

SS-S-31L
May 4, 1978

SUPERSEDING
Fed. Spec. SS-S-31K
April 17, 1975

FEDERAL SPECIFICATION

SALT, TABLE

This specification was approved by the Commissioner, Federal Supply Service, General Services Administration, for the use of all Federal agencies.

1. SCOPE

1.1 Scope. This specification covers table salt, plain or iodized, as specified (see 6.1), for use by the agencies of the Federal Government.

2. APPLICABLE DOCUMENTS

2.1 The following documents, of the issue in effect on date of invitation for bids or request for proposal, form a part of this specification to the extent specified herein:

Federal Specifications:

UU-S-48	-	Sacks, Shipping, Paper
PPP-B-35	-	Bags, Textile, Shipping, Burlap, Cotton and Waterproof Laminated
PPP-B-636	-	Boxes, Shipping, Fiberboard

Federal Standards:

FED-STD-101	-	Preservation, Packaging, and Packing Materials: Test Procedures
FED-STD-123	-	Marking for Shipment (Civil Agencies)

(Activities outside the Federal Government may obtain copies of Federal Specifications, Standards, and Handbooks as outlined under General Information in the Index of Federal Specifications and Standards and at the prices indicated in the Index. The Index, which includes cumulative monthly supplements as issued, is for sale on a subscription basis by the Superintendent of Documents, US Government Printing Office, Washington, DC 20402.

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(Single copies of this specification and other Federal specifications required by activities outside the Federal Government for bidding purposes are available without charge from Business Service Centers, at the General Services Administration Regional Offices in Boston, New York, Philadelphia, Washington, DC, Atlanta, Chicago, Kansas City, MO, Fort Worth, Houston, Denver, San Francisco, Los Angeles and Seattle, WA.

(Federal Government activities may obtain copies of Federal Specifications, Standards, and Handbooks and the Index of Federal Specifications and Standards from established distribution points in their agencies.)

Military Specifications:

- MIL-L-10547 - Liners, Case, and Sheet Overwrap; Water-Vaporproof or Waterproof, Flexible
- MIL-L-35078 - Loads, Unit: Preparation of Nonperishable Subsistence

Military Standards:

- MIL-STD-105 - Sampling Procedures and Tables for Inspection by Attributes
- MIL-STD-129 - Marking for Shipment and Storage
- MIL-STD-668 - Sanitary Standards for Food Plants

(Copies of specifications, standards, and drawing required by contractors in connection with specific procurement functions should be obtained from the procuring activity or as directed by the contracting officer.)

LAWS AND REGULATIONS

U.S. Department of Health, Education, and Welfare

Federal Food, Drug, and Cosmetic Act and Regulations Promulgated Thereunder.

(The Code of Federal Regulations (CFR) and the Federal Register (FR) are for sale on a subscription basis by the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402. When indicated, reprints of certain regulations may be obtained from the Federal agency responsible for issuance thereof.)

U.S. Department of Agriculture

United States Standards for Condition of Food Containers

(Application for copies should be addressed to Food Safety and Quality Service, U.S. Department of Agriculture, Washington, DC 20250.)

2.2 Other publications. The following documents form a part of this specification to the extent specified herein. Unless a specific issue is identified, the issue in effect on date of invitation for bids or request for proposal shall apply:

Association of Official Analytical Chemists

Official Method of Analysis of the Association of Official Analytical Chemists

(Application for copies should be addressed to the Association of Official Analytical Chemists, Box 540, Benjamin Franklin Station, Washington, DC 20044.)

National Motor Freight Traffic Association, Inc., Agent

National Motor Freight Classification

(Application for copies should be addressed to the American Trucking Associations, Inc., Traffic Department, 1616 P Street, N.W., Washington, DC 20036.)

Uniform Classification Committee, Agent

Uniform Freight Classification

(Application for copies should be addressed to the Uniform Classification Committee, Room 1106, 222 South Riverside Plaza, Chicago, IL 60606.)

3. REQUIREMENTS

3.1 Materials. All materials shall be of edible grade, clean, sound, wholesome, and free from extraneous matter.

3.2 Finished product. Table salt shall be white, free-flowing, and shall be derived from fine granulated salt (rock salt) or evaporated salt, with one or more effective anti-caking agents. The table salt shall contain not less than 97.5 percent sodium chloride (NaCl) on a moisture-free basis and not more than 0.1 percent moisture. When fine granulated salt is used, table salt shall be of such size that not less than 95 percent shall pass through a US Standard No. 25 sieve and not more than 15 percent shall pass through a US Standard No. 70 sieve. When evaporated salt is used, table salt shall be of such size that 100 percent shall pass through a US Standard No. 16 sieve and not more than 30 percent shall pass through a US Standard No. 100 sieve. If iodized salt is specified, the iodized salt shall conform to the finished product requirements of salt. In addition, the iodized salt shall contain not less than 0.006 and not more than 0.010 percent potassium iodide with a stabilizer consisting of sodium carbonate, sodium bicarbonate, sodium thiosulfate,

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dextrose or other suitable stabilizing agents which are equally effective in preventing the loss of iodine. Other iodine compounds approved by the Food and Drug Administration may be used provided they contribute not less nor more iodine than the amount equivalent to that contributed by potassium iodide.

3.3 Federal Food, Drug, and Cosmetic Act. All deliveries shall conform in every respect to the provisions of the Federal Food, Drug, and Cosmetic Act and regulations promulgated thereunder.

3.4 Workmanship. The product shall be prepared using current good manufacturing practice including that which is applicable to this particular commodity in accordance with the Food, Drug and Cosmetic Act and regulations promulgated thereunder. For Military agencies, the product shall be prepared in plants meeting the requirements of MIL-STD-668.

4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for inspection. Unless otherwise specified in the contract or purchase order, the contractor is responsible for the performance of all inspection requirements as specified herein. Except as otherwise specified in the contract or order, the contractor may use his own or any other facilities suitable for the performance of the inspection requirements specified herein, unless disapproved by the Government.

4.2 Pre-acceptance inspection (plant sanitation inspection).

4.2.1 For Civil agencies. When specified (see 6.1), inspection of plants producing the product will be conducted upon the request of the contracting officer by the appropriate Government inspection agency. Award of contracts will be limited to establishments known to maintain proper sanitary conditions or which have received prior sanitary approval recommended by the inspection agency (see 3.4).

4.2.2 For Military agencies. The product shall be rejected if produced in plants not meeting the requirements of 3.4.

4.3 Acceptance inspection.

4.3.1 Condition inspection of containers. When inspection of product for quality and condition is performed by the US Department of Agriculture, the United States Standards for Condition of Food Containers shall apply. (For applicable criteria governing inspection of containers for the Military agencies, see 4.3.4).

4.3.2 Sampling for inspection. Sampling for inspection shall be performed in accordance with MIL-STD-105, except where otherwise indicated hereinafter.

4.3.3 Component and material inspection. In accordance with 4.1, components and materials shall be inspected in accordance with the requirements of referenced specifications, drawings, and standards, unless otherwise excluded, amended, modified, or qualified in this specification or applicable purchase documents.

4.3.3.1 Testing of components. Testing of components described in this specification shall be as shown in table I. Results shall apply to the lot average. Nonconformance to one or more test requirements shall be cause for rejection of the lot.

TABLE I. Testing of components (see 4.3.3)

Component	Sample unit	Lot size expressed in	Inspection level	Characteristics	Results reported	Test ref and rqmt par
Pockets, paper	One pocket	Pockets	S-2	Basis weight of paper	Nearest lb/ream (g/m ²)	5.1.2.1.1 or 5.1.2.1.2 (as applicable) 4.5.3

4.3.3.1.1 Envelopes and packets. Conformance to requirements of 5.1.1.1, 5.1.2.2.2 and 5.1.2.3 as concerns thickness of each lamina and basis weight of paper shall be ascertained by examination of pertinent invoices or other valid documents from the supplier of envelope material. Nonconformance with requirements shall indicate an unacceptable component, and use of such shall be cause for rejection of the involved end item.

4.3.4 Examination of end item. Examination of end item shall be in accordance with tables III through VIII and 4.3.4.1 through 4.3.4.8. The sampling plans and acceptance criteria for the aforementioned tables shall be in accordance with table II. Acceptable Quality Levels (AQLs) shall be expressed in defects per hundred units for tables III, VII, and VIII and as percent defectives for tables IV, V, and VI.

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TABLE II. End item examination criteria

Table	Inspection level	Sample unit	Lot size expressed in	AQLs	
				Major	Minor
III	I	One primary container	Primary containers	1.5	2.5
IV	S-3	One primary container; 1000 packets	Primary containers or intermediate (containing packets)	--	2.5
V	S-3	One envelope	Envelopes	1.0	--
VI	S-2	One shipping container	Shipping containers	--	2.5
VII	S-2	One intermediate fiberboard container	Intermediate fiberboard containers	--	10.0
VIII	S-3	One primary container	Primary containers	1.5	--

TABLE III. External examination of primary container

Category		Defect	Defects applicable to paper pockets, envelopes, and packets	Defects applicable to commercial containers (level C)
<u>Major</u>	<u>Minor</u>			
151		Not type, style, or size specified <u>1/</u>	X	X
152		Improperly closed	X	X
153		Sifter <u>2/</u> tear or hole	X	X
154		Objectionable odor	X	X

TABLE III. External examination of primary container (cont'd)

Category		Defect	Defects applic- able to paper pockets, envelopes, and packets	Defects ap- plicable to commercial containers (level C)
<u>Major</u>	<u>Minor</u>			
	201	Not a natural kraft or bleached kraft or dull brown color, or white sulphite bond, as speci- fied	X	
	202	Pouring spout inoperable (as applicable)	X	
	203	Color design not as speci- fied (as applicable)	X	
155		Nomenclature missing, incorrect or illegible	X	X
	204	Pull tab cover missing or inoperable (as applicable)	X	X
	205	Labeling information other than nomenclature missing, incorrect, or illegible	X	X
156		Not clean	X	X

1/ Measure to a tolerance of 1/16 inch (2 mm).

2/ A sifter is an envelope or packet which loses any amount of salt when shaken vigorously; or a bag or pocket which loses at least a half ounce (14 g) of salt when agitated for 15 seconds.

TABLE IV. Examination for net weight 1/

Category	Defect
<u>Minor</u>	
201	Net weight more than five percent under specified weight (container 1 pound (0.45 kg) or less) <u>2/</u>
202	Net weight more than two percent under specified weight (container more than 1 pound (0.45 kg) but not more than 10 pounds (4.5 kg)) <u>3/</u>

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TABLE IV. Examination for net weight 1/ (cont'd)

Category	Defect
<u>Minor</u>	
203	Net weight more than one percent under specified weight (container over 10 pounds (4.5 kg)) <u>4/</u>
204	Net weight of 1000 packets is less than 2.5 pounds (1.1 kg)

- 1/ Lot shall be rejected if sample data indicate a lot average net weight less than specified (not applicable to packets for Civil agencies).
- 2/ Weigh to a tolerance of the nearest gram for units required to have 1 ounce (28 g); nearest 0.1 gram for units required to have 4 grams or 1/4 ounce; and nearest 1/16 ounce (or nearest gram) for units required to have 4 ounces (113 g).
- 3/ Weigh to a tolerance of the nearest 1/4 ounce (7 g).
- 4/ Weigh to a tolerance of the nearest 1/4 pound (0.13 kg).

TABLE V. Examination for envelope leakage and delamination 1/

Category	Defect
<u>Major</u>	
151	Leakage as evidenced by steady progression of bubbles
152	Wet interior of non-inflating envelopes
153	Delamination <u>2/</u>

- 1/ See 4.5.4 for procedures.
- 2/ Applicable only to 4-ounce (113 g) envelope. Examine envelope after removal from water.

TABLE VI. Examination for count of containers (26 oz) (737 g), envelopes or packets, and cartons or boxes and arrangement of envelopes

Category	Defect
<u>Minor</u>	
201	Number of containers (26 oz) (737 g), cartons, or boxes not as specified
202	One-ounce (28 g) and 4-ounce (113 g) envelopes not packed on end
203	More than 2.5 percent (to nearest unit) under the number of envelopes or packets specified <u>1/ 2/</u>
204	Packets not tagged together in strips of five, when applicable <u>3/</u>

1/ Count the contents of one carton from a shipping container.

2/ Lot shall be rejected if sample data indicate a lot average fewer than the number of envelopes required.

3/ Select 10 random strips from one fiberboard box from each shipping container.

TABLE VII. Examination of intermediate fiberboard containers (level A)

Category	Defect
<u>Minor</u>	
201	Closure flaps not securely glued or taped
202	Manufacturer's joint not taped
203	Boxmaker's certificate indicates less than 125-pound (57 kg) test fiberboard
204	Required markings missing, incorrect, or illegible

TABLE VIII. Examination of product 1/ 2/ 3/

Category	Defect
<u>Major</u> <u>Minor</u>	
151	Not free-flowing
152	Not clean (e.g., more than a trace of dark specks)
153	Objectionable odor or taste
154	Not white

1/ For product contained in packages other than envelopes or packets, extract 1 pound (0.45 kg) from a sample for examination.

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- 2/ Presence of foreign material (e.g., glass, stones, wood, etc.) in any sample unit shall be cause for rejection of entire lot.
- 3/ Absence of anti-caking agent(s) and suitable stabilizing agents, as applicable, in accordance with 3.2, to be ascertained by examination of labels, invoices, or other valid documents, shall be cause for rejection of the involved lot of product.

4.3.4.1 Examination for granule size. Examination shall be performed to determine conformance to 3.2 as concerns granule size of table salt. Procedures shall be in accordance with 4.5.2. The basic sample (from which the 100 grams shall be extracted) shall be a 1-pound composite of salt derived from the number of bags, pockets, 26-ounce (737 g) containers, 4-ounce (113 g) or 1-ounce (28 g) containers indicated by inspection level S-3. When 4-gram envelopes, 1/4-ounce (7 g) envelopes, or individual single use packets are being procured, the sample for examination shall be 100 grams of salt derived from a sufficient number of envelopes or packets to yield such amount. Lot size shall be expressed in terms of the primary container. Results shall be calculated to the nearest whole percent, and failure to meet one or more sieve requirements shall be cause for rejection of the lot.

4.3.4.2 Examination of fiberboard shipping container. When shipping containers are required to be in accordance with PPP-B-636, the examination including associated inspection level and AQLs shall be in accordance with that specification. In addition, the following defects shall be included in the examination: Major: (1) National Stock Number, Item Description, Contract No., or Date of Pack, markings, missing, incorrect, or illegible; (2) Protective pad and tape, when required, missing, not as specified, or not completely covering metal stitches. Minor: Total net weight, as indicated by markings, exceeds maximum specified. Shipping container for level C pack (Military) shall be examined in accordance with the above criteria, except that only the defect pertaining to markings shall apply.

4.3.4.3 Examination of shipping sacks. Examination of the filled and closed shipping sacks shall be in accordance with the quality assurance provisions in the appendix to UU-S-48. In addition, the following defects shall be included in the examination: Major: (1) National Stock Number, Item Description, Contract No., or Date of Pack, markings, missing, incorrect, or illegible; (2) tear, hole, open seam or broken stitches; (3) quantity of contents not as required. Minor: Other marking requirements missing, incorrect, or illegible. For level C sack, as specified in 5.2.3.3, only the aforementioned defects pertinent to markings; tear, hole, open seam, or broken stitches; and quantity of contents shall apply.

4.3.4.4 Examination of textile bag. Examination of the filled and closed textile bag for level A packaging shall be in accordance with the applicable examination criteria of PPP-B-35.

4.3.4.5 Examination of waterproof case liner. The filled and closed waterproof case liners shall be examined in accordance with the examination criteria in the appendix of MIL-L-10547.

4.3.4.6 Examination of unit loads. When loads are required to be unitized in accordance with MIL-L-35078, examination of such loads shall be in accordance with that specification.

4.3.4.7 Examination of carton label. Cartons not labeled as specified in 5.4.2.3 shall not be acceptable.

4.3.4.8 Examination of marking (Civil agencies). Shipping container markings shall be examined to determine conformance to 5.4.1.2. Nonconformance to requirements shall be cause for rejection of the involved lot of containers.

4.4 Sampling procedure and acceptance criteria for testing of finished product. The finished product shall be tested for sodium chloride content, iodine content, and moisture to determine compliance with the applicable requirements of 3.2. Tests shall be performed in accordance with applicable subparagraphs of 4.5. Test results shall be reported to the nearest unit or decimal place as specified for the specific requirement. The sample for tests shall be a 1-pound composite of salt derived from the number of primary containers indicated by inspection level S-2, except that the 1-pound (0.45 kg) composite for 4-gram, 1/4-ounce (7 g), and 1-ounce (28 g) containers shall be derived from the number of envelopes or packets necessary to yield such quantity. Lot size shall be expressed in terms of the applicable primary container. Samples shall be accompanied by a statement as to kind and amount of added anti-caking agents, and stabilizer to retain potassium iodide. The involved lot of product shall be considered unacceptable if test results indicate noncompliance with one or more requirements.

4.5 Tests.

4.5.1 Chemical analyses. Chemical analyses shall be made in accordance with the following methods from Official Methods of Analysis of the Association of the Official Analytical Chemists:

<u>Test</u>	<u>Source</u>	<u>Method</u>
Moisture	Chapter: Waters, Mineral and Salt Section: Salt	Moisture
Sodium chloride <u>1/</u>	Chapter: Waters, Mineral and Salt Section: Mineral Water	Chloride (calculated as sodium chloride)

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<u>Test</u>	<u>Source</u>	<u>Method</u>
Iodine	Chapter: Waters, Mineral and Salt Section: Salt	Iodine in iodized salt

1/ Weigh accurately 3-4 g of sample into a 250 ml volumetric flask. Dissolve dilute to volume. Use a 25 ml aliquot for titration (containing 300-400 mg sample).

4.5.2 Sieve test. Sieving tests shall be performed by the following method: Nest the clean, thoroughly dried sieves in order of fineness and attach bottom pan. Place 100 grams of the sample on the top sieve and cover. Place the nest of sieves or the individual sieves on a shaking machine such as a Rotap, or equivalent. Shake in the machine for 2 minutes. Transfer the material remaining on each sieve and in the pan into separate containers and weigh; calculate the percent of the material which passes through each sieve.

4.5.3 Basis weight of paper. Basis weight of paper shall be tested in accordance with Method 5022 of FED-STD-101.

4.5.4 Test of seals and delamination. Tests of seals and delamination of envelopes shall be performed as follows: Submerge the envelope to be tested in water in a vacuum desiccator, Mead tester, or equivalent device. Draw 5 inches (127 mm) of vacuum and hold for at least 10 seconds. Observe envelope for (a) air leakage in large quantity from any point, (b) a fine stream of bubbles anywhere in the seal area, (c) failure to inflate, and (d) delamination (4 ounce (113 g) envelope only). Envelopes which do not inflate should be opened and examined for water penetration.

5. PREPARATION FOR DELIVERY

5.1 Packaging. Packaging shall be level A, B, or C as specified (see 6.1).

5.1.1 Level A.

5.1.1.1 Envelopes. Four grams, 4 ounces (7 g), or 1 ounce (28 g) of salt shall be packaged in accordance with 5.1.1.1.1. Four ounces (113 g) of salt shall be packaged in accordance with 5.1.1.1.2.

5.1.1.1.1 Envelopes containing 4 grams, 1/4 ounce, or 1 ounce (28 g), and envelopes containing 1/4 ounce (7 g). Four grams, 1/4 ounce (7 g), or 1 ounce (28 g) of salt shall be packaged in a heat-sealable envelope having maximum outside dimensions as described in table IX. All seams and closures shall be made by heat sealing. The envelope material shall be made by hot extruding polyethylene on kraft paper. The thickness of the polyethylene and the basis weight of the paper shall be as prescribed in table IX. The envelope shall be a natural kraft or dull brown in color.

5.1.1.1.2 Envelopes containing 4 ounces. Four ounces (113 g) of salt shall be packaged in a heat-sealable envelope having maximum outside dimensions as prescribed in table IX. All seams and closures shall be made by heat-sealing. The envelope material shall be made by hot extruding polyethylene on 0.00035-inch (0.0089 mm) thick aluminum foil and laminating the plain side of the foil to sulphite or kraft paper. The polyethylene shall have a minimum thickness of 0.001 inch (0.025 mm). The paper shall have a basis weight of 30 pounds + five percent per ream (24 by 36 - 500) (49 g/m²) and shall be treated or processed to form a soft, pliable sheet. The adhesive used for laminating the foil to the paper shall be a suitable odorless and permanently plastic water-resistant compound other than wax. The combined sheet shall show no evidence of delamination when made into envelopes or heat sealed. The filled and sealed envelope shall not show leakage when tested in accordance with 4.5.4.

TABLE IX. Dimensions and construction of envelope

Quantity	Maximum outside dimensions						Minimum weight kraft paper pounds/ream + 5 percent (24 by 36-500)		Minimum thickness polyethylene
	Length		Width		Thickness				
	Inches (mm)		Inches (mm)		Inches (mm)		Pounds (g/m ²)		Inches (mm)
4 grams	2-3/4	(70)	2-3/4	(70)	3/16	(5)	25	(41)	0.0005 (0.001)
1/4 ounce (7 g)	2-3/4	(70)	2-3/4	(70)	3/16	(5)	25	(41)	0.0005 (0.001)
1 ounce (28 g)	4-1/4	(104)	2-3/4	(70)	3/16	(5)	35	(57)	0.01 (0.0025)
4 ounces (113 g)	5	(127)	4-1/2	(104)	none		see 5.1.1.1.2		see 5.1.1.1.2

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5.1.1.2 Bags. Five or 10 pounds (2.27 or 4.5 kg) of salt shall be packaged in a textile bag constructed and closed in accordance with type IV of PPP-B-35.

5.1.2 Level B.

5.1.2.1 Bags. Five or 10 pounds (2.27 or 4.5 kg) of salt shall be packaged in paper pockets in accordance with 5.1.2.1.1 or 5.1.2.1.2.

5.1.2.1.1 For ocean shipment. Paper pockets shall be either formed (pasted) bottom, open mouth, or sewn bottom, open mouth. The paper requirements shall be as follows:

Net weight of contents (pounds) (kg)		Basis weight per ream + 5 percent (24 by 36-500) Inner ply Outer ply Pounds (g/m ²) Pounds (g/m ²)			
5	(2.27)	50	(81)	60	(98)
10	(4.5)	60	(98)	60	(98)

5.1.2.1.2 Not for ocean shipment. Paper pockets shall be either formed (pasted) bottom, open mouth, or sewn bottom open mouth. The paper requirements shall be as follows:

Net weight of contents (pounds) (kg)		Basis weight per ream + 5 percent (24 by 36-500) Inner ply Outer ply Pounds (g/m ²) Pounds (g/m ²)			
5	(2.27)	40	(65)	40	(65)
10	(4.5)	40	(65)	50	(81)

Alternatively five or 10 pounds (2.27 or 4.5 kg) of salt shall be packaged in a single-ply pocket constructed of 80-pound (130 g/m²) basis weight paper.

5.1.2.2 Civil agencies. The salt shall be packaged in accordance with 5.1.2.2.1 or 5.1.2.2.2, as applicable.

5.1.2.2.1 Twenty-six ounce (737 g) container. Twenty-six ounces (737 g) net weight of salt shall be packaged in a moisture-proof container fitted with pouring spouts.

5.1.2.2.2 Individual single-use packets. The salt shall be packaged in accordance with 5.1.2.2.2.1, 5.1.2.2.2.2, 5.1.2.2.2.3, or 5.1.2.2.2.4, as applicable.

5.1.2.2.2.1 Individual shaker packet. The package shall be an individual single-use, shaker packet, approximately 1-7/8 inches (48 mm) in length, 1-1/4 inches (32 mm) wide, and 1/8 inch (3 mm) thick, or 1-7/8 inches (48 mm) in length, 3/4 inch (19 mm) wide and 5/16 inch (8 mm) thick, singly or in strips of five packets tagged together; net weight of salt per 1000 packets to be not less than 2.5 pounds (1.1 kg). Each packet shall be composed of a single-faced corrugated member having two or four flutes substantially filled with salt and sealed at both ends. Packets shall have a dispensing opening comprising a closed cut running transversely across the four flutes. The packet shall be formed of white sulphite bond, or bleached kraft paper having a minimum basis weight of 35 pounds \pm five percent per ream (24 by 36-500) (57 g/m²). The packet shall be opened for use by breaking the packet at the dispensing opening. Salt or iodized salt product identification and ingredient claims shall be in red lettering on all white background and meet all FDA labeling requirements.

5.1.2.2.2.2 Individual shaker packet. Alternatively, the package shall be an individual single-use, salt shaker type packet, approximately 2-3/8 inches (60 mm) in length and 1-1/2 inches (38 mm) in width, singly or in strips of five packets tagged together; net weight of salt per 1000 packets to be not less than 2.5 pounds (1.1 kg). Each packet shall be properly sealed with not less than 3/16 inch (5 mm) seal on three sides to prevent leakage. The dispensing end shall be opened by peeling apart gusset flaps and exposing four 1/8-inch (3 mm) diameter holes. The dispensing end shall be properly sealed to prevent leakage. The paper forming the packet shall be formed of white sulphite bond, or bleached kraft paper having a basis weight of 37 pounds \pm five percent per ream (24 by 36-500) (60 g/m²). Salt or iodized salt product identification and ingredient claims shall be in red lettering on all white background and meet all FDA labeling requirements.

5.1.2.2.2.3 Individual shaker packet. Alternatively, the package shall be an individual single-use, salt shaker type packet, approximately 2 inches (50 mm) in length and 1-1/8 inches (30 mm) wide. Net weight of salt per 1000 packets shall be not less than 2.5 pounds (1.1 kg). The packets shall be formed of 0.005-inch (0.127 mm) polystyrene formed by heat and vacuum filled, and backed by printed paper coated with heat sealable material to bond, or bleached kraft paper and polystyrene. The packet shall be opened by bending back perforated corner to expose shaker spout. Salt or iodized salt product identification and ingredient claims shall be in red lettering on all white background and meet all FDA labeling requirements. Contents shall be clearly visible.

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5.1.2.2.2.4 Individual tetrahedral shaped packet. Packet shall be individual single-use, tetrahedral in shape, approximately 1-1/2 inches (38 mm) in length and approximately 3/4 inch (19 mm) wide at base and top. The top shall be at approximately right angles to the bottom. Packet shall have dispensing opening consisting of three shaker holes triangularly placed approximately 1/2 inch (13 mm) from top, each hole being 1/16 inch (2 mm) in diameter. Dispensing openers hermetically sealed by printed pull tab cover approximately 1/2 inch (13 mm) in length and 11/32 inch (9 mm) in width. Net weight of salt per 1000 packets shall not be less than 2.5 pounds (1.1 kg). Packet shall be formed of white, 45-pound (20 kg) pouch paper with polyethylene coating used as a sealing agent. The packet shall be opened by pulling the tab at the dispensing shaker opener. Salt or iodized salt product identification and ingredient claims shall be in red lettering on all white background and meet all FDA labeling requirements.

5.1.2.3 Military agencies. When specified (see 6.1), salt shall be packaged in individual shaker packets in accordance with 5.1.2.2.2 except that color coding is not required. Alternatively, the salt, in the quantities specified in 5.1.2.2.2, shall be packaged in an envelope constructed from 24 pounds \pm five percent per ream (24 by 36-500) (57 g/m²) white, sulphite paper coated on the inside with not less than 4-pounds (6 g/m²) per ream of polyethylene. The envelope shall be completely closed and shall not allow sifting or spillage of the product.

5.1.3 Level C. The salt shall be packaged to afford adequate protection against damage during shipment from the supply source to the first consuming activity. The contractor may use his standard practice when it meets these requirements.

5.2 Packing. The salt shall be packed in accordance with level A, B, or C, as specified (see 6.1).

5.2.1 Level A.

5.2.1.1 Envelope (4-ounce (113 g) only). Sixty envelopes containing 4 ounces (113 g) of salt, packaged as specified in 5.1.1.1.2, shall be packed in an intermediate chipboard carton. Three of these cartons shall be packed in an intermediate snug-fitting, 125 pound (56.7 kg) test, domestic, corrugated fiberboard box having a taped manufacturer's joint. The flaps of the box shall be taped or glued. The filled and sealed box shall then be packed in a snug-fitting fiberboard shipping container, constructed, closed, and strapped in accordance with style RSC, V2s of PPP-B-636. The shipping containers shall be provided with a waterproof case liner constructed and closed in accordance with MIL-L-10547 for subsistence items. When flaps of the shipping container are closed by stitching, the case liner shall be protected from the stitches by placing a chipboard pad between the case liner and the stitches. The case liner shall be protected from the stitches in the manufacturer's joint by a piece of pressure-sensitive tape placed over the stitches. When unit loading is specified, reinforcement is not required.

5.2.1.2 Bags. Twelve 5-pound (2.3 kg) or six 10-pound (4.5 kg) bags of salt, packaged as specified in 5.1.1.2, shall be packed into a multiwall paper shipping sack, fabricated and closed in accordance with type I, style B, or type II, style A, construction 9 or 9X, MBI, of UU-S-48.

5.2.1.3 Individual serving packets. When specified (see 6.1), 1000 packets complying with 5.1.2.3 shall be packed in a chipboard carton. Not more than 48 pounds (21.8 kg) of the packaged product shall be packed in an intermediate snug-fitting, 125-pound (56.7 kg) test, domestic, corrugated fiberboard box, inclosed in a waterproof case liner constructed and closed in accordance with MIL-L-10547 for subsistence items and packed in the shipping container specified in 5.2.1.1.

5.2.2 Level B.

5.2.2.1 Military agencies. The salt shall be packed in accordance with 5.2.2.1.1 or 5.2.2.1.2, as applicable.

5.2.2.1.1 Bags. Twelve 5-pound (2.3 kg) or six 10-pound (4.5 kg) bags of salt, packaged as specified in 5.1.2.1, shall be packed into a multiwall paper shipping sack, fabricated and closed in accordance with type I, style B, or type II, style A, construction 4 or 4X, MBI, of UU-S-48.

5.2.2.1.2 Envelopes and packets. Two hundred envelopes containing 4 grams of salt, 1000 envelopes containing 1/4-ounce (7 g) of salt, 1000 individual serving packets as specified in 5.1.2.3, or 250 envelopes containing 1 ounce (28 g) of salt, as applicable, shall be packed in a chipboard carton. Alternatively, 1000 individual serving packets complying with 5.1.2.3 may be packed in a polyethylene bag closed with a mechanical closure. Packages containing less than 1 ounce (28 g) shall be random packed. The 1- (28 g) and 4-ounce (113 g) sizes shall be packed on end. Not more than 48 pounds (21.8 kg) of the packaged product shall be packed in a snug-fitting shipping container, constructed, closed and reinforced in accordance with style RSC, V3c, V3s, or V4s of PPP-B-636. The shipping container shall be provided with a waterproof case liner as specified in 5.2.1.1. The case liner shall be protected from stitches as specified in 5.2.1.1.

5.2.2.1.2.1 When specified (see 6.1 and 6.3), the container specified in 5.2.2.1.2 shall be reinforced with nonmetallic strapping or pressure-sensitive adhesive, filament reinforced tape in accordance with the appendix of PPP-B-636 except that two reinforcing bands shall be used, one lengthwise and one girthwise.

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5.2.2.2 Civil and military agencies. The salt shall be packed in accordance with 5.2.2.2.1 or 5.2.2.2.2, as applicable.

5.2.2.2.1 Twelve or twenty-four 26 ounce (737 g) containers shall be packed in accordance with Uniform Freight Classification or National Motor Freight Classification, as applicable.

5.2.2.2.2 Unless otherwise specified, packets shall be packed 1000 packets per fiberboard box, five boxes per corrugated container; or 10 boxes per corrugated container. Containers shall be new, clean, and of sufficient strength to withstand shipping, warehousing, and reshipping.

5.2.3 Level C.

5.2.3.1 Envelopes and packets. Two hundred envelopes containing 4 grams of salt, 1000 envelopes containing 1/4-ounce (7 g) of salt, 1000 individual serving packets as specified in 5.1.2.3, or 250 envelopes containing 1 ounce (28 g) of salt, as applicable, shall be packed in a chipboard carton. Alternatively 1000 individual serving packets complying with 5.1.2.3 may be packed in a polyethylene bag closed with a mechanical closure. Packages containing less than 1 ounce (28 g) shall be random packed. The 1-ounce (28 g) size shall be packed on end. Not more than six cartons or bags of individual serving packets and not more than 48 pounds (21.8 kg) of the other packaged product shall be packed in a snug-fitting shipping container constructed and closed in accordance with style RSC, type CF or SF, class domestic, method II closure of PPP-B-636.

5.2.3.2 Envelopes for ration assembly. As applicable, 1000 or 2000 envelopes containing 4 grams of salt, 1000 envelopes containing 1/4 ounce (7 g) of salt, 250 envelopes containing 1 ounce (28 g) of salt, or 60 envelopes containing 4 ounces (113 g) of salt shall be packed in a chipboard carton. The 4 grams and 1/4-ounce (7 g) sizes shall be random packed, the 1-(28 g) and 4-(113 g) ounce sizes shall be packed on end. Six cartons containing 1000 or 2000 4-gram envelopes each, three cartons containing 250 1-ounce (28 g) envelopes each, or three cartons containing 60 4-ounce (113 g) envelopes each, shall be packed in snug-fitting containers, complying with Uniform Freight Classification or National Motor Freight Classification, as applicable.

5.2.3.3 Bags for Military agencies. Sixty pounds (27.2 kg) of salt, commercially packaged, shall be packed in multiwall paper shipping sacks complying with Uniform Freight Classification or National Motor Freight Classification, as applicable.

5.2.3.4 Civil agencies. Unless otherwise specified, 100 pounds (45.4 kg) of salt shall be packed in a multiwall paper sack in accordance with the Uniform Freight Classification or National Motor Freight Classification, as applicable.

5.2.3.5 When specified (see 6.1 and 6.4), envelopes and packets, in the quantity, arrangement, and intermediate cartons specified in 5.2.2.1.2, shall be packed in shipping containers in accordance with Uniform Freight Classification or National Motor Freight Classification, as applicable.

5.3 Unit loads for Military agencies. When specified (see 6.1), the salt, packed in shipping containers in accordance with 5.2, shall be arranged in unit loads in accordance with MIL-L-35078 for the type and class of load specified (see 6.1).

5.4 Labeling and marking.

5.4.1 Civil agencies.

5.4.1.1 Unit containers. Any commercial labeling that complies with the Federal Food, Drug, and Cosmetic Act and regulations promulgated thereunder is acceptable.

5.4.1.2 Shipping containers. Shipping containers shall be marked in accordance with the requirements of FED-STD-123 and such other information as specified by individual agencies.

5.4.2 Military agencies.

5.4.2.1 Unit containers. Unit containers shall be labeled in accordance with the Federal Food, Drug, and Cosmetic Act and regulations promulgated thereunder.

5.4.2.2 Bags. The bags shall be labeled in accordance with the Federal Food, Drug, and Cosmetic Act and regulations promulgated thereunder.

5.4.2.3 Chipboard cartons. Chipboard cartons shall be labeled with the name of the product, type of package, weight of package (as applicable), and count.

5.4.2.4 Unit loads. Unit loads shall be marked in accordance with MIL-L-35078.

5.4.2.5 Shipping containers and intermediate boxes shall be marked in accordance with MIL-STD-129.

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6. NOTES

6.1 Ordering data. Purchasers should select the preferred options permitted herein and include the following information in procurement documents:

- (a) Title, number, and date of this specification
- (b) Whether plain or iodized salt is required (see 1.1)
- (c) Packaging and packing levels required (see 5.1 and 5.2)
- (d) When shaker packets are required for Military agencies (see 5.1.2.3)
- (e) When 1000 packets are to be packed in a chipboard carton (see 5.2.1.3)
- (f) When packing in accordance with 5.2.2.1.2.1 is required
- (g) Type and class of load when unit loading is specified (see 5.3)
- (h) When pre-acceptance inspection is required by Civil agencies
- (i) When packing in accordance with 5.2.3.5 is required.

6.2 Level B packaging is intended to provide an economical but limited protection and should be specified only when it is determined that the product packaging provides protection against damage during multiple shipments in which shipping and handling will be under cover, and storage will be in warehouses or other structures providing equivalent protection from weather.

6.3 Packing specified in 5.2.2.1.2.1 is intended for transfer at sea operations or specific overseas operations.

6.4 Packing specified in 5.2.3.5 is intended for direct shipment from the supply source to the consumer for immediate use within CONUS.

6.5 Military agencies. Based on conditions known or expected to be encountered during shipment, handling, and storage of the specific item being procured, the contracting officer should select the appropriate level of pack in accordance with the criteria established in AR 700-15/NAVSUPINST 4030.28/AFR 71-6/MCO 4030.14D/DSAR 4145.7.

6.6 Destination inspection (for Civil agencies only). When the finished product has been inspected and passed at point other than destination, the contract should require that the product be inspected at destination for condition and quantity only.

6.7 Metric equivalents. Metric equivalents, indicated in parenthesis throughout this document, are based on practices, conversion factors, and symbols specified in ASTM E 380 Standard for Metric Practice, and are for information only. In each instance, the value stated in US customary units shall be controlling.

Custodians:

Army - GL
Navy - SA
Air Force - 50

Review activities:

Army - MD
Navy - MC, MS
DP-SS

Preparing activity:

Army - GL

Civil Agency Coordinating Activities:

GSA - FSS
HEW - FDA
VA - DMS

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