

COMMERCIAL STANDARD 165-50

Zinc Naphthenate Wood-Preservative  
(Spray, brush, dip application)

U. S. DEPARTMENT OF COMMERCE



---

For sale by the Superintendent of Documents, U. S. Government Printing Office  
Washington 25, D. C. - Price 5 cents

U. S. DEPARTMENT OF COMMERCE  
Charles Sawyer, Secretary

BUREAU OF FOREIGN AND DOMESTIC COMMERCE  
Office of Industry and Commerce  
H. B. McCoy, Director

In cooperation with  
NATIONAL BUREAU OF STANDARDS  
E. U. Condon, Director



# Zinc Naphthenate Wood-Preservative

(Spray, brush, dip application)

A Recorded Voluntary Standard of the Trade

---

## COMMODITY STANDARDS

Simplified Practice Recommendations and Commercial Standards are developed by manufacturers, distributors, and users in cooperation with the Commodity Standards Division of the Office of Industry and Commerce and the National Bureau of Standards.

The purpose of Simplified Practice Recommendations is to eliminate avoidable waste through the establishment of standards of practice for stock sizes and varieties of specific commodities that currently are in general production and demand. The purpose of Commercial Standards is to establish standard methods of test, rating, certification, and labeling of commodities, and to provide uniform bases for fair competition.

The adoption and use of a Simplified Practice Recommendation, or a Commercial Standard is voluntary. However, when reference to a Commercial Standard is made in contracts, labels, invoices, or advertising literature, the provisions of the standard are enforceable through usual legal channels as a part of the sales contract.

A Simplified Practice Recommendation, or a Commercial Standard originates with the proponent industry. The sponsors may be manufacturers, distributors, or users of the specific product. One of these three elements of industry submits to the Commodity Standards Division the necessary data to be used as the basis for developing a standard of practice. The Division, by means of assembled conferences or letter referenda, or both, assists the sponsor group in arriving at a tentative standard of practice and thereafter refers it to the other elements of the same industry for approval or for constructive criticism that will be helpful in making any necessary adjustments. The regular procedure of the Division assures continuous servicing of each effective Simplified Practice Recommendation and Commercial Standard, through review and revision, whenever, in the opinion of the industry, changing conditions warrant such action. Simplified Practice Recommendations and Commercial Standards are printed and made available by the Department of Commerce through the Government Printing Office and the Department of Commerce field offices, a list of which appears on the outside back cover of this pamphlet.

# COMMERCIAL STANDARD 165-50

for

## ZINC NAPHTHENATE WOOD-PRESERVATIVE

(Spray, brush, dip application)

[Effective for New Production from April 22, 1950]

### 1. PURPOSE

1.1. The purpose of this commercial standard is to provide a nationally recognized specification for zinc naphthenate wood-preservative for the guidance of producers, distributors, and users; to promote fair competition and consumer confidence in products conforming to this standard; and to provide a basis for labeling and guaranteeing the quality of the product.

### 2. SCOPE

2.1. This standard covers physical and chemical characteristics of zinc naphthenate products supplied in either concentrated form or ready-for-use form for the treatment of wood.

### 3. DEFINITION

3.1. Zinc naphthenate is the zinc salt of naphthenic acids. Naphthenic acids are carboxylic acid derivatives of cycloalkane hydrocarbons (naphthenes). The monobasic acids have the general type formula  $C_nH_{2n-2x}O_2$ , where  $x$  is the number of rings in the molecule.

### 4. REQUIREMENTS

4.1. *Active ingredient.*—The active ingredient shall be the zinc salt of naphthenic acid, resulting from substantially complete chemical combination of the metal with naphthenic acid under customary commercial manufacturing methods.

4.2. *Diluents.*—The principal diluent shall be a volatile petroleum solvent. Other substances, such as creosote, linseed oil, or water-repellent substances, may be added to provide special characteristics in the finished product. The flash point of the diluent shall be not lower than 100° F when tested in a Tagliabue closed-cup tester, as described in paragraph 5.1.

4.3. *Zinc content.*

4.3.1. *Concentrated zinc naphthenate wood-preservative.*—The actual

percentage of zinc, determined as described in paragraph 5.2, shall be shown on the label of the container. Detailed instruction for dilution shall be given on the label or an accompanying tag or in a booklet.

4.3.2. *Ready-for-use zinc naphthenate wood-preservative* shall contain not less than 1.0 percent of zinc calculated as metallic.

4.4. *Penetration*.—When ready-for-use zinc naphthenate having as diluent a volatile solvent, or concentrated naphthenate diluted with a volatile petroleum solvent in accordance with manufacturer's instructions, is tested as described in paragraph 5.3, the wood-preservative shall penetrate the end grain at least 1 inch.

## 5. METHODS OF TEST

5.1. *Flash point*.—A. S. T. M. Designation D 56-36 or Federal Specification TT-P-141b, Method 429.1.

5.2. *Zinc content*.

5.2.1. *Outline of method*.—The sample is extracted with dilute sulfuric acid. The extract is partially neutralized with ammonium hydroxide, heated to boiling, and after the addition of potassium ferricyanide and diphenylamine indicator, is titrated to a yellow-green end point with standard potassium ferrocyanide solution.<sup>1</sup>

5.2.2. *Apparatus*.

- (1) Analytical balance and weights.
- (2) Beads, glass, 3-mm diameter.
- (3) Beakers, Pyrex, with lip, 600 ml.
- (4) Burette, graduated in tenths, 50 ml.
- (5) Bottle, brown, glass stoppered, 4 liters.
- (6) 2 bottles, dropping, 15 ml.
- (7) Bottle, wash, for distilled water, 500 ml.
- (8) Cylinder, graduated in milliliters, 50 ml.
- (9) Cylinder, graduated in one-tenth milliliters, 10 ml.
- (10) Filter paper, No. 4, 12.5 cm.
- (11) Funnel, filtering, 3-in. diameter, short stem.
- (12) Funnel, 1½-in. diameter, short stem.
- (13) Funnel, separatory, Pyrex, 500 ml.
- (14) Gauze, nichrome wire, 4 in. by 4 in.
- (15) Pipette, volumetric, 50 ml.
- (16) Flask, Erlenmeyer, Pyrex, 250 ml.
- (17) Flask, volumetric, Pyrex, T-stopper, 500 ml.
- (18) Tripod, iron, 9 in. high, 5 in. ring (O. D.).
- (19) Watch glass, 5-in.

5.2.3. *Reagents and solutions*.

- (1) Sulfuric acid,  $H_2SO_4$ , concentrated (sp gr 1.84).
- (2) Ammonium hydroxide,  $NH_4OH$ , concentrated (sp gr 0.90).
- (3) Ammonium sulfate,  $(NH_4)_2SO_4$ , cp.
- (4) Diphenylamine,  $C_{12}H_{11}N$ , cp.
- (5) Potassium ferrocyanide,  $K_4Fe(CN)_6 \cdot 3H_2O$ , cp.
- (6) Potassium ferricyanide,  $K_3Fe(CN)_6$ , cp.
- (7) Zinc granules, cp.

<sup>1</sup> Alternate method. Method 709.1 of Federal Specification TT-P-141b, for Zinc Oxide, may be used, with appropriate modifications, by analysts who prefer the Federal specification method.



- (8) Sodium carbonate,  $\text{Na}_2\text{CO}_3$ , cp.
- (9) White mineral spirits.
- (10) Standard zinc solution. Dissolve 0.2 to 0.3 g of cp zinc granules, accurately weighed, in 50 ml of distilled water containing 4 ml of concentrated sulfuric acid.
- (11) Standard potassium ferrocyanide solution. Dissolve approximately 23 g of cp potassium ferrocyanide in a liter of previously boiled distilled water containing 0.2 g of sodium carbonate. Allow the solution to stand 2 days, filter into a brown bottle and standardize against the weighed standard zinc solution (par. 5.2.3 (10)), following the procedure described in par. 5.2.4 (8) through (11).

$$\text{Factor} = \frac{\text{grams of zinc metal in standard zinc solution}}{\text{milliliters of } \text{K}_4\text{Fe}(\text{CN})_6 \text{ solution used in titration}} \times 1000$$

= mg of zinc/ml.

This factor should be rechecked approximately every third week.

- (12) Diphenylamine indicator.  
Dissolve 0.25 g of diphenylamine in 25 g of concentrated sulfuric acid that has been fumed. This reagent should be freshly prepared every third day.
- (13) Potassium ferricyanide solution.  
Dissolve 1 g of potassium ferricyanide in 100 ml of distilled water.

#### 5.2.4. Determination of percentage of zinc.

- (1) Weigh an 8- to 10-g sample to the nearest milligram.
- (2) Transfer the sample to a 500-ml separatory funnel containing 70 ml of white mineral spirits.
- (3) Extract three times with three equal portions of an acid solution containing 38 ml of concentrated sulfuric acid and 262 ml of distilled water.
- (4) After each extraction, allow the materials in the separatory funnel to stratify, and collect the lower layer in a 600-ml beaker.
- (5) After the three acid extractions, wash the mineral-spirits layer once with 50 ml of distilled water and add to the combined extracts.
- (6) Boil the extracts until clear, and filter through a No. 4 Whatman filter paper into a 500-ml volumetric flask. Cool to 20° C and dilute to the mark with distilled water.
- (7) Pipette a 50-ml aliquot into a 250-ml Erlenmeyer flask.
- (8) Partially neutralize with 2 ml of concentrated ammonium hydroxide and heat the solution to 100° C.
- (9) Add 0.5 ml of freshly prepared potassium ferricyanide and 4 drops of freshly prepared diphenylamine indicator.

- (10) The solution is then titrated rapidly with standard potassium ferrocyanide to within 2 ml of the expected end point. The titrant is then added more slowly until a deep orchid color is developed.
- (11) Wash down the sides of the flask with distilled water and titrate dropwise with vigorous shaking until a yellow-green color persists.

#### 5.2.5. Calculation.

$$\frac{\text{ml standard K}_4\text{Fe(CN)}_6 \times \text{factor}}{\text{weight of sample}} = \% \text{ zinc.}$$

5.3. *Penetration.*—Navy Specification 52W5, par. F-2d.

5.3.1. *Samples.*—Four pieces of flat-grained clear ponderosa pine sapwood 2 in. wide,  $\frac{5}{8}$  in. thick, and 4 in. long, the grain extending parallel to the long dimension, shall be selected. The wood shall be of average, uniform growth (20 to 40 annual rings per inch) and shall have a moisture content below 15 percent.

5.3.2. *Treatment.*—Wood-preservative shall be poured into a flat-bottom glass vessel, such as a petri dish or beaker, to a depth of not less than  $\frac{1}{4}$  in. This solution shall be maintained at a temperature of  $77^\circ \pm 3^\circ$  F. Within 15 minutes after the solution has been introduced into the vessel, the wood samples shall be suspended vertically to a depth of  $\frac{1}{4}$  in. (marked on the wood) in the solution for 3 minutes. The samples shall then be removed, suspended to dry in the same vertical position for 24 hours at room temperature, and split into three pieces of equal dimensions in such a way that the radial face of the wood is exposed. The farthest penetration of the solution shall then be measured on each cut and the average of the eight measurements recorded as the penetration of the sample. Only the penetration on the split surfaces (not on the exterior surfaces) shall be measured.

5.3.3. To facilitate the visual demonstration of extent of penetration, it is best to add some oil-soluble dye to the pale-colored zinc naphthenate preservative, unless the total treating formula is of sufficient characteristic color to permit easy ascertainment of extent of penetration. Soluble dyes for this purpose are, for example, methyl violet concentrate. A dilution of 1 mg of methyl violet concentrate to 1 gal of solution is adequate.

## 6. LABELING

6.1 *Zinc naphthenate wood-preservative.*—In order that the purchaser may be assured that the product complies with this commercial standard, it is recommended that the following statement be included in labels,<sup>2</sup> contracts, sales literature, invoices, etc.:

This (concentrated) (ready-for-use) zinc naphthenate wood-preservative complies with all requirements of Commercial Standard CS165-50, as developed by the trade under the procedure of the Commodity Standards Division, and issued by the U. S. Department of Commerce.

<sup>2</sup> This labeling is in addition to, and not in lieu of, that required under the Federal Insecticide, Fungicide and Rodenticide Act. Before shipment in interstate commerce, such products must be registered with the Insecticide Division, Livestock Branch, Production and Marketing Administration, U. S. Department of Agriculture, Washington 25, D. C.

6.2 *Treated wood.*—Properly seasoned wood treated with zinc naphthenate conforming to this commercial standard may be identified by the following statement in labels, invoices, or contracts:

This wood has been treated with zinc naphthenate wood-preservative conforming to Commercial Standard CS165-50, as developed by the trade under the procedure of the Commodity Standards Division, and issued by the U. S. Department of Commerce. Application has been by

----- method.  
(spray) (brush) (dip)

## 7. EFFECTIVE DATE

7.1 Having been passed through the regular procedure of the Commodity Standards Division, and approved by the acceptors hereinafter listed, this commercial standard was issued by the United States Department of Commerce, effective from April 22, 1950.

Edwin W. Ely,  
*Chief, Commodity Standards Division.*

## HISTORY OF PROJECT

On December 20, 1948, interested manufacturers requested the cooperation of the National Bureau of Standards in the establishment of a commercial standard for zinc naphthenate wood-preservative.

Following receipt of this request by the Bureau, copies of a proposed commercial standard for zinc naphthenate wood-preservative, endorsed by the proponent manufacturers, were circulated to selected representatives of manufacturers, distributors, purchasers, testing laboratories, and Government agencies for advance comment. The specification was adjusted in accordance with majority viewpoint as indicated by the comment.

With the unqualified endorsement of a number of interested organizations, the recommended commercial standard was submitted to the trade for written acceptance on September 20, 1949.

Having received acceptances in writing estimated to represent a satisfactory majority, announcement was issued on March 22, 1950, that the standard would become effective for new production on April 22, 1950.

---

*Project Manager:* F. W. REYNOLDS, assisted by H. A. BONNET, Commodity Standards Division, Office of Industry and Commerce.

*Technical Advisers:* E. F. HICKSON and C. C. HARTMAN, Chemistry Division, National Bureau of Standards.

**STANDING COMMITTEE**

The following individuals comprise the membership of the standing committee, which is to review, prior to circulation for acceptance, revisions proposed to keep the standard abreast of progress. Comment concerning the standard and suggestions for revision may be addressed to any member of the committee or to the Commodity Standards Division, Office of Industry and Commerce, U. S. Department of Commerce, which acts as secretary for the committee.

ARTHUR MINICH, Nuodex Products Co., Inc., Elizabeth F, N. J. (Chairman).

CHESTER D. THOMPSON, Cuprinol Division, Darworth, Inc., Simsbury, Conn.

W. M. BARR, W. M. Barr & Co., P. O. Box 3518, Memphis 6, Tenn.

VLADIMIR SHIPP, Technical Service Dept., Socony-Vacuum Laboratories, 412 Greenpoint Avenue, Brooklyn 22, N. Y.

RAY R. HIRT, New York State College of Forestry, Syracuse University, Syracuse 10, N. Y.

HAROLD M. RUDD, Rudd & Cummings, 1608 Fifteenth Avenue, West, Seattle 99, Wash.

OLIVER D. DILLER, Ohio Agricultural Experiment Station, Wooster, Ohio.



## ACCEPTANCE OF COMMERCIAL STANDARD

If acceptance has not previously been filed, this sheet properly filled in, signed, and returned will provide for the recording of your organization as an acceptor of this commercial standard.

Date\_\_\_\_\_

Commodity Standards Division,  
Office of Industry and Commerce,  
U. S. Department of Commerce,  
Washington 25, D. C.

Gentlemen: \_\_\_\_\_

We believe that the Commercial Standard 165-50 constitutes a useful standard of practice, and we individually plan to utilize it as far as practicable in the

production<sup>1</sup>            distribution<sup>1</sup>            purchase<sup>1</sup>            testing<sup>1</sup>  
of zinc naphthenate wood-preservative.

We reserve the right to depart from it as we deem advisable.

We understand, of course, that only those articles which actually comply with the standard in all respects can be identified or labeled as conforming thereto.

Signature of authorized officer\_\_\_\_\_

(in ink)

(Kindly typewrite or print the following lines)

Name and title of above officer\_\_\_\_\_

Organization\_\_\_\_\_

(Fill in exactly as it should be listed)

Street address\_\_\_\_\_

City, zone, and State\_\_\_\_\_

<sup>1</sup> Underscore which one. Please see that separate acceptances are filed for all subsidiary companies and affiliates which should be listed separately as acceptors. In the case of related interests, trade associations, trade papers, etc., desiring to record their general support, the words "General support" should be added after the signature.

## TO THE ACCEPTOR

The following statements answer the usual questions arising in connection with the acceptance and its significance:

1. *Enforcement.*—Commercial standards are commodity specifications voluntarily established by mutual consent of those concerned. They present a common basis of understanding between the producer, distributor, and consumer and should not be confused with any plan of governmental regulation or control. The United States Department of Commerce has no regulatory power in the enforcement of their provisions, but since they represent the will of the interested groups as a whole, their provisions through usage soon become established as trade customs, and are made effective through incorporation into sales contracts by means of labels, invoices, and the like.

2. *The acceptor's responsibility.*—The purpose of commercial standards is to establish for specific commodities, nationally recognized grades or consumer criteria, and the benefits therefrom will be measurable in direct proportion to their general recognition and actual use. Instances will occur when it may be necessary to deviate from the standard and the signing of an acceptance does not preclude such departures; however, such signature indicates an intention to follow the commercial standard where practicable in the production, distribution, or consumption of the article in question.

3. *The Department's responsibility.*—The major function performed by the Department of Commerce in the voluntary establishment of commercial standards on a Nation-wide basis is fourfold: first, to act as an unbiased coordinator to bring all interested parties together for the mutually satisfactory adjustment of trade standards; second, to supply such assistance and advice as past experience with similar programs may suggest; third, to canvass and record the extent of acceptance and adherence to the standard on the part of producers, distributors, and users; and fourth, after acceptance, to publish and promulgate the standard for the information and guidance of buyers and sellers of the commodity.

4. *Announcement and promulgation.*—When the standard has been endorsed by a satisfactory majority of production or consumption in the absence of active valid opposition, the success of the project is announced. If, however, in the opinion of the standing committee or of the Department of Commerce, the support of any standard is inadequate, the right is reserved to withhold promulgation and publication.

## ACCEPTORS

The organizations listed below have individually accepted this standard for use as far as practicable in the production, distribution, testing, or purchase of zinc naphthenate wood-preservative. In accepting the standard they reserved the right to depart therefrom as they individually deem advisable. It is expected that articles which actually comply with the requirements of this standard in all respects will be regularly identified or labeled as conforming thereto, and that purchasers will require such specific evidence of conformity.

## ASSOCIATIONS

(General Support)

Forest Farmers Association Cooperative, Valdosta, Ga.

## FIRMS AND OTHER INTERESTS

Advance Solvents & Chemical Corp., New York, N. Y.  
 Allied Analytical & Research Laboratories, Dallas, Tex.  
 Ansell Laboratories Limited, Vernon, British Columbia, Canada.  
 Applied Research Laboratories, Miami, Fla.  
 Arizona Testing Laboratories, Phoenix, Ariz.  
 Art-Cement Manufacturing Co., Miami, Fla.  
 Baird, David, Co., Camden, N. J.  
 Baltimore Copper Paint Co., Baltimore, Md.  
 Bennetts Chemical Laboratory, Inc., Tacoma, Wash.  
 California Ink Co., Inc., The, Berkeley, Calif.  
 Chase Driers & Chemicals Division, Pittsburgh, Pa.  
 Cole & DeGraf, San Francisco, Calif.  
 Conservation Products Corp., The, Port Arthur, Tex.  
 Cordoba Color Corp., Terre Haute, Ind.  
 Cre-O-Tox Chemical Products Co., Memphis, Tenn.  
 Cuprinol Division, Darworth, Inc., Simsbury, Conn.  
 Curtis & Tompkins, Ltd., San Francisco, Calif.  
 Darling Lumber Co., Portland, Oreg.  
 Detroit Testing Laboratory, Inc., The, Detroit, Mich.  
 Eimer & Amend, New York, N. Y.  
 Ekroth Laboratories, Inc., Brooklyn, N. Y.  
 Electrical Testing Laboratories, Inc., New York, N. Y.  
 Ferro Chemical Corp., Bedford, Ohio.  
 Garthol Chemical Co., Lansing, Mich.  
 General Petroleum Corp., Los Angeles, Calif.  
 Glidden Co., The, Cleveland, Ohio.  
 Gordon, George C., Chemical Co., Kansas City, Mo.  
 Harshaw Chemical Co., The, Cleveland, Ohio.  
 Harvey, Phillip J., Inc., Detroit, Mich.  
 Herron, James H., Co., The, Cleveland, Ohio.  
 Hitchner & Hitchner, Sandpoint, Idaho.  
 Horn, A. C., Co., Division of Sun Chemical, Long Island City, N. Y.  
 International Paint Co., Inc., Union, N. J.  
 Lehigh and New England Railroad Co., Pen Argyl, Pa.  
 Manning Mitchell Paint Co., San Francisco, Calif.  
 Marsh & Truman Lumber Co., Chicago, Ill.  
 Massachusetts, Commonwealth of, Public Works Department, Boston, Mass.

McGean Chemical Co., The, Cleveland, Ohio.  
 Merchants and Manufacturers Paint Co., Louisville, Ky.  
 Michigan Pole & Tie Co., Newberry, Mich.  
 Monsanto Chemical Co., Western Division, Seattle, Wash.  
 Mooney Chemicals, Inc., Cleveland, Ohio.  
 Morse Laboratories, Sacramento, Calif.  
 New York Testing Laboratories, Inc., New York, N. Y.  
 Nuodex Products Co., Inc., Elizabeth, N. J.  
 Nuodex Products of Canada, Ltd., Leaside, Ontario, Canada.  
 O'Brien Corp., The, South Bend, Ind.  
 Oklahoma Testing Laboratories, Oklahoma City, Okla.  
 Omaha Testing Laboratories, Omaha, Nebr.  
 Oronite Chemical Co., San Francisco, Calif.  
 Orthmann Laboratories, Inc., The, Milwaukee, Wis.  
 Osmose Wood Preserving Co. of America, Inc., Buffalo, N. Y.  
 Pacific Chemical Laboratories, San Francisco, Calif.  
 Parker, Ira, & Sons Co., Oshkosh, Wis.  
 Pease Laboratories, Inc., New York, N. Y.  
 Penniman & Browne, Inc., Baltimore, Md.  
 Polytechnic Laboratories, Ozone Park, N. Y.  
 Reynolds Metals Co., Richmond, Va.  
 Rueli Paint Co., Cincinnati, Ohio.  
 Saskatchewan, University of, Department of Chemistry, Saskatoon, Saskatchewan, Canada.  
 Schade-Peper Laboratory, St. Louis, Mo.  
 Sears, Roebuck & Co., Chicago, Ill.  
 Skinner & Sherman, Inc., Boston, Mass.  
 Socony-Vacuum Oil Co., Inc., New York, N. Y.  
 Somay Products, Inc., Miami, Fla.  
 Southern Testing Laboratories, Inc., Birmingham, Ala.  
 Standard Varnish Works, Staten Island, N. Y.  
 Sweeney, W. H., & Co., St. Paul, Minn.  
 Triangle Chemical Co., Macon, Ga.  
 Truesdail Laboratories, Inc., Los Angeles, Calif.  
 United States Testing Co., Inc., Hoboken, N. J.  
 Utah, University of, Salt Lake City, Utah.  
 Westinghouse Electric Corp., East Pittsburgh, Pa.  
 Witco Chemical Co., Chicago, Ill.  
 Zimmerman, A. C., Los Angeles, Calif.

## UNITED STATES GOVERNMENT

Air Matériel Command, Wright-Patterson Air Force Base, Dayton, Ohio.  
 Army, Department of the, Logistics Division, Washington, D. C.  
 Engineer Research and Development Laboratories, Fort Belvoir, Va.  
 Interior Department, Bureau of Reclamation, Denver, Colo.

## U. S. DEPARTMENT OF COMMERCE

### FIELD SERVICE

Albuquerque, N. Mex., 203 West Gold Avenue.	Memphis 3, Tenn., 229 Federal Building.
Atlanta 3, Ga., 50 Whitehall Street SW.	Miami 32, Fla., 36 Northeast First Street.
Baltimore 2, Md., 103 South Gay Street.	Milwaukee 2, Wis., 517 East Wisconsin Avenue.
Boston 9, Mass., 1800 Customhouse.	Minneapolis 1, Minn., 401 Second Avenue South.
Buffalo 3, N. Y., 117 Ellicott Street.	Mobile 10, Ala., 109-13 St. Joseph Street.
Butte, Mont., 14 West Granite Street.	New Orleans 12, La., 333 St. Charles Avenue.
Charleston 3, S. C., 18 Broad Street.	New York 4, N. Y., 42 Broadway.
Cheyenne, Wyo., 206 Federal Office Building.	Oklahoma City 2, Okla., 102 Northwest Third Street.
Chicago 4, Ill., 332 South Michigan Avenue.	Omaha 2, Nebr., 1319 Farnam Street.
Cincinnati 2, Ohio, 105 West Fourth Street.	Philadelphia 6, Pa., 437 Chestnut Street.
Cleveland 14, Ohio, 925 Euclid Avenue.	Phoenix, Ariz., 234 North Central Avenue.
Dallas 2, Tex., 1114 Commerce Street.	Pittsburgh 19, Pa., 700 Grant Street.
Denver 2, Colo., 828 Seventeenth Street.	Portland 4, Oreg., 520 Southwest Morrison Street.
Detroit 26, Mich., 230 West Fort Street.	Providence 3, R. I., 24 Weybossett Street.
El Paso, Tex., 206 United States Courthouse Building.	Reno, Nev., 118 West Second Street.
Hartford 1, Conn., 135 High Street.	Richmond 19, Va., 801 East Broad Street.
Houston 14, Tex., 602 Federal Office Building.	St. Louis 1, Mo., 1114 Market Street.
Jacksonville 1, Fla., 311 West Monroe Street.	Salt Lake City 1, Utah, 350 South Main Street.
Kansas City 6, Mo., 911 Walnut Street.	San Francisco 11, Calif., 555 Battery Street.
Los Angeles 12, Calif., 312 North Spring Street.	Savannah, Ga., 125-29 Bull Street.
Louisville 2, Ky., 631 Federal Building.	Seattle 4, Wash., 909 First Avenue.

*For local telephone listing, consult section devoted to  
United States Government*