

METRIC

A-A-20100D

September 3, 2014

SUPERSEDING

A-A-20100C

May 1, 2002

COMMERCIAL ITEM DESCRIPTION

SHORTENING COMPOUNDS

The U.S. Department of Agriculture (USDA) has authorized the use of this Commercial Item Description (CID).

1. SCOPE. This CID covers shortening compounds packed in commercially acceptable containers, suitable for use by Federal, State, local governments, and other interested parties; and as a component of operational rations. **Please note: This document does not guarantee purchase of this item by USDA.**¹

2. PURCHASER NOTES.

2.1 Purchasers *must specify* the following:

- Type(s) of shortening compounds desired (Sec. 3).
- When analytical requirements are different than specified (Sec. 7.1).
- When analytical requirements need to be verified (Sec. 7.2).
- Manufacturer's/distributor's certification (Sec. 10.3) or USDA certification (Sec. 10.4).

2.2 Purchasers *may specify* the following:

- Food Defense Section 10.1: Food Defense System Survey (FDSS) (Sec. 10.1.1), or Food Defense Addendum to Plant Systems Audit (PSA) (Sec 10.1.2), or (Sec. 10.1.2 with 10.2.1).
- Manufacturer's quality assurance (Sec. 10.2 with 10.2.1) or (Sec. 10.2 with 10.2.2).
- Packaging requirements other than commercial (Sec. 11).

3. CLASSIFICATION. The shortening compounds must conform to the following list which must be specified in the solicitation, contract, or purchase order.

¹ For USDA purchase specifications please visit the following websites: [Commodity Purchase Specifications for Agricultural Marketing Service \(AMS\)](#) and [Commodity Purchase Specifications for Farm Service Agency \(FSA\)](#).

A-A-20100D**Types.****Type I** - General purpose**Type II** - Bakery (emulsifier-type)**Type III** - Liquid shortening (deep-fry cooking)**4. MANUFACTURER'S/DISTRIBUTOR'S NOTES. Manufacturer's/distributor's products *must meet the requirements of the:***

- Processing guidelines (Sec. 5).
- Salient characteristics (Sec. 6).
- Analytical requirements: *as specified by the purchaser* (Sec. 7).
- Manufacturer's/distributor's product assurance (Sec. 8).
- Regulatory requirements (Sec. 9).
- Quality assurance provisions: *as specified by the purchaser* (Sec. 10).
- Packaging requirements other than commercial: *as specified by the purchaser* (Sec. 11).

5. PROCESSING GUIDELINES.

5.1 Processing. The shortening compounds must be prepared and packaged in accordance with Current Good Manufacturing Practices (21 Code of Federal Regulations (CFR) Part 110).

5.2 Food security. The shortening compounds must be processed and transported in accordance with the Food and Drug Administration's (FDA's) *Guidance for Industry: Food Producers, Processors, and Transporters: Food Security Preventive Measures Guidance*.² This guidance identifies the kinds of preventive measures food manufacturers, processors, or handlers may take to minimize the risk that food under their control will be subject to tampering or other malicious, criminal, or terrorist actions. The implementation of enhanced food security preventive measures provides for the security of a plant's production processes and includes the storage and transportation of pre-production raw materials, other ingredients, and postproduction finished product.

6. SALIENT CHARACTERISTICS.

6.1 Type I. The general purpose shortening must be prepared from deodorized vegetable fats and oils, which include, but are not limited to, palm oil, palm kernel oil, canola oil, or a combination of these oils. The general purpose shortening may be processed by hydrogenation or interesterification. The product may contain antioxidants. Antifoaming agents must not be incorporated into the shortening.

² <http://www.fda.gov/Food/GuidanceRegulation/GuidanceDocumentsRegulatoryInformation/FoodDefense/ucm083075.htm>.

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6.2 Type II. The bakery (emulsifier-type) shortening must be prepared from vegetable fats and oils, which include, but are not limited to, palm oil, palm kernel oil, canola oil, or a combination of these oils. The fats and oils may be processed by hydrogenation or interesterification. The product must have been deodorized and may contain antioxidants. Antifoaming agents must not be incorporated into the product. The bakery shortening must contain monoglycerides in the amount specified in Table I.

6.3 Type III. The liquid shortening (deep-fry cooking) must be prepared from deodorized vegetable fats and oils, which include, but are not limited to, palm oil, palm kernel oil, canola oil, or a combination of these oils. The liquid shortening (deep-fry cooking) must contain antifoaming agents and may contain antioxidants.

6.4 Flavor and odor. The shortening compounds must be free from foreign flavors and odors such as, but not limited to: burnt, scorched, sour, stale, or rancid.

6.5 Consistency. Type I and II shortening compounds must be uniform and smooth. The texture must be plastic and workable over a temperature range of 18.3° to 29.4°C (65° to 85°F). Type III shortening compound must be fluid at 21.1°C (70°F).

6.6 Foreign material. All ingredients and finished product must be clean, sound, wholesome, and free from evidence of rodent or insect infestation. The shortening compounds must be free from foreign material, such as, but not limited to, dirt, insect parts, hair, wood, glass, or metal.

7. ANALYTICAL REQUIREMENTS.

7.1 Analytical requirements. Unless otherwise specified in the solicitation, contract, or purchase order, the analytical requirements for the shortening compounds must meet the requirements listed in Table I.³

³ The trans fat content of shortening compounds purchased for DoD must not be greater than 0 grams per serving. Trans fat content must be verified by the Nutrition Facts Label (NLEA).

A-A-20100D**TABLE I. Analytical requirements.**

Requirements	Type I	Type II	Type III
Free fatty acids as oleic acid (percent), maximum	0.05	0.15	0.05
Peroxide value (meq of Peroxide/kg of fat), maximum	1.0	1.0	1.0
Dropping point, range	43.3°C to 54.4°C (110°F to 130°F)	43.3°C to 54.4°C (110°F to 130°F)	---
Smoke point, minimum	---	---	218.3°C (425°F)
Alpha-monoglycerides,(percent), range	---	1.5 to 5.5	---
Moisture (percent), maximum	0.10	0.10 ⁴	0.10
Lovibond color (red), maximum	3.5	3.5	2.5

TABLE II. Solid fat content (SFC).

Type	Temperatures		
	10°C (50°F)	21.1°C (70°F)	33.3°C (92°F)
I	26 to 64	21 to 38	8 to 20
II	26 to 64	21 to 38	8 to 20
III	---	---	---

7.2 Product verification sampling. When USDA verification of analytical requirements is specified in the solicitation, contract, or purchase order, analytical testing must be performed on a composite sample. The composite sample must be 454 g (1 lb) prepared from five randomly selected subsamples. Subsamples must be a minimum of one can/container and must contain the appropriate number of cans/containers to yield a 454 g (1 lb) sample when composited. Each subsample must contain equal amounts of product to yield at least a 454 g (1 lb) sample.

⁴ If shortening is packed in cans, the maximum moisture must not exceed 0.07 percent.

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7.3 Analytical testing. When specified in the solicitation, contract, or purchase order, the analyses must be made in accordance with the following methods from the Official Methods of the American Oil Chemists Society (AOCS) or AOAC International Official Methods of Analysis (OMA).

<u>Test</u>	<u>Method</u>
Free fatty acids	Ca 5a-40 ⁵
Peroxide value	Cd 8b-53 or Cd 8b-90
Dropping point	Cc 18-80
Smoke point	Cc 9a-48
Alpha monoglycerides	Cd 11b-91 or 993.18 (OMA)
Moisture	Ca 2f-93 or 993.18 (OMA)
Lovibond red color	Cc 13e-92 or Cc 13j-97
Solid fat content	Cd 16b-93 ⁶

7.4 Test results. The test results for free fatty acids and moisture must be reported to the nearest 0.01 percent. The test results for alpha-monoglycerides must be reported to the nearest 0.1 percent. The test results for peroxide value must be reported to the nearest 0.1 meq/kg. The test results for Lovibond color must be reported to the nearest 0.1 value and solid fat content to the nearest value. The test results for dropping point and smoke point must be reported to the nearest °C. Any result not conforming to the analytical requirements will be cause for rejection of the lot.

8. MANUFACTURER'S/DISTRIBUTOR'S PRODUCT ASSURANCE. The manufacturer/distributor must certify that the shortening compounds provided meets the salient characteristics of this CID, conform to their own specifications, standards, and quality assurance practices, and be the same shortening compounds offered for sale in the commercial market. The purchaser reserves the right to require proof of conformance.

9. REGULATORY REQUIREMENTS. The delivered shortening compounds must comply with all applicable Federal and State mandatory requirements and regulations relating to the preparation, packaging, labeling, storage, distribution, and sale of the shortening compounds in the commercial marketplace. Delivered shortening compounds must comply with all applicable provisions of the Federal Food, Drug, and Cosmetic Act, the Fair Packaging and Labeling Act, and regulations promulgated thereunder. When a known allergen is included in the shortening compounds, the shortening compounds must comply with the allergen labeling requirements of the Federal Food, Drug, and Cosmetic Act. When the shortening compounds are used for the

⁵ Types I and II must be melted before analytical testing (cannot be heated more than 10°C (50°F) over melting point).

⁶ Procedure #3 should be followed in order to obtain values at 10°C (50°F), 21.2°C (70°F), and 33.3°C (92°F).

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National School Lunch Program, the shortening compounds must comply with all applicable provisions of the Child Nutrition (CN) Program.

10. QUALITY ASSURANCE PROVISIONS. *Purchaser must specify 10.3, or 10.4; purchaser may specify 10.1 with 10.1.1, 10.1 with 10.1.2, 10.1.2 with 10.2.1, 10.2 with 10.2.1, or 10.2 with 10.2.2.*

10.1 Food defense. When required in the solicitation, contract, or purchase order, a FDSS must be conducted by USDA, Agricultural Marketing Service (AMS), Fruit and Vegetable Program (FV), Specialty Crops Inspection (SCI) Division. Food defense requirements include a documented and operational food defense plan that provides for the security of a plant's production processes and includes the storage and transportation of pre-production raw materials and other ingredients and postproduction finished product. The plan must address the following areas: (1) food security plan management; (2) outside and inside security of the production and storage facilities; (3) slaughter, when applicable, and processing, including all raw material sources; (4) shipping and receiving; (5) storage; (6) water and ice supply; (7) mail handling; (8) personnel security; and (9) transportation, shipping, and receiving.

10.1.1 FDSS. When required in the solicitation, contract, or purchase order, a FDSS must be conducted by USDA, AMS, FV, SCI Division. The FDSS verifies that operators of food establishments have implemented measures to minimize the risk of tampering or other criminal actions against the food under their control. *(An AMS, FDSS verifies the participating company's adherence to the FDA's "Guidance for Industry - Food Producers, Processors, and Transporters: Food Security Preventive Measures Guidance.")*

10.1.2 Food defense addendum to PSA. When required in the solicitation, contract, or purchase order, a food defense addendum must be conducted by USDA, AMS, FV, SCI Division auditors. This verifies that operators of food establishments have implemented measures to minimize the risk of tampering or other criminal actions against the food under their control. *(An AMS, FDSS, PSA verifies the participating company's adherence to the FDA's "Guidance for Industry - Food Producers, Processors, and Transporters: Food Security Preventive Measures Guidance.")*

10.2 Manufacturer's quality assurance. When required in the solicitation, contract, or purchase order, the product manufacturer must be required to provide evidence, by certificate, that the manufacturing plant has undertaken one of the following quality assurance measures within 12 months prior to providing a bid or no later than 10 business days from the date of the awarding of the contract. Failure to provide this documentation within the proper time frame may result in the contract being terminated for cause.

10.2.1 PSA. A PSA conducted by USDA, AMS, or other audit performed by a third party auditing service is required within 12 months prior to the date of the awarding of the contract. *(An AMS PSA verifies the manufacturer's capability to produce products in a clean sanitary*

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environment in accordance with 21 CFR Part 110 - Current Good Manufacturing Practice in Manufacturing, Packing, or Holding Human Food, and verifies that the manufacturer has in place an internal quality assurance program.)

10.2.2 Plant survey. A plant survey conducted by USDA/Federal Grain Inspection Service (FGIS) or USDA/AMS, or other survey performed by a third party auditing service is required within 12 months prior to the date of the awarding of the contract. *(An USDA/FGIS or USDA/AMS plant survey audit verifies that at the time of the survey, the manufacturer produces products in a clean sanitary environment in accordance with 21 CFR Part 110 - Current Good Manufacturing Practice in Manufacturing, Packing, or Holding Human Food.)*

10.3 Manufacturer's/distributor's certification. When required in the solicitation, contract, or purchase order, the manufacturer/distributor must certify that the shortening compounds distributed meets or exceeds the requirements of this CID.

10.4 USDA certification. When required in the solicitation, contract, or purchase order that product quality and acceptability or both be determined, the SCI Division, FV, AMS, USDA, must be the certifying program. SCI Division inspectors must certify the quality and acceptability of the shortening compounds in accordance with SCI Division procedures, which include selecting random samples of the shortening compounds, evaluating the samples for conformance with the salient characteristics of this CID and other contractual requirements, and documenting the findings on official SCI Division score sheets and/or certificates. In addition, when required in the solicitation, contract, or purchase order, SCI Division inspectors will examine the shortening compounds for conformance to the U.S. Standards for Condition of Food Containers (7 CFR Part 42) in effect on the date of the solicitation.

11. PACKAGING. Preservation, packaging, packing, labeling, and case marking must be commercial unless otherwise specified in the solicitation, contract, or purchase order.

12. USDA INSPECTION NOTES. When Section 10.4 is specified in the solicitation, contract, or purchase order, USDA certification must include evaluation of the quality and condition of samples of shortening compounds and compliance with requirements in the following areas:

- Processing guidelines (Sec. 5).
- Salient characteristics (Sec. 6).
- Analytical requirements *when specified in the solicitation, contract, or purchase order* (Sec. 7). When USDA analytical testing is specified, SCI Division inspection personnel must select samples and submit them to the USDA, Science and Technology Program (S&TP) laboratory for analysis.
- Packaging requirements (Sec. 11 or *as specified in the solicitation, contract, or purchase order*).

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13. REFERENCE NOTES.

13.1 USDA services.

13.1.1 USDA certification. For a USDA certification contact the Associate Director, Inspection Operations, SCI Division, FV, AMS, USDA, Room 1536 South Building, STOP 0240, 1400 Independence Avenue, SW, Washington, DC 20250-0240, telephone (202) 720-2482, fax (202) 720-0393, or via E-mail: Nathaniel.Taylor@ams.usda.gov.

13.1.2 USDA FDSS, Plant Survey, and PSA. For a USDA FDSS, Plant Survey, and PSA contact the Chief, Auditing Services Branch, Inspection Operations, SCI Division, FV, AMS, USDA, Room 1536 South Building, STOP 0240, 1400 Independence Avenue, SW, Washington, DC 20250-0240, telephone (202) 720-5021, fax (202) 260-8927, or via E-mail: fvaudits@ams.usda.gov.

13.1.3 FGIS Plant Survey contact. For an FGIS Plant Survey, contact the Policy, Procedures, and Market Analysis Branch, Field Management Division, Grain Inspection, Packers and Stockyards Administration (GIPSA), STOP 3630, 1400 Independence Avenue, SW, Washington, DC 20250-3630, telephone (202) 720-0277, Fax (202) 720-1015, or via E-mail: Andrew.S.Greenfield@usda.gov.

13.1.4 Analytical testing and technical information contact. For USDA technical information on analytical testing, contact a member of the Laboratory Approval and Testing Division, S&TP, AMS, USDA, STOP 0272, 1400 Independence Avenue, SW, Washington, DC 20250-0272, telephone (202) 690-0621 or via E-mail: KerryR.Smith@ams.usda.gov.

13.2 Sources of documents.

13.2.1 Sources of information for nongovernmental documents are as follows:

Copies of the Official Methods of the American Oil Chemists' Society may be obtained from: AOCS, P.O. Box 17190, Urbana, IL 61803-7190, telephone (217) 359-2344 or Fax (217) 351-8091. Internet address: <http://www.aocs.org>.

Copies of the AOAC International OMA may be obtained from: AOAC International, 2275 Research Boulevard, Suite 300, Rockville, MD 20850-3250, telephone (301) 924-7077. Internet address: <http://www.aoac.org> for nonmembers and <http://www.eoma.aoac.org> for members and AOAC OMA subscribers.

13.2.2 Sources of information for governmental documents are as follows:

Applicable provisions of the U.S. Standards for Condition of Food Containers are contained in 7 CFR Part 42, the Fair Packaging and Labeling Act are contained in 16 CFR Parts 500 to 503, and

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the Federal Food, Drug, and Cosmetic Act are contained in 21 CFR Parts 1 to 199. These documents may be purchased from: **Superintendent of Documents, New Orders, P.O. Box 979050, St. Louis, MO 63197-9000.** Credit card (Visa, MasterCard, Discover/ NOVUS, and American Express) purchases may be made by calling the Superintendent of Documents on (866) 512-1800, (202) 512-1800. These documents may also be obtained free of charge on the Internet at:

<http://www.gpo.gov/fdsys/browse/collectionCfr.action?collectionCode=CFR>.

Copies of Guidance for Industry - Food Producers, Processors, and Transporters: Food Security Preventive Measures Guidance is available online from: **FDA, Center for Food Safety and Applied Nutrition (CFSAN) on the Internet at:**

<http://www.fda.gov/Food/GuidanceRegulation/GuidanceDocumentsRegulatoryInformation/FoodDefense/ucm083075.htm>.

Copies of this CID, and the U.S. Standards for Condition of Food Containers (7 CFR Part 42) are available from or provided to: **Chief, Standardization Branch, USDA, AMS, FV, SCI Division, Riverside Business Park, 100 Riverside Parkway, Suite 101, Fredericksburg, VA 22406, telephone (540) 361-1130, Fax (540) 361-1199, via E-mail: CIDS@ams.usda.gov or on the Internet at: www.ams.usda.gov/CommercialItemDescription.**

Copies of this CID are also available online at: **ASSIST Online (<https://assist.dla.mil>) or ASSIST Quick Search (<https://assist.dla.mil/quicksearch>) or from the Standardization Documents Order Desk, Defense Logistics Agency (DLA) Document Services, Building 4D, 700 Robbins Avenue, Philadelphia, PA 19111-5094.**

Beneficial comments, recommendations, additions, deletions, clarifications, etc., and any data which may improve this document should be sent to: **DLA Troop Support, ATTN: FTSA, 700 Robbins Avenue, Philadelphia, PA 19111-5092 or Fax (215) 737-2963, or via E-mail: dscpsubsweb@dlamil.**

A-A-20100D**MILITARY INTERESTS:****Custodians**

Army - GL
 Navy - SA
 Air Force - 35
 DLA - SS

CIVIL AGENCY COORDINATING ACTIVITIES:

DOJ - BOP
 HHS - FDA
 USDA - FV
 VA - OSS

Review Activities

Army - MD, QM
 Navy - MC

PREPARING ACTIVITY:

DLA - SS
 (Project No. 8945-2010-003)

NOTE: The activities listed above were interested in this document as of the date of this document. Since organizations and responsibilities can change, you should verify the currency of the information above using the ASSIST Online database at <https://assist.dla.mil>.

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