

*What Every Member of the  
Trade Community Should Know About:*

# **Basic Forms of Non-Ferrous Metals**



**AN INFORMED COMPLIANCE PUBLICATION**

**MAY 2005**

**U.S. CUSTOMS and BORDER PROTECTION**

**NOTICE:**

This publication is intended to provide guidance and information to the trade community. It reflects the position on or interpretation of the applicable laws or regulations by U.S. Customs and Border Protection (CBP) as of the date of publication, which is shown on the front cover. It does not in any way replace or supersede those laws or regulations. Only the latest official version of the laws or regulations is authoritative.

Publication History

First Published May 2005

**PRINTING NOTE:**

This publication was designed for electronic distribution via the CBP website (<http://www.cbp.gov>) and is being distributed in a variety of formats. It was originally created using Microsoft® Word. Pagination and margins in downloaded versions may vary depending upon which word processor or printer you use. If you wish to maintain the original settings, you may wish to download the Portable Document Format (PDF) version, which can then be printed using Adobe® Reader® or other PDF reader.

## PREFACE

On December 8, 1993, Title VI of the North American Free Trade Agreement Implementation Act (Pub. L. 103-182, 107 Stat. 2057), also known as the Customs Modernization or “Mod” Act, became effective. These provisions amended many sections of the Tariff Act of 1930 and related laws.

Two new concepts that emerge from the Mod Act are “***informed compliance***” and “***shared responsibility***,” which are premised on the idea that in order to maximize voluntary compliance with laws and regulations of U.S. Customs and Border Protection, the trade community needs to be clearly and completely informed of its legal obligations. Accordingly, the Mod Act imposes a greater obligation on CBP to provide the public with improved information concerning the trade community’s rights and responsibilities under customs regulations and related laws. In addition, both the trade and U.S. Customs and Border Protection share responsibility for carrying out these requirements. For example, under Section 484 of the Tariff Act, as amended (19 U.S.C. 1484), the importer of record is responsible for using reasonable care to enter, classify and determine the value of imported merchandise and to provide any other information necessary to enable U.S. Customs and Border Protection to properly assess duties, collect accurate statistics, and determine whether other applicable legal requirements, if any, have been met. CBP is then responsible for fixing the final classification and value of the merchandise. An importer of record’s failure to exercise reasonable care could delay release of the merchandise and, in some cases, could result in the imposition of penalties.

The Office of Regulations and Rulings (ORR) has been given a major role in meeting the informed compliance responsibilities of U.S. Customs and Border Protection. In order to provide information to the public, CBP has issued a series of informed compliance publications on new or revised requirements, regulations or procedures, and a variety of classification and valuation issues.

This publication, prepared by the National Commodity Specialist Division, ORR, is a study of the classification of Non-Ferrous Metals. “Basic Forms of Non-Ferrous Metals” provides guidance regarding the classification of imported merchandise. We sincerely hope that this material, together with seminars and increased access to rulings of U.S. Customs and Border Protection, will help the trade community to improve voluntary compliance with customs laws and to understand the relevant administrative processes.

The material in this publication is provided for general information purposes only. Because many complicated factors can be involved in customs issues, an importer may wish to obtain a ruling under Regulations of U.S. Customs and Border Protection, 19 C.F.R. Part 177, or to obtain advice from an expert who specializes in customs matters, for example, a licensed customs broker, attorney or consultant.

Comments and suggestions are welcomed and should be addressed to the Assistant Commissioner at the Office of Regulations and Rulings, U.S. Customs and Border Protection, 1300 Pennsylvania Avenue, NW, (Mint Annex), Washington, D.C. 20229.

Michael T. Schmitz,  
Assistant Commissioner  
Office of Regulations and Rulings

(This page intentionally left blank)

**INTRODUCTION.....7**  
Non-Ferrous Metals..... 7  
Unwrought..... 7  
Alloys..... 8

**BARS AND RODS..... 9**

**WIRE..... 10**  
Types of wire include the following:..... 10  
Strand..... 10  
Rope and Cable ..... 10  
Ribbon..... 10  
Insulated electric wire..... 10  
Welding Wire..... 10

**PLATES, SHEETS, STRIP AND FOIL..... 10**  
Foil ..... 11  
Backed Foil ..... 11  
Coated Foil..... 11

**PROFILES ..... 12**  
Hollow profile..... 12

**TUBES AND PIPES..... 12**  
Pipe Fittings ..... 12

**WASTE AND SCRAP ..... 13**

**QUESTIONS TO ASK ..... 13**

**ADDITIONAL INFORMATION..... 14**  
The Internet..... 14  
CBP Regulations..... 14  
Customs Bulletin ..... 14  
Importing Into the United States..... 15  
Informed Compliance Publications ..... 15  
Value Publications..... 16  
“Your Comments are Important”..... 17

(This page intentionally left blank)

## INTRODUCTION

### Non-Ferrous Metals

Non-ferrous metals (*i.e.*, base metals not composed primarily of iron or steel) are found within Chapters 74 through 81 of the Harmonized Tariff Schedule of the United States (HTSUS). They consist of the following base metals:

<u>Chapter</u>	<u>Metal</u>
74	Copper (Cu)
75	Nickel (Ni)
76	Aluminum (Al)
78	Lead (Pb)
79	Zinc (Zn)
80	Tin (Sn)
81	Tungsten (Wolfram)(W), Molybdenum (Mo), Tantalum (Ta), Magnesium (Mg), Cobalt (Co), Bismuth (Bi), Cadmium (Cd), Titanium (Ti), Zirconium (Zr), Antimony (Sb), Manganese (Mn), Beryllium (Be), Chromium (Cr), Germanium (Ge), Vanadium (V), Thallium (Tl), Gallium (Ga), Hafnium (Hf), Indium (In), Niobium (Nb) (Columbium (Cb)) and Rhenium (Re).

These non-ferrous metals share most common definitions of basic forms. However, definition of terms must always be examined in the section notes, chapter notes and the Harmonized Commodity Description and Coding System Explanatory Notes (ENs) for guidance in classification.

### Unwrought Products

Throughout the non-ferrous metals chapters, there is a separate heading for unwrought products. “Unwrought” is a term primarily defined by examples in Section XV, Additional U.S. Note 1. The note also enumerates products that are not unwrought based upon their manufacturing process, as discussed below. The note states:

For the purposes of this section [XV], the term “unwrought” refers to metal, whether or not refined, in the form of ingots, blocks, lumps, billets, cakes, slabs, pigs, cathodes, anodes, briquettes, cubes, sticks, grains, sponge, pellets, flattened pellets, rounds, rondelles, shot and similar manufactured primary forms<sup>1</sup>, but does not cover rolled, forged, drawn or extruded products, tubular products or cast or sintered forms which have been machined or processed otherwise than by simple trimming, scalping or descaling.

---

<sup>1</sup> The term “manufactured primary form” was defined in *Anval Nyby Powder AB v. United States*, 20 CIT 608 (1996), as “[f]orms that have undergone some processing but must undergo further processing before they appear in an eventual final product.” *Id.* at 616.

Just because the item is noted as an example, the product is not necessarily unwrought. The manufacturing process also needs to be examined. Indeed, the product cannot be classified as unwrought simply based on the basic form. Anodes that are cast to be further refined by electrolysis and are imported as a simple one-piece, cast item, are classified as unwrought, even if they have cast lugs for suspending.<sup>2</sup> For example, if the anode were used for an electroplating process, it would be classified as an article of base metal rather than an unwrought product.<sup>3</sup> This type of anode would generally be of a high purity and fitted or prepared with hooks. On the other hand, if the anode is used for cathodic protection, and it is a finished product, it would depend on the metal as to where it would be classified. For example, if it is made of zinc, the appropriate heading would be 7907 and if of aluminum, Heading 7616.<sup>4</sup> However, if it is magnesium, it would be considered a part found in Heading 8543.<sup>5</sup>

Another example of a product which is named in the note but is not considered unwrought on the basis of its manufacturing process is titanium billets. A titanium billet is manufactured by forging a titanium ingot. Although billets are named as an example of an unwrought product, it would not be classified as such because it is a forged product and therefore excluded from the term “unwrought.”

Powders of metals are considered unwrought. For tariff purposes, a powder is defined as a product in “which 90 percent or more by weight passes through a sieve having a mesh aperture of 1 mm.”<sup>6</sup>

## Alloys

Section XV, Note 5(c), states that alloys of Section XV include “sintered mixtures of metal powders, heterogeneous intimate mixtures obtained by melting and intermetallic compounds.” To determine what chapter an alloyed product, other than ferroalloys (Ch. 72) or master alloys (Ch. 74), would be classified in, the composition of the product would need to be known. Classification would be based upon the metal which predominates by weight over each of the other metals. For example, if an alloyed product consists of 36% metal “A”, 34% metal “B” and 30% metal “C” by weight, the item would be classified within the chapter for metal “A”, which predominates by weight over each of the other metals. The explanatory notes provide further clarification stating that alloys of base metals with as much as 2% (or more) by weight of a precious metal (silver, gold and platinum) would not be classified within a chapter for non-ferrous metals. Such items, along with any base metal item clad with precious metals, would

---

<sup>2</sup> See ENs 74.02 and 75.02.

<sup>3</sup> See ENs 74.19, 75.08 and 79.07.

<sup>4</sup> See EN 79.07 and New York Ruling Letter (NY) 815325, dated October 12, 1995.

<sup>5</sup> Section XVI, Note 2; New York Ruling Letter (NY) A80265, dated February 28, 1996; and Headquarters Ruling Letter (HQ) 965250, dated November 20, 2001.

<sup>6</sup> Section XV, Note 8(b), HTSUS.

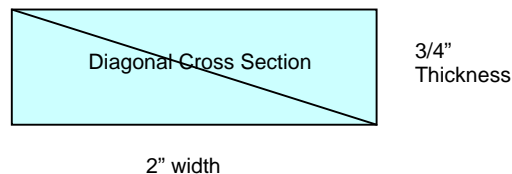
be classified within Chapter 71.<sup>7</sup> With the exception of the items noted above, if additional elements are added to the pure metal in sufficient quantities, it may become alloyed. The percentage of additive that would change the base metal from “not alloyed” to “alloyed” is stated in the chapter notes of each chapter.

## BASIC FORMS OF NON-FERROUS METAL PRODUCTS

The legal definitions found in each non-ferrous chapter note for bars and rods; plates, sheets, strip and foil; profiles; tubes and pipes and wire, are essentially the same and are noted below.

### BARS AND RODS

Bars and rods must be manufactured by rolling, extrusion, drawing or forging the metal product. As the legal notes state, bars and rods can be in the shape of “circles, ovals, rectangles (including squares), equilateral triangles or regular convex polygons (including “flattened circles” and “modified rectangles”, of which two opposite sides are convex arcs, the other two sides being straight, of equal length and parallel).” Regardless of the shape, these products cannot be in coils and must have a uniform solid cross section along the entire length of the product. If the product has a rectangular cross sectional shape (including “modified rectangular”), the thickness must exceed 1/10th of the width i.e.; the thickness is greater than 0.1 x the width or the width is equal to or greater than 10 times the thickness.



In the example pictured above, if the rolled product is of a uniform solid rectangular cross section with a thickness of 3/4" (0.75) and the width is 2", and it is not in coiled form, the product is a bar or rod:

$$0.1 \text{ (1/10th)} \times 2.0 \text{ (width)} = 0.2$$

The thickness (0.75) is > 0.2

$$0.75 \times 10 = 7.5$$

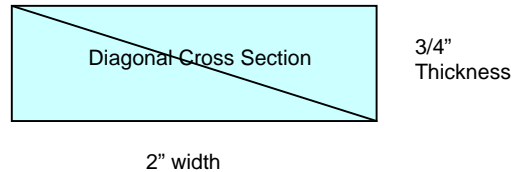
The width (2") < 7.5

If the product is cast or sintered; is of the same form and dimensions; has been worked after production (otherwise than by simple trimming or descaling); and does not assume the character of articles or products of other headings, it could still be considered a bar and rod. Non-ferrous bars and rods are never in coiled form.

<sup>7</sup> See ENs Section XV, General Note (A)(1).

## WIRE

Wire is manufactured by rolling, extruding or drawing and it must be imported in coils. It must have a uniform solid cross section along its entire length. The shape requirements for wire products are the same as they are for bars and rods. As with bars and rods, the thickness of such products which have a rectangular (including “modified rectangular”) cross section must exceed one-tenth of the width.



In the example pictured above, if the rolled product is a single wire of a uniform solid rectangular cross section with a thickness of 3/4” (0.75) and the width is 2”, and it is in coiled form, the product is wire:

$$0.1 (1/10\text{th}) \times 2.0 (\text{width}) = 0.2$$

The thickness (0.75) is > 0.2

$$0.75 \times 10 = 7.5$$

The width (2”) < 7.5

### Types of wire include the following:

#### Strand

Two or more wires twisted together.

#### Rope and Cable

Two or more strands twisted together.

#### Ribbon

Classification depends on the dimensions. If it is in coiled form, it may be a wire, sheet or foil product.

#### Insulated electric wire

This is a product of Heading 8544.

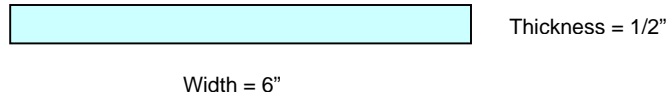
#### Welding Wire

If coated with metal, it is classified based upon the constituent wire material. If coated or cored with flux material it is classified within Heading 8311.

## PLATES, SHEETS, STRIP AND FOIL

These are flat-surfaced products, (but not unwrought products) that can be, but are not required to be, coiled. They will be of a solid rectangular (other than square) cross section with or without rounded corners and with a uniform thickness. The product can also be a modified rectangular shape or a shape other than rectangular or square, provided it does not assume the character of articles or of products of other headings. If

the flat-surfaced product is of a rectangular (including square) shape, the thickness cannot exceed 1/10th of the width.



For example, if the product pictured above is a product with a uniform solid rectangular cross section (not unwrought) with a thickness of 1/2" (0.50) and the width is 6", the product is classified as plate, sheet or strip (it is too thick to be foil, as discussed below).

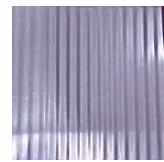
$$0.1 \text{ (1/10th)} \times 6.0 \text{ (width)} = 0.6$$

$$\text{The thickness (0.5) is } < 0.6$$

$$0.50 \times 10 = 5.0$$

$$\text{The width (6") } > 5.0$$

Non-ferrous plates, sheets, strip and foil products may have patterns such as grooves, ribs, checkers, tears, buttons, and lozenges. They can also be perforated, corrugated, polished or coated, provided they do not assume the character of articles or products of other headings.



corrugated

## Foil

Foil products have additional dimensional requirements stated in their respective headings or subheadings. For copper (Ch. 74), nickel (Ch. 75), lead (Ch. 78) and zinc (Ch. 79), the foil cannot be thicker than 0.15 mm. For aluminum (Ch. 76) and tin (Ch. 80), the foil cannot be thicker than 0.2 mm. In these situations, the dimensional measurements must include the thickness of the product including any coating (varnish, lacquer, paint, etc.), but not including any backing material.

### Backed Foil

Backed Foil is a separately identified type of foil within the subheadings of copper and aluminum. The EN to Heading 7410 provides some guidance as to what should be entered as backed foil. The EN states that backed foil can be "backed with paper, paperboard, plastics or similar backing material." It is "used for making fancy goods" and is generally done for the "convenience of handling or transport or in order to facilitate subsequent treatment, etc."

### Coated Foil

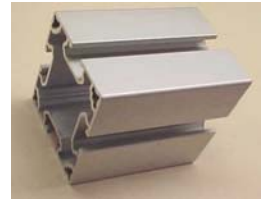
Coated Foil is not backed foil; it is measured and classified differently than backed foil but remains classified within the applicable foil heading. A clarification is noted within the applicable ENs indicating that coatings of varnish, etc., would be included in the thickness measurement of the foil, however, any backings, such as paper, would be excluded from thickness measurement of the foil.

## PROFILES

Profiles are rolled, extruded, drawn, forged or formed products that can be, but are not required to be, coiled. They have a uniform cross section along their whole length and do not conform to any of the definitions of bars, rods, wire, plates, sheets, strip, foil, tubes or pipes. The profile forms can also be manufactured by casting or sintering, in the same forms, if they have been subsequently worked after production (other than by simple trimming or descaling), provided that they have not taken on the character of articles or products of other headings. Profiles differ from bars and rods in that profiles are of a uniform cross section while bars and rods must have a uniform solid cross section. In addition, bars and rods are never in coiled form whereas profiles can be in coiled form.

### Hollow profile

Hollow profile is a tariff term specifically provided for in Chapters 74 and 76. To be classified as a hollow profile, the article must meet the definition of a profile, and would need to have a completely enclosed void along a cross section of the profile. In other chapters, this type of profile would simply be classified as a profile.



## TUBES AND PIPES

Tubes and pipes are hollow products, coiled or not, with a uniform cross section and only one enclosed void along their entire length. The product can be in the shape of a circle, oval, rectangle (including square), equilateral triangle or regular convex polygon as long as it has a uniform wall thickness. Products with a rectangular (including square), equilateral triangular or regular convex polygonal cross section, which may have rounded corners along the entire length, are considered tubes and pipes as long as the inner and outer cross sections are concentric and have the same form and orientation. As the legal notes to these chapters state, tubes and pipes may be “polished, coated, bent, threaded, drilled, waisted, expanded, cone-shaped or fitted with flanges, collars or rings.” Flexible tubing of base metal is a product of Heading 8307 and would not be classified as a non-ferrous tube or pipe in one of these chapters.

### Pipe Fittings

To be classified as a pipe fitting, the item must connect the bores of two tubes, connect a tube to some other apparatus or close the tube aperture. It must also form an integral part of the bore. Examples of pipe fittings would be couplings, flanges, elbows, sleeves, reducers and union fittings. Articles excluded from being classified as a fitting, however, are fittings equipped with taps, cocks, valves, etc., and articles used for installing or supporting pipes or tubes (hangers, stays, etc.) that do not form an integral part of the

bore. Bolts, nuts, screws, etc., made of steel that are suitable for use in assembly of tube or pipe fittings would be classified under Heading 7318. This exclusion, however, would not include articles such as a union nut, which is used to connect pipes; thus the union nut would be classified as a pipe fitting.

## **WASTE AND SCRAP**

Although, they are not forms of base metals, there are several classification issues related to “waste” and “scrap” for base metals. Definitions of waste and scrap are provided in Legal Note 8(a) to Section XV and the EN to Heading 7204 (which the ENs to the base metal chapters reference). Many classification issues are also discussed in the Informed Compliance Publication, Waste and Scrap as it Relates to Base Metals of Chapter 81, revised March 2004, and available at [www.cpb.gov](http://www.cpb.gov). Although it only discusses base metals of Chapter 81, the principles it discusses can be applied to other base metals.

## **QUESTIONS TO ASK**

When classifying any non-ferrous metal product one needs the following information:

1. What is the composition of the product by weight?
2. What is the manufacturing process (rolled, drawn, extruded, forged, tubular, cast, sintered, machined, etc.)?
3. What is the form of the product?
4. Is it in coiled form?
5. What are the dimensions of the product?

## **ADDITIONAL INFORMATION**

### **The Internet**

The home page of U.S. Customs and Border Protection (CBP) on the Internet's World Wide Web, provides the trade community with current, relevant information regarding CBP operations and items of special interest. The site posts information -- which includes proposed regulations, news releases, publications and notices, etc. -- that can be searched, read on-line, printed or downloaded to your personal computer. The web site was established as a trade-friendly mechanism to assist the importing and exporting community. The web site also links to the home pages of many other agencies whose importing or exporting regulations that U.S. Customs and Border Protection helps to enforce. The web site also contains a wealth of information of interest to a broader public than the trade community. For instance, on June 20, 2001, CBP launched the "Know Before You Go" publication and traveler awareness campaign designed to help educate international travelers.

The web address of U.S. Customs and Border Protection is <http://www.cbp.gov>

### **CBP Regulations**

The current edition of *CBP Regulations of the United States* is a loose-leaf, subscription publication available from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402; telephone (202) 512-1800. A bound, 2003 edition of Title 19, *Code of Federal Regulations*, which incorporates all changes to the Regulations as of April 1, 2003, is also available for sale from the same address. All proposed and final regulations are published in the *Federal Register*, which is published daily by the Office of the Federal Register, National Archives and Records Administration, and distributed by the Superintendent of Documents. Information about on-line access to the *Federal Register* may be obtained by calling (202) 512-1530 between 7 a.m. and 5 p.m. Eastern Time. These notices are also published in the weekly *Customs Bulletin* described below.

### **Customs Bulletin**

The *Customs Bulletin and Decisions* ("Customs Bulletin") is a weekly publication that contains decisions, rulings, regulatory proposals, notices and other information of interest to the trade community. It also contains decisions issued by the U.S. Court of International Trade, as well as customs-related decisions of the U.S. Court of Appeals for the Federal Circuit. Each year, the Government Printing Office publishes bound volumes of the *Customs Bulletin*. Subscriptions may be purchased from the Superintendent of Documents at the address and phone number listed above.

## Importing Into the United States

This publication provides an overview of the importing process and contains general information about import requirements. The February 2002 edition of *Importing Into the United States* contains much new and revised material brought about pursuant to the Customs Modernization Act ("Mod Act"). The Mod Act has fundamentally altered the relationship between importers and U.S. Customs and Border Protection by shifting to the importer the legal responsibility for declaring the value, classification, and rate of duty applicable to entered merchandise.

The February 2002 edition contains a section entitled "Informed Compliance." A key component of informed compliance is the shared responsibility between U.S. Customs and Border Protection and the import community, wherein CBP communicates its requirements to the importer, and the importer, in turn, uses reasonable care to assure that CBP is provided accurate and timely data pertaining to his or her importation.

Single copies may be obtained from local offices of U.S. Customs and Border Protection, or from the Office of Public Affairs, U.S. Customs and Border Protection, 1300 Pennsylvania Avenue NW, Washington, DC 20229. An on-line version is available at the CBP web site. *Importing Into the United States* is also available for sale, in single copies or bulk orders, from the Superintendent of Documents by calling (202) 512-1800, or by mail from the Superintendent of Documents, Government Printing Office, P.O. Box 371954, Pittsburgh, PA 15250-7054.

## Informed Compliance Publications

U.S. Customs and Border Protection has prepared a number of Informed Compliance publications in the "*What Every Member of the Trade Community Should Know About:...*" series. Check the Internet web site <http://www.cbp.gov> for current and related publications such as "*Waste & Scrap as it Relates to Base Metals of Chapter81*" and "*Coated Nonalloy Flat-Rolled Steel.*"

## Value Publications

*Customs Valuation under the Trade Agreements Act of 1979* is a 96-page book containing a detailed narrative description of the customs valuation system, the customs valuation title of the Trade Agreements Act (§402 of the Tariff Act of 1930, as amended by the Trade Agreements Act of 1979 (19 U.S.C. §1401a)), the Statement of Administrative Action which was sent to the U.S. Congress in conjunction with the TAA, regulations (19 C.F.R. §§152.000-152.108) implementing the valuation system (a few sections of the regulations have been amended subsequent to the publication of the book) and questions and answers concerning the valuation system. A copy may be obtained from U.S. Customs and Border Protection, Office of Regulations and Rulings, Value Branch, 1300 Pennsylvania Avenue, NW, (Mint Annex), Washington, D.C. 20229.

*Customs Valuation Encyclopedia* (with updates) is comprised of relevant statutory provisions, CBP Regulations implementing the statute, portions of the Customs Valuation Code, judicial precedent, and administrative rulings involving application of valuation law. A copy may be purchased for a nominal charge from the Superintendent of Documents, Government Printing Office, P.O. Box 371954, Pittsburgh, PA 15250-7054. This publication is also available on the Internet web site of U.S. Customs and Border Protection.

The information provided in this publication is for general information purposes only. Recognizing that many complicated factors may be involved in customs issues, an importer may wish to obtain a ruling under CBP Regulations, 19 C.F.R. Part 177, or obtain advice from an expert (such as a licensed Customs Broker, attorney or consultant) who specializes in customs matters. Reliance solely on the general information in this pamphlet may not be considered reasonable care.

Additional information may also be obtained from U.S. Customs and Border Protection ports of entry. Please consult your telephone directory for an office near you. The listing will be found under U.S. Government, Department of Homeland Security.

## **“Your Comments are Important”**

The Small Business and Regulatory Enforcement Ombudsman and 10 regional Fairness Boards were established to receive comments from small businesses about Federal agency enforcement activities and rate each agency’s responsiveness to small business. If you wish to comment on the enforcement actions of U.S. Customs and Border Protection, call 1-888-REG-FAIR (1-888-734-3247).

**REPORT SMUGGLING 1-800-BE-ALERT OR 1-800-NO-DROGA**



**Visit our Internet web site: <http://www.cbp.gov>**