

APPENDIX 4-A

STORAGE OF TANNIN EXTRACTS

1. *Description.* Chestnut, quebracho, and wattle tannin extracts are hard, resinous substances, received as a solid mass within each bag except for “chunks” broken off in handling. In addition to the solid form, chestnut tannin extract is received as a dry powder. When acquired, chestnut shall meet Purchase Specification P-86-R2; quebracho, P-44-R3; and wattle, P-87-R2 (Current Edition).

2. *Packaging.* Extracts in solid form are packed in burlap, cotton, or heavy paper bags protected by an outer bag of heavy burlap. Powdered chestnut extract is packed in moisture-proof sacks with an outer bag of heavy burlap or in fiber drums. Bags comprising any one lot will be of the same nominal size and shape.

3. *Marking*

a. Prior to receipt, each container will be clearly marked to show the name of the commodity, government contract number, and the caution “USE NO HOOKS.” Positive identification of material shall be obtained from information shown on documents accompanying each shipment and on shipping instructions issued by the DNSC-OL.

b. Tannin extracts repackaged will be marked as above.

4. *Storage*

a. Material will be stored in box pallets in a dry, unheated, sprinklered warehouse, and should not be stored where exposed to direct sunlight. Since all tannin extracts are soluble in water, extreme care must be exercised to avoid wetting. To prevent mildew and deterioration of bags, ventilation should be provided by keeping warehouse doors open in dry weather when such ventilation does not adversely affect other commodities. Should material become wet from causes other than normal storage dampness, DNSC-OL shall be notified at once through established channels.

b. To facilitate the taking of a physical inventory at any time by count and computation the same number of bags shall be placed in each box pallet, except when an odd number of bags in the top box pallet of a stack of uniform height will complete the lot. The pallets shall be block-stacked in uniform rows and to a uniform height. In doing so, economical use of space must be given full consideration and segregation requirements must be met.

c. A complete description of each lot or portion of a lot within a block will be indicated on a card which will be prominently displayed and securely attached to each block. DNSC depots will use the “Warehouse Material Identification Card,” DNSC Form 41, for this purpose. This form, which is specifically designed for use with Stockpile materials, will be furnished military depots upon request.

d. All material will be segregated according to type, i.e., quebracho, wattle, chestnut powder

APPENDIX 4-A**STORAGE OF TANNIN EXTRACTS**

and chestnut solid. Within each type, each brand will be identified and segregated. It is not intended that material not now segregated by brands should be sorted to comply with this requirement. However, at any time this material is moved for any reason, every effort will be made to segregate brands.

e. Main transportation aisles will be a minimum of 10 feet in width and will not exceed 10 feet except as required for the load being handled or for other operating reasons. Individual storage stacks will not exceed 3,000 square feet in area. Maximum stowage height will be 16 feet including pallets. Clearance between stowage piles will be at least 4 feet.

f. Storage will be kept at least 36 inches below automatic sprinkler heads and overhead structural members (including lower chord and other roof truss members, beams, girders, and ceiling).

g. A minimum clearance of 24 inches will be maintained between stowage piles and exterior walls, fire walls, fire doors and fire door openings, excluding vertical columns. A clearance of 24 inches will be maintained between piles and heating appliances, piping, electrical wiring and fixtures, etc.

5. *Outshipment Procedures*

a. Shipments will generally be accomplished in closed rail cars or trucks.

b. Weights will normally be obtained by gross weighing each box pallet and subtracting a predetermined allowance for the pallet. An appropriate allowance will also be subtracted for the bags when weighing quebracho or wattle, but not when weighing chestnut. No weighing will normally be required on inter-depot transfers. Weights of record will be used for documentation.

c. An Outbound Storage Report, DNSC Form 43, shall be issued within three working days after the entire shipping order quantity has been shipped, or to cover each week's shipments, whichever is sooner, and shipments posted on the depot's Inventory Record Card, DNSC Form 46. Except for inter-depot transfers, Outbound Storage Reports will show the net weight established as in paragraph b. above, and will also show the weight of record. The weight of record will, in all cases, be used to reduce the inventory record.

d. All tannin extracts, except powdered chestnut, lose up to 8% of their weight in storage due to the evaporation of moisture; powdered chestnut gains up to 5% of its weight due to absorption of moisture. However, this gain or loss varies with the different climatic conditions at the various depots. This loss or gain in weight must be considered in establishing lots to be offered for sale. A 100 long ton lot could represent from 95 to 108 long tons of record (inbound) weight, depending on the loss or gain experienced at a particular depot.

6. *Precautions To Be Taken*

APPENDIX 4-A

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a. *Safety and Health.* Refer to the DNSC Occupational Health Guidelines for Tannin.

b. *General.* Dust from tannin extract which settles upon metal parts, particularly iron and steel, will absorb moisture which causes corrosion damage. Tannins should not be stored or handled in warehouse sections storing materials subject to corrosion unless specifically authorized in writing by DNSC-OL. Use no hooks in handling bagged material.

c. *Average Storage Factor.* 6.5 gross square feet per short ton.

FOR ADDITIONAL INFORMATION ON THIS COMMODITY REFER TO THE MATERIAL SAFETY DATA SHEET OR THE MOST RECENT PURCHASE SPECIFICATION.