical) buff, gray, gray, gray.
K2	Helium (oil pumped) gray, orange, gray, gray.
K3	Helium Oxygen buff, white, green, green.
K4	Hydrogen yellow, black, yellow, yellow.
K5	Hydrogen bromide black, brown, brown, brown.
K6	Hydrogen chloride brown, white, brown, brown (anhydrous).
K7	Hydrogen cyanide yellow, brown, white, brown (anhydrous).
K8	Hydrogen fluoride green, brown, brown, brown (anhydrous).
K9	Hydrogen sulfide brown, yellow, brown, brown.
L4	Methane yellow, white, yellow, yellow.
L5	Methylamine yellow, brown, yellow, buff.
L6	Methyl Bromide brown, black, brown, brown.
L7	Methyl Bromide (fire extinguisher) red, brown, red, red.
L8	Methyl chloride yellow, brown, orange, orange.
L9	Methyl mercaptan brown, yellow, yellow, brown.
M1	Methyl sulfide yellow, brown, buff, brown.
M2	Methylene chloride gray, blue, orange, orange.
M3	Monochlorotetrafluoroethane refrigerant no. 22 orange, orange, orange, orange.
M6	Natural gas yellow, brown, yellow, yellow.
M7	Neon (oil pumped) white, buff, gray, gray.
M8	Neon (water pumped) white, buff, buff, gray.
M9	Nickel carbonyl yellow, white, yellow, brown.
N1	Nitric oxide brown, buff, brown, brown.
N2	Nitrogen gray, black, orange, gray.
N3	Nitrogen (oil pumped) gray, black, gray, gray.
N4	Nitrogen (water pumped) gray, black, black, gray.
N5	Nitrogen dioxide brown, buff, buff, brown.
N6	Nitrogen oxygen black, white, green, green.
N7	Nitrosyl chloride brown, white, white, brown.
N8	Nitrous Oxide blue, blue, blue, blue.
N9	Oxygen (aviator's) green, white, green, green.
P1	Oxygen (electrolytic) green, white, white, green.
P2	Oxygen (industrial) green, green, green, green.
P3	Oxygen (medical) white, green, green, green.
P4	Oxygen Carbon Dioxide gray, white, green, green.
P5	Petroleum (liquified) yellow, orange, yellow, yellow.
P6	Phenylcarbylamine Chloride brown, gray, gray, brown.
P7	Phosgene brown, orange, brown, brown.
P8	Propylene yellow, gray, buff, buff.
P9	Sulfur Dioxide brown, gray, brown, brown.
Q1	Sulfur hexafluoride gray, white, black, gray.
Q2	Tetrafluoroethylene (inhibited) buff, white, white, buff.
Q5	Trimethylamine yellow, blue, orange, buff.

TABLE 6-6b **Item Identification Marking Codes**	
Code	**Explanation**
Q6	Vinyl bromide buff, blue, blue, buff.
Q7	Vinyl chloride yellow, orange, buff, buff.
Q8	Vinyl methyl ether (inhibited) yellow, black, buff, buff.
Q9	Xenon (oil pumped) white, black, black, gray.
R1	Xenon (water pumped) white, black, gray, gray.
S1	Trichlorofluoromethane, F-11 orange, orange, orange, orange.
S2	Dichlorofluormethane, F-12 orange, orange, orange, orange.
S3	Chlorofluoromethane, F-13 orange, orange, orange, orange.
S4	Dichlorofluoromethane, F-21 orange, orange, orange, orange.
S5	Chlorofluoromethane, F-22 orange, orange, orange, orange.
S6	Trichlorofluoromethane, F-113 orange, orange, orange, orange.
S7	Dichlorofluoromethane, F-114 orange, orange, orange,orange.
S8	Chlorofluoromethane, F-124A orange, orange, orange, orange.
S9	Fluorine brown, green, green, brown.

TABLE 6-7 **Special Requirements Codes**	
Code	**Definition**
A	Radioactive
B	No-Go Parcel Post
C	Glycerin
D	Electro-Mechanical
E	Sensitive Electronics
F	Unassigned
G	Unassigned
H	Subject to damage from heat over 40 degrees C (104 F)
I	Unassigned
J	Characteristics require freight movement
K	55-gallon drums.
L	Compressed gas cylinders
M	Precious metals
N	Unassigned
O	Unassigned
P	Unassigned
Q	Subject to damage from freezing
R	Unassigned
S	Security cage
T	Unassigned
U	Unassigned
V	Inspect before shipment.
W	Consumable alcoholic items
X	Monograph
Y	Unassigned
Z	No code applicable
0	Narcotics/Controlled Substances
1	Unassigned
2	Fragile label
3	Refrigeration, 2 to 8 degrees C. (36 to 46 degrees F). May be out of refrigeration for specified periods of time during shipment.
4	Refrigerated/flammable
5	Constant refrigerated, 2 to 8 degrees C (36 to 46 degrees F) water ice required during shipment
6	Freeze below 0 degrees C (32 degrees F)
7	Unassigned
8	Unassigned

9	Temperature controlled (50 to 86 F) storage only
Note: Do not consolidate items having these codes with items having like or unlike codes.	

TABLE 6-8 **Additional Codes —Estimate Storage**

Code	Months
1	24
2	36
3	48
4	60
5	72
6	96
7	120
8	240
9	240+

TABLE 6-9 **Primary Segregation Codes**

Code	Explanation
A	Radioactive
C	Corrosive
D	Oxidizer
E	Explosive
F	Flammable
G	Gas, Compressed
L	Low Hazard
P	Peroxide, Organic
R	Reactive
T	Poison