

# Fertilizer Materials and Related Products: 2004

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## Summary

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**SUMMARY OF FINDINGS.** United States production of sulfuric acid in 2004 totaled 41,919,567 short

tons (100 percent H<sub>2</sub>SO<sub>4</sub>), approximately 1.9 percent above the 2003 figure of 41,143,916 short tons.

Production of synthetic ammonia, nitric acid, and ammonium compounds increased 6.9 percent to 32,684,041 short tons in 2004, from 30,580,969 short tons in 2003. Phosphoric acid production increased 1.2 percent to 12,692,663 short tons in 2004, from 12,537,291 short tons in 2003.

Production of superphosphate and other phosphatic fertilizer materials for 2004 decreased 1.2 percent to 8,736,571 short tons (100 percent P<sub>2</sub>O<sub>5</sub>), from 8,837,307 short tons (100 percent P<sub>2</sub>O<sub>5</sub>) in 2003.

For general CIR information, explanation of general terms and historical note, see the appendix.

Address inquiries concerning these data to Primary Goods Industries Branch, Manufacturing and Construction Division, (MCD), Washington, DC 20233-6900, or call Nancy Higgins, 301-763-4768.

For mail or fax copies of this publication, please contact the Information Services Center, MCD, Washington, DC 20233-6900, or call 301-763-4673.

## U S C E N S U S B U R E A U

*Helping You Make Informed Decisions*

U.S. Department of Commerce  
Economics and Statistics Administration  
U.S. CENSUS BUREAU

Table 1. Shipments and Production of Principal Fertilizer Materials: 2000 to 2004  
 [Quantity in thousands of short tons. Value in millions of dollars]

| Product code | Product description  | Year | Total production | Total shipments including interplant transfers |                      |       |
|--------------|--|------|------------------|--|----------------------|-------|
|              |  |      |                  | Quantity                                       | Value (f.o.b. plant) |       |
| 3253111120   | Ammonia, synthetic anhydrous 1/.....                                   | 2004 | 12,058           | 4,490  | r/                   | 1,052 |
|              |  | 2003 | 11,330           | 4,477  |                      | 975   |
|              |  | 2002 | 13,863           | 5,218  |                      | 765   |
|              |  | 2001 | 12,227           | 4,894  |                      | 904   |
|              |  | 2000 | 15,809           | 6,337  |                      | 915   |
| 3253111201   | Ammonium nitrate, original melt liquor 2/.....                         | 2004 | r/ 7,229         | 4,275  |                      | 730   |
|              |  | 2003 | 6,328            | 3,812  |                      | 588   |
|              |  | 2002 | 7,096            | 4,074  |                      | 534   |
|              |  | 2001 | 6,431            | 3,317  |                      | 551   |
|              |  | 2000 | 7,979            | 4,146  |                      | 541   |
| 3253111240   | Ammonium sulfate 1/.....   | 2004 | 3,005            | 2,989  | r/                   | 399   |
|              |  | 2003 | 2,871            | 2,919  |                      | 315   |
|              |  | 2002 | 2,945            | 2,506  |                      | 216   |
|              |  | 2001 | 2,588            | 2,353  |                      | 249   |
|              |  | 2000 | 2,808            | 2,082  |                      | 103   |
| 3253114100   | Urea (100 percent).....  | 2004 | 6,344            | 4,026  | r/                   | 848   |
|              |  | 2003 | 6,375            | 4,475  |                      | 686   |
|              |  | 2002 | 7,758            | 5,564  |                      | 743   |
|              |  | 2001 | 6,702            | 4,426  |                      | 647   |
|              |  | 2000 | 7,682            | 4,682  |                      | 646   |
| 3253111111   | Nitric acid (100 percent).....   | 2004 | 7,129            | 1,870  | r/                   | 224   |
|              |  | 2003 | 7,189            | 1,910  |                      | 202   |
|              |  | 2002 | 7,651            | 1,686  |                      | 212   |
|              |  | 2001 | 7,074            | 1,868  |                      | 174   |
|              |  | 2000 | 8,708            | 2,344  |                      | 280   |
| 3253121100   | Phosphoric acid (100 percent P2O5).....                                | 2004 | 12,693           | 4,614  | r/                   | 1,204 |
|              |  | 2003 | 12,537           | 4,239  |                      | 1,069 |
|              |  | 2002 | 12,289           | 3,837  |                      | 1,129 |
|              |  | 2001 | 11,546           | 3,384  |                      | 937   |
|              |  | 2000 | 12,492           | 3,952  |                      | 1,126 |
| 3251881100   | Sulfuric acid, gross (100 percent).....                                | 2004 | 41,920           | 12,577   |                      | 637   |
|              |  | 2003 | 41,144           | 11,598   |                      | 611   |
|              |  | 2002 | 39,760           | 11,891   |                      | 593   |
|              |  | 2001 | 40,064           | 10,940   |                      | 557   |
|              |  | 2000 | 43,643           | 11,930   |                      | 572   |
| 3253124100   | Superphosphates and other fertilizer materials (100 percent P2O5)..... | 2004 | 8,737            | 8,610  | r/                   | 3,417 |
|              |  | 2003 | 8,837            | 8,923  |                      | 2,827 |
|              |  | 2002 | 8,756            | 8,419  |                      | 2,394 |
|              |  | 2001 | 8,109            | 8,055  |                      | 2,232 |
|              |  | 2000 | 8,899            | 8,822  |                      | 2,649 |

r/Revised by 5 percent or more from previously published data.

1/Excludes data for byproduct ammonia liquor and ammonium sulfate published by the Department of Energy.

2/Represents total amount of original melt liquor produced for all purposes.

Table 2a. Production, Shipments, Consumption and Stocks of Fertilizer Materials and Related Products: 2004  
 [Quantity in short tons. Value in thousands of dollars]

| Product code                           | Product description   | Total production | Total shipments including interplant transfers |           | Stocks 1/ |
|--|---|------------------|--|-----------|-----------|
|  |   |                  | Quantity                                       | Value     |           |
| <b>TOTAL</b>                           |   |                  |  |           |           |
| Ammonia:                               |   |                  |  |           |           |
| 3253111120                             | Synthetic, anhydrous (100 percent).....   | 12,057,896       | 4,490,481                                      | 1,052,327 | (X)       |
| 3253111121                             | Fertilizer use.....   | 11,355,555       | 4,332,648                                      | 1,015,189 | (X)       |
| 3253111131                             | Other uses.....   | 702,341          | 157,833  | 37,138    | (X)       |
| Ammonium nitrate (100 percent):        |   |                  |  |           |           |
| 3253111201                             | Original melt liquor 2/.....  | 7,229,397        | 4,274,897                                      | 729,947   | (X)       |
| 3253111211                             | Consumed in the manufacture of other nitrogen solutions (e.g., CAN17, AN20, AAN)..... | 137,685          | (X)  | (X)       | (X)       |
| 3253111216                             | Liquor consumed in the manufacture of urea-ammonium nitrate solutions.....            | 3,679,022        | (X)  | (X)       | (X)       |
| 3253111221                             | High density prill and granular.....  | 1,384,499        | 1,397,946                                      | 229,139   | (X)       |
| 3253111226                             | Low density prill and grained.....  | 1,609,757        | 1,603,839                                      | 296,247   | (X)       |
| 3253111231                             | All other (e.g., liquor sales, etc.).....   | 418,434          | 415,476  | 62,774    | (X)       |
| 3253111240                             | Ammonium sulfate (100 percent).....   | 3,005,015        | 2,988,603                                      | 398,624   | (X)       |
| 3253111241                             | Synthetic (direct synthesis from sulfuric acid and ammonia).....                      | (D)              | (D)  | (D)       | (X)       |
| 3253111246                             | Byproduct 3/.....   | (D)              | (D)  | (D)       | (X)       |
| Nitrogen solutions, including mixtures |   |                  |  |           |           |
| 3253111250                             | (100 percent N).....  | 3,262,735        | 3,001,022                                      | 554,862   | (X)       |
| 3253111251                             | Ammonium nitrate/urea solutions.....  | (D)              | (D)  | (D)       | (X)       |
| 3253111256                             | All other solutions 4/.....   | (D)              | (D)  | (D)       | (X)       |
| 3253111111                             | Nitric acid (100 percent) 5/.....   | 7,128,998        | 1,869,809                                      | 223,937   | (X)       |
| 3253114101                             | Urea original melt liquor.....  | 6,344,182        | 4,026,470                                      | 847,811   | (X)       |
| 3253114111                             | Consumed in the manufacture of urea-ammonium nitrate solutions.....                   | 2,517,757        | 241,332  | 62,873    | (X)       |
| 3253114121                             | Prills.....   | 868,267          | 813,761  | 177,934   | (X)       |
| 3253114131                             | Granular.....   | 2,858,829        | 2,866,756                                      | 553,575   | (X)       |
| 3253114141                             | All other (liquor sales, melamine, feedstock, other).....                             | 99,329           | 104,621  | 53,429    | (X)       |
| 3253121100                             | Phosphoric acid (100 percent P2O5).....   | 12,692,663       | 4,613,861                                      | 1,203,939 | (X)       |
| By use:                                |   |                  |  |           |           |
| 3253121211                             | Fertilizer.....   | 11,721,157       | 3,987,710                                      | 940,750   | (X)       |
| 3253121222                             | Feed and other 6/.....  | 971,506          | 626,151  | 263,189   | (X)       |
| By grade:                              |   |                  |  |           |           |
| 3253121311                             | Ortho (less than 65 percent P2O5).....  | 11,328,651       | 3,353,518                                      | 809,737   | (X)       |
| 3253121321                             | Super (more than 65 percent P2O5) 6/.....   | 1,364,012        | 1,260,343                                      | 394,202   | (X)       |
| 3253124100                             | Superphosphate and other phosphatic fertilizer materials:                             |                  |  |           |           |
|  | Gross weight.....   | 18,371,108       | 18,106,635                                     | 3,416,865 | (X)       |
|  | Nitrogen content.....   | 2,740,525        | (X)  | (X)       | (X)       |
|  | Phosphoric oxide content (100 percent P2O5).....                                      | 8,736,571        | 8,610,229                                      | (X)       | (X)       |
| 3253124131                             | Monoammonium phosphates:  |                  |  |           |           |
|  | Gross weight.....   | 5,739,799        | 5,683,315                                      | 1,080,730 | (X)       |
|  | Nitrogen content.....   | 655,113          | (X)  | (X)       | (X)       |
|  | Phosphoric oxide content (100 percent P2O5).....                                      | 2,926,576        | 2,878,799                                      | (X)       | (X)       |
| 3253124211                             | Diammonium phosphates:  |                  |  |           |           |
|  | Gross weight.....   | 11,120,722       | 10,779,799                                     | 2,044,480 | (X)       |
|  | Nitrogen content.....   | 1,994,465        | (X)  | (X)       | (X)       |
|  | Phosphoric oxide content (100 percent P2O5).....                                      | 5,138,732        | 5,047,236                                      | (X)       | (X)       |

Table 2a. Production, Shipments, Consumption and Stocks of Fertilizer Materials and Related Products: 2004  
 [Quantity in short tons. Value in thousands of dollars]

| Product code                           | Product description  | Total production | Total shipments including interplant transfers |              | Stocks 1/    |
|--|--|------------------|--|--------------|--------------|
|  |  |                  | Quantity                                       | Value        |              |
| 3253124222                             | Normal, enriched, concentrated, and other ammonium phosphates and other phosphatic fertilizer materials: |                  |  |              |              |
|  | Gross weight.....  | 1,510,587        | 1,643,521                                      | 291,655      | (X)          |
|  | Nitrogen content.....  | (X)              | (X)  | (X)          | (X)          |
|  | Phosphoric oxide content (100 percent P2O5).....   | 671,263          | 684,194  | (X)          | (X)          |
| 3251881100                             | Sulfuric acid (100 percent): 5/  |                  |  |              |              |
|  | Total gross.....   | 41,919,567       | 12,576,839                                     | 636,745      | (X)          |
|  | By feedstock:  |                  |  |              |              |
| 3251881111                             | Elemental sulfur.....  | 35,675,552       | 7,487,901                                      | 387,865      | (X)          |
| 3251881121                             | Smelting metallic sulfide ore.....   | 2,453,338        | 2,391,605                                      | 68,029       | (X)          |
| 3251881131                             | Decomposition of alkylation and other spent acid.....  | 2,991,594        | 1,939,783                                      | 143,124      | (X)          |
| 3251881141                             | Other.....   | 799,083          | 757,550  | 37,727       | (X)          |
|  | By grade:  |                  |  |              |              |
| 3251881212                             | Oleum grades.....  | 1,703,907        | 1,159,652                                      | 55,902       | (X)          |
| 3251881231                             | Other than oleum grades.....   | 40,215,660       | 11,417,187                                     | 580,843      | (X)          |
| 3251881311                             | Spent acid fortified in contact units and included in above production data .....                        | (D)              | (X)  | (X)          | (X)          |
|  | Total new acid 7/.....   | 38,927,973       | (X)  | (X)          | (X)          |
| <b>FOURTH QUARTER</b>                  |  |                  |  |              |              |
| Ammonia:                               |  |                  |  |              |              |
| 3253111120                             | Synthetic, anhydrous (100 percent).....  | b/ 2,974,748     | c/r/ 985,008                                   | c/ 237,876   | b/r/ 400,521 |
| 3253111121                             | Fertilizer use.....  | b/ 2,823,136     | c/ 951,684                                     | c/ 229,746   | (D)          |
| 3253111131                             | Other uses.....  | a/r/ 151,612     | (S)  | (S)          | (D)          |
| Ammonium nitrate (100 percent):        |  |                  |  |              |              |
| 3253111201                             | Original melt liquor 2/.....   | b/r/ 1,977,344   | b/ 1,081,552                                   | b/r/ 186,826 | b/r/ 152,540 |
| 3253111211                             | Consumed in the manufacture of other nitrogen solutions (e.g., CAN17, AN20, AAN).....                    | 38,099           | (X)  | (X)          | r/ 4,105     |
| 3253111216                             | Liquor consumed in the manufacture of urea-ammonium nitrate solutions.....                               | a/r/ 1,067,060   | (X)  | (X)          | b/r/ 52,931  |
| 3253111221                             | High density prill and granular.....   | a/ 396,138       | a/ 391,595                                     | a/r/ 66,179  | r/ 33,359    |
| 3253111226                             | Low density prill and grained.....   | c/r/ 375,776     | c/r/ 370,244                                   | c/r/ 69,849  | c/r/ 47,994  |
| 3253111231                             | All other (e.g., liquor sales, etc.).....  | c/r/ 100,271     | b/r/ 100,960                                   | c/r/ 14,888  | b/r/ 14,151  |
| 3253111240                             | Ammonium sulfate (100 percent).....  | 716,798          | b/ 760,522                                     | b/ 108,514   | 95,976       |
| 3253111241                             | Synthetic (direct synthesis from sulfuric acid and ammonia).....   | (D)              | (D)  | (D)          | (D)          |
| 3253111246                             | Byproduct 3/.....  | (D)              | (D)  | (D)          | (D)          |
| Nitrogen solutions, including mixtures |  |                  |  |              |              |
| 3253111250                             | (100 percent N).....   | 845,733          | 753,258  | 147,069      | r/ 110,635   |
| 3253111251                             | Ammonium nitrate/urea solutions.....   | b/ 815,210       | b/ 727,269                                     | c/ 141,651   | (D)          |
| 3253111256                             | All other solutions 4/.....  | b/ 30,523        | a/ 25,989                                      | a/ 5,418     | (D)          |
| 3253111111                             | Nitric acid (100 percent) 5/.....  | b/ 1,846,676     | c/r/ 463,056                                   | c/r/ 56,235  | (X)          |
| 3253114101                             | Urea original melt liquor.....   | a/ 1,706,689     | c/ 1,018,409                                   | c/r/ 219,560 | b/r/ 107,736 |
| 3253114111                             | Consumed in the manufacture of urea-ammonium nitrate solutions.....                                      | a/ 686,101       | a/r/ 50,338                                    | a/r/ 10,729  | (D)          |

Table 2a. Production, Shipments, Consumption and Stocks of Fertilizer Materials and Related Products: 2004  
 [Quantity in short tons. Value in thousands of dollars]

| Product code         | Product description  |      | Total production | Total shipments including interplant transfers |      | Value   | Stocks 1/    |
|----------------------|--|------|------------------|--|------|---------|--------------|
|                      |  |      |                  | Quantity                                       |      |         |              |
| 3253114121           | Prills.....  | a/   | 211,783          | 177,372  | b/r/ | 41,999  | b/r/ 30,876  |
| 3253114131           | Granular.....  | a/r/ | 791,731          | (D)  |      | (D)     | a/r/ 62,511  |
| 3253114141           | All other (liquor sales, melamine, feedstock, other).....  | r/   | 17,074           | (D)  |      | (D)     | (D)          |
| 3253121100           | Phosphoric acid (100 percent P2O5).....  |      | 3,321,487        | 1,256,000                                      |      | 319,375 | 173,307      |
|                      | By use:  |      |                  |  |      |         |              |
| 3253121211           | Fertilizer.....  |      | 3,066,978        | b/ 1,091,495                                   | b/r/ | 257,478 | 162,098      |
| 3253121222           | Feed and other 6/.....   |      | 254,509          | 164,505  |      | 61,897  | 11,209       |
|                      | By grade:  |      |                  |  |      |         |              |
| 3253121311           | Ortho (less than 65 percent P2O5).....   |      | 2,960,255        | b/r/ 932,269                                   | b/r/ | 216,950 | 152,324      |
| 3253121321           | Super (more than 65 percent P2O5) 6/.....  | r/   | 361,232          | 323,731  |      | 102,425 | r/ 20,983    |
| 3253124100           | Superphosphate and other phosphatic fertilizer materials:  |      |                  |  |      |         |              |
|                      | Gross weight.....  |      | 4,600,025        | 4,448,077                                      |      | 887,566 | 618,018      |
|                      | Nitrogen content.....  |      | 709,811          | (X)  |      | (X)     | (X)          |
|                      | Phosphoric oxide content (100 percent P2O5).....   |      | 2,193,889        | 2,106,513                                      |      | (X)     | (X)          |
| 3253124131           | Monoammonium phosphates:   |      |                  |  |      |         |              |
|                      | Gross weight.....  |      | 1,273,653        | 1,245,082                                      |      | 247,512 | 108,207      |
|                      | Nitrogen content.....  |      | 144,498          | (X)  |      | (X)     | (X)          |
|                      | Phosphoric oxide content (100 percent P2O5).....   |      | 646,310          | 617,282  |      | (X)     | (X)          |
| 3253124211           | Diammonium phosphates:   |      |                  |  |      |         |              |
|                      | Gross weight.....  |      | 2,994,352        | 2,764,787                                      |      | 556,533 | r/ 433,483   |
|                      | Nitrogen content.....  |      | 542,744          | (X)  |      | (X)     | (X)          |
|                      | Phosphoric oxide content (100 percent P2O5).....   |      | 1,390,069        | 1,325,583                                      |      | (X)     | (X)          |
| 3253124222           | Normal, enriched, concentrated, and other ammonium phosphates and other phosphatic fertilizer materials: |      |                  |  |      |         |              |
|                      | Gross weight.....  | r/   | 332,020          | r/ 438,208                                     | a/r/ | 83,521  | a/ 76,328    |
|                      | Nitrogen content.....  |      | (X)              | (X)  |      | (X)     | (X)          |
|                      | Phosphoric oxide content (100 percent P2O5).....   | a/r/ | 157,510          | a/r/ 163,648                                   | b/r/ | (X)     | (X)          |
| 3251881100           | Sulfuric acid (100 percent): 5/  |      |                  |  |      |         |              |
|                      | Total gross.....   | a/   | 10,696,191       | b/r/ 3,114,178                                 | b/r/ | 155,218 | b/ 477,589   |
|                      | By feedstock:  |      |                  |  |      |         |              |
| 3251881111           | Elemental sulfur.....  | a/   | 9,191,439        | b/r/ 1,881,519                                 | b/r/ | 97,290  | (X)          |
| 3251881121           | Smelting metallic sulfide ore.....   |      | 614,853          | 608,019  | a/   | 16,460  | (X)          |
| 3251881131           | Decomposition of alkylation and other spent acid.....  | a/   | 685,387          | b/ 434,255                                     | b/r/ | 32,013  | 2,547        |
| 3251881141           | Other.....   | a/   | 204,512          | a/ 190,385                                     | a/   | 9,455   | (X)          |
|                      | By grade:  |      |                  |  |      |         |              |
| 3251881212           | Oleum grades.....  | b/r/ | 427,132          | b/r/ 294,031                                   | b/r/ | 14,254  | b/ 39,659    |
| 3251881231           | Other than oleum grades.....   | a/   | 10,269,059       | a/r/ 2,820,147                                 | b/   | 140,964 | b/ 437,930   |
| 3251881311           | Spent acid fortified in contact units and included in above production data .....                        |      | (D)              | (X)  |      | (X)     | (D)          |
|                      | Total new acid 7/.....   |      | 10,010,804       | (X)  |      | (X)     | (X)          |
| <b>THIRD QUARTER</b> |  |      |                  |  |      |         |              |
|                      | Ammonia:   |      |                  |  |      |         |              |
| 3253111120           | Synthetic, anhydrous (100 percent).....  | b/   | 3,029,959        | r/c/ 1,270,985                                 | c/r/ | 298,786 | b/r/ 319,186 |
| 3253111121           | Fertilizer use.....  | b/   | 2,845,821        | r/b/ 1,217,877                                 | c/r/ | 286,809 | (D)          |
| 3253111131           | Other uses.....  | a/r/ | 184,138          | r/b/ 53,108                                    | b/r/ | 11,977  | (D)          |

Table 2a. Production, Shipments, Consumption and Stocks of Fertilizer Materials and Related Products: 2004  
 [Quantity in short tons. Value in thousands of dollars]

| Product code | Product description  |      | Total production | Total shipments including interplant transfers |           | Stocks 1/                 |
|--------------|--|------|------------------|--|-----------|---------------------------|
|              |  |      |                  | Quantity                                       | Value     |                           |
| 3253111201   | Ammonium nitrate (100 percent):  |      |                  |  |           |                           |
| 3253111211   | Original melt liquor 2/.....   | b/r/ | 1,821,504        | b/   | 1,015,453 | b/ 174,475 c/r/ 103,355   |
| 3253111216   | Consumed in the manufacture of other nitrogen solutions (e.g., CAN17, AN20, AAN).....                    |      | 30,148           |  | (X)       | (X) (D)                   |
| 3253111221   | Liquor consumed in the manufacture of urea-ammonium nitrate solutions.....                               | a/r/ | 992,270          |  | (X)       | (X) c/r/ 33,594           |
| 3253111226   | High density prill and granular.....   | a/   | 249,408          | a/   | 257,056   | a/r/ 41,016 (D)           |
| 3253111231   | Low density prill and grained.....   | b/   | 434,090          | b/r/   | 424,073   | b/r/ 79,231 c/r/ 39,365   |
| 3253111240   | All other (e.g., liquor sales, etc.).....  | b/r/ | 115,588          | b/r/   | 105,856   | b/r/ 16,593 r/ 14,987     |
| 3253111246   | Ammonium sulfate (100 percent).....  |      | 728,643          | b/   | 698,480   | b/ 95,674 123,069         |
| 3253111241   | Synthetic (direct synthesis from sulfuric acid and ammonia).....   |      | (D)              |  | (D)       | (D) 7,797                 |
| 3253111246   | Byproduct 3/.....  |      | (D)              |  | (D)       | (D) 115,272               |
| 3253111250   | Nitrogen solutions, including mixtures (100 percent N).....  |      | 782,103          |  | 734,053   | 136,303 r/ 90,632         |
| 3253111251   | Ammonium nitrate/urea solutions.....   |      | (D)              |  | (D)       | (D) (D)                   |
| 3253111256   | All other solutions 4/.....  |      | (D)              |  | (D)       | (D) (D)                   |
| 3253111111   | Nitric acid (100 percent) 5/.....  | b/   | 1,688,238        | c/r/   | 478,147   | b/r/ 55,190 (X)           |
| 3253114101   | Urea original melt liquor.....   | b/   | 1,597,059        | b/   | 940,673   | c/r/ 195,639 b/r/ 111,614 |
| 3253114111   | Consumed in the manufacture of urea-ammonium nitrate solutions.....                                      | a/   | 619,808          | r/   | 43,725    | r/ 8,971 c/r/ 7,076       |
| 3253114121   | Prills.....  |      | (D)              |  | (D)       | (D) (D)                   |
| 3253114131   | Granular.....  | a/r/ | 714,522          |  | (D)       | (D) a/r/ 56,224           |
| 3253114141   | All other (liquor sales, melamine, feedstock, other).....  |      | 15,606           |  | (D)       | (D) (D)                   |
| 3253121100   | Phosphoric acid (100 percent P2O5).....  |      | 3,047,495        |  | 1,147,663 | r/ 293,738 164,611        |
| 3253121211   | By use:  |      |                  |  |           |                           |
| 3253121222   | Fertilizer.....  |      | 2,812,823        | a/r/   | 983,581   | a/r/ 232,215 (D)          |
| 3253121311   | Feed and other 6/.....   |      | 234,672          |  | 164,082   | 61,523 (D)                |
| 3253121321   | By grade:  |      |                  |  |           |                           |
| 3253121311   | Ortho (less than 65 percent P2O5).....   |      | 2,716,482        | a/r/   | 836,109   | a/r/ 195,724 151,232      |
| 3253121321   | Super (more than 65 percent P2O5) 6/.....  |      | 331,013          |  | 311,554   | r/ 98,014 r/ 13,379       |
| 3253124100   | Superphosphate and other phosphatic fertilizer materials:  |      |                  |  |           |                           |
| 3253124131   | Gross weight.....  |      | 4,357,812        |  | 4,377,840 | 846,783 r/ 469,856        |
| 3253124211   | Nitrogen content.....  |      | 641,788          |  | (X)       | (X) (X)                   |
| 3253124222   | Phosphoric oxide content (100 percent P2O5).....   |      | 2,066,200        |  | 2,073,166 | (X) (X)                   |
| 3253124131   | Monoammonium phosphates:   |      |                  |  |           |                           |
| 3253124211   | Gross weight.....  |      | 1,456,737        |  | 1,510,105 | 293,396 83,833            |
| 3253124222   | Nitrogen content.....  |      | 167,386          |  | (X)       | (X) (X)                   |
| 3253124211   | Phosphoric oxide content (100 percent P2O5).....   |      | 740,235          |  | 763,754   | (X) (X)                   |
| 3253124211   | Diammonium phosphates:   |      |                  |  |           |                           |
| 3253124222   | Gross weight.....  |      | 2,555,454        |  | 2,531,994 | 492,983 r/ 290,128        |
| 3253124211   | Nitrogen content.....  |      | 453,572          |  | (X)       | (X) (X)                   |
| 3253124222   | Phosphoric oxide content (100 percent P2O5).....   |      | 1,176,492        |  | 1,164,983 | (X) (X)                   |
| 3253124222   | Normal, enriched, concentrated, and other ammonium phosphates and other phosphatic fertilizer materials: |      |                  |  |           |                           |

Table 2a. Production, Shipments, Consumption and Stocks of Fertilizer Materials and Related Products: 2004  
 [Quantity in short tons. Value in thousands of dollars]

| Product code          | Product description   |      | Total production | Total shipments including interplant transfers |           |      | Stocks 1/ |              |
|-----------------------|---|------|------------------|--|-----------|------|-----------|--------------|
|                       |   |      |                  | Quantity                                       | Value     |      |           |              |
|                       | Gross weight.....   | r/   | 345,621          | a/r/   | 335,741   | b/r/ | 60,404    | 95,895       |
|                       | Nitrogen content.....   |      | (X)              |  | (X)       |      | (X)       | (X)          |
|                       | Phosphoric oxide content (100 percent P2O5).....                                      | a/r/ | 149,473          | a/r/   | 144,429   | a/r/ | (X)       | (X)          |
| 3251881100            | Sulfuric acid (100 percent): 5/   |      |                  |  |           |      |           |              |
|                       | Total gross.....  | a/   | 10,434,270       | b/r/   | 3,297,526 | b/   | 171,356   | a/ 477,475   |
|                       | By feedstock:   |      |                  |  |           |      |           |              |
| 3251881111            | Elemental sulfur.....   |      | 8,739,042        | b/r/   | 1,942,665 | b/r/ | 100,418   | (X)          |
| 3251881121            | Smelting metallic sulfide ore.....  |      | 662,001          |  | 625,754   | a/   | 19,740    | (X)          |
| 3251881131            | Decomposition of alkylation and other spent acid.....                                 | a/   | 832,730          | a/   | 534,282   | b/r/ | 41,208    | (D)          |
| 3251881141            | Other.....  | a/   | 200,497          | b/r/   | 194,825   | b/r/ | 9,990     | (X)          |
|                       | By grade:   |      |                  |  |           |      |           |              |
| 3251881212            | Oleum grades.....   | b/r/ | 414,667          | b/r/   | 293,688   | b/r/ | 14,161    | b/ 29,793    |
| 3251881231            | Other than oleum grades.....  |      | 10,019,603       | b/r/   | 3,003,838 | b/   | 157,195   | a/ 447,682   |
| 3251881311            | Spent acid fortified in contact units and included in above production data .....     |      | (D)              |  | (X)       |      | (X)       | (D)          |
|                       | Total new acid 7/.....  |      | 9,601,540        |  | (X)       |      | (X)       | (X)          |
| <b>SECOND QUARTER</b> |   |      |                  |  |           |      |           |              |
|                       | Ammonia:  |      |                  |  |           |      |           |              |
| 3253111120            | Synthetic, anhydrous (100 percent).....   | b/   | 2,903,026        | b/r/   | 1,121,180 | c/r/ | 252,065   | b/r/ 305,109 |
| 3253111121            | Fertilizer use.....   | b/   | 2,740,731        |  | (D)       |      | (D)       | (D)          |
| 3253111131            | Other uses.....   | a/r/ | 162,295          |  | (D)       |      | (D)       | (D)          |
|                       | Ammonium nitrate (100 percent):   |      |                  |  |           |      |           |              |
| 3253111201            | Original melt liquor 2/.....  | a/   | 1,662,828        | b/   | 1,089,387 | b/   | 186,781   | c/r/ 88,447  |
| 3253111211            | Consumed in the manufacture of other nitrogen solutions (e.g., CAN17, AN20, AAN)..... | r/   | 36,970           |  | (X)       |      | (X)       | (D)          |
| 3253111216            | Liquor consumed in the manufacture of urea-ammonium nitrate solutions.....            | a/r/ | 827,584          |  | (X)       |      | (X)       | c/r/ 36,118  |
| 3253111221            | High density prill and granular.....  | a/   | 284,564          | a/   | 342,643   |      | 56,811    | c/r/ 11,952  |
| 3253111226            | Low density prill and grained.....  | b/   | 411,311          | b/r/   | 406,022   | b/r/ | 73,230    | (D)          |
| 3253111231            | All other (e.g., liquor sales, etc.).....   | b/r/ | 102,399          | b/r/   | 103,628   | b/r/ | 15,970    | a/r/ 5,560   |
| 3253111240            | Ammonium sulfate (100 percent).....   |      | 760,998          | b/r/   | 781,241   | b/r/ | 98,766    | 110,650      |
| 3253111241            | Synthetic (direct synthesis from sulfuric acid and ammonia).....                      |      | (D)              |  | (D)       |      | (D)       | (D)          |
| 3253111246            | Byproduct 3/.....   |      | (D)              |  | (D)       |      | (D)       | (D)          |
|                       | Nitrogen solutions, including mixtures (100 percent N).....                           |      | 832,397          |  | 861,538   | r/   | 156,437   | r/ 114,218   |
| 3253111251            | Ammonium nitrate/urea solutions.....  | a/   | 801,250          | a/   | 840,631   | b/r/ | 152,986   | b/r/ 109,360 |
| 3253111256            | All other solutions 4/.....   | b/   | 31,147           | a/   | 20,907    | a/   | 3,451     | 4,858        |
| 3253111111            | Nitric acid (100 percent) 5/.....   | b/   | 1,742,170        | c/r/   | 456,238   | c/   | 52,686    | (X)          |
| 3253114101            | Urea original melt liquor.....  | a/   | 1,522,661        | a/   | 1,003,763 | c/r/ | 210,761   | a/r/ 101,281 |
| 3253114111            | Consumed in the manufacture of urea-ammonium nitrate solutions.....                   | a/r/ | 614,058          |  | (D)       |      | (D)       | (D)          |
| 3253114121            | Prills.....   |      | (D)              | a/r/   | 211,171   | a/r/ | 44,518    | c/r/ 45,233  |
| 3253114131            | Granular.....   | a/r/ | 659,641          | a/   | 692,844   | c/   | 129,246   | b/r/ 47,720  |
| 3253114141            | All other (liquor sales, melamine, feedstock, other).....                             |      | (D)              |  | (D)       |      | (D)       | (D)          |

Table 2a. Production, Shipments, Consumption and Stocks of Fertilizer Materials and Related Products: 2004  
 [Quantity in short tons. Value in thousands of dollars]

| Product code         | Product description  | Total production | Total shipments including interplant transfers |           |              | Stocks 1/    |
|----------------------|--|------------------|--|-----------|--------------|--------------|
|                      |  |                  | Quantity                                       | Value     |              |              |
| 3253121100           | Phosphoric acid (100 percent P2O5).....  | 3,127,462        | r/   | 1,113,686 | 294,158      | 173,668      |
|                      | By use:  |                  |  |           |              |              |
| 3253121211           | Fertilizer.....  | 2,861,612        | a/   | 947,889   | a/ 218,541   | 164,315      |
| 3253121222           | Feed and other 6/.....   | 265,850          | r/   | 165,797   | 75,617       | 9,353        |
|                      | By grade:  |                  |  |           |              |              |
| 3253121311           | Ortho (less than 65 percent P2O5).....   | 2,788,934        | a/   | 799,916   | a/ 196,264   | 152,565      |
| 3253121321           | Super (more than 65 percent P2O5) 6/.....  | 338,528          | r/   | 313,770   | 97,894       | 21,103       |
| 3253124100           | Superphosphate and other phosphatic fertilizer materials:  |                  |  |           |              |              |
|                      | Gross weight.....  | 4,622,372        |  | 4,606,561 | 846,794      | 501,606      |
|                      | Nitrogen content.....  | 686,975          |  | (X)       | (X)          | (X)          |
|                      | Phosphoric oxide content (100 percent P2O5).....   | 2,201,010        |  | 2,192,517 | (X)          | (X)          |
| 3253124131           | Monoammonium phosphates:   |                  |  |           |              |              |
|                      | Gross weight.....  | 1,423,350        | r/   | 1,435,406 | a/r/ 265,431 | 145,005      |
|                      | Nitrogen content.....  | 161,948          |  | (X)       | (X)          | (X)          |
|                      | Phosphoric oxide content (100 percent P2O5).....   | 731,458          |  | 731,423   | (X)          | (X)          |
| 3253124211           | Diammonium phosphates:   |                  |  |           |              |              |
|                      | Gross weight.....  | 2,837,126        | r/   | 2,814,803 | 520,594      | a/r/ 279,711 |
|                      | Nitrogen content.....  | 507,303          |  | (X)       | (X)          | (X)          |
|                      | Phosphoric oxide content (100 percent P2O5).....   | 1,310,264        |  | 1,306,621 | (X)          | (X)          |
| 3253124222           | Normal, enriched, concentrated, and other ammonium phosphates and other phosphatic fertilizer materials: |                  |  |           |              |              |
|                      | Gross weight.....  | r/ 361,896       | a/r/   | 356,352   | b/r/ 60,769  | b/ 76,890    |
|                      | Nitrogen content.....  | (X)              |  | (X)       | (X)          | (X)          |
|                      | Phosphoric oxide content (100 percent P2O5).....   | a/r/ 159,288     | a/r/   | 154,473   | (X)          | (X)          |
| 3251881100           | Sulfuric acid (100 percent): 5/  |                  |  |           |              |              |
|                      | Total gross.....   | a/ 10,423,699    | b/r/   | 3,172,493 | b/r/ 159,295 | a/ 438,452   |
|                      | By feedstock:  |                  |  |           |              |              |
| 3251881111           | Elemental sulfur.....  | a/ 8,815,246     | b/r/   | 1,828,961 | b/r/ 95,643  | (X)          |
| 3251881121           | Smelting metallic sulfide ore.....   | 630,992          | b/   | 636,954   | a/ 17,060    | (X)          |
| 3251881131           | Decomposition of alkylation and other spent acid.....  | a/ 777,698       | b/r/   | 519,144   | b/r/ 37,302  | 76,890       |
| 3251881141           | Other.....   | a/ 199,763       | b/r/   | 187,434   | b/r/ 9,290   | (X)          |
|                      | By grade:  |                  |  |           |              |              |
| 3251881212           | Oleum grades.....  | b/r/ 408,696     | b/r/   | 272,339   | b/r/ 13,190  | b/ 28,364    |
| 3251881231           | Other than oleum grades.....   | 10,015,003       | b/r/   | 2,900,154 | b/r/ 146,105 | a/ 410,088   |
| 3251881311           | Spent acid fortified in contact units and included in above production data .....                        | (D)              |  | (X)       | (X)          | (D)          |
|                      | Total new acid 7/.....   | 9,646,001        |  | (X)       | (X)          | (X)          |
| <b>FIRST QUARTER</b> |  |                  |  |           |              |              |
| Ammonia:             |  |                  |  |           |              |              |
| 3253111120           | Synthetic, anhydrous (100 percent).....  | b/ 3,150,163     | b/   | 1,113,308 | b/r/ 263,600 | b/r/ 380,784 |
| 3253111121           | Fertilizer use.....  | b/ 2,945,867     |  | (D)       | (D)          | (D)          |
| 3253111131           | Other uses.....  | a/r/ 204,296     |  | (D)       | (D)          | (D)          |



Table 2a. Production, Shipments, Consumption and Stocks of Fertilizer Materials and Related Products: 2004  
 [Quantity in short tons. Value in thousands of dollars]

| Product code | Product description  |      | Total production | Total shipments including interplant transfers |           |      | Stocks 1/ |      |         |
|--------------|--|------|------------------|--|-----------|------|-----------|------|---------|
|              |  |      |                  | Quantity                                       | Value     |      |           |      |         |
|              | Ammonium nitrate (100 percent):  |      |                  |  |           |      |           |      |         |
| 3253111201   | Original melt liquor 2/.....   | a/   | 1,767,721        | b/r/   | 1,088,505 | b/r/ | 181,865   | b/r/ | 206,189 |
| 3253111211   | Consumed in the manufacture of other nitrogen solutions (e.g., CAN17, AN20, AAN).....                    |      | 32,468           |  | (X)       |      | (X)       |      | (D)     |
| 3253111216   | Liquor consumed in the manufacture of urea-ammonium nitrate solutions.....                               | a/r/ | 792,108          |  | (X)       |      | (X)       |      | (D)     |
| 3253111221   | High density prill and granular.....   | a/   | 454,389          | a/r/   | 406,652   | a/   | 65,133    |      | 82,716  |
| 3253111226   | Low density prill and grained.....   | b/   | 388,580          | b/r/   | 403,500   | b/r/ | 73,937    | c/r/ | 37,769  |
| 3253111231   | All other (e.g., liquor sales, etc.).....  | b/r/ | 100,176          | b/r/   | 105,032   | b/r/ | 15,323    | a/r/ | 12,225  |
| 3253111240   | Ammonium sulfate (100 percent).....  |      | 798,576          | a/r/   | 748,360   | b/r/ | 95,670    |      | 141,249 |
| 3253111241   | Synthetic (direct synthesis from sulfuric acid and ammonia).....   |      | (D)              |  | (D)       |      | (D)       |      | (D)     |
| 3253111246   | Byproduct 3/.....  |      | (D)              |  | (D)       |      | (D)       |      | (D)     |
|              | Nitrogen solutions, including mixtures (100 percent N).....  |      | 802,502          | r/   | 652,173   | r/   | 115,053   | r/   | 205,129 |
| 3253111251   | Ammonium nitrate/urea solutions.....   | a/   | 767,850          | a/r/   | 626,400   | c/r/ | 110,354   | a/r/ | 198,695 |
| 3253111256   | All other solutions 4/.....  | b/   | 34,652           | a/   | 25,773    | b/   | 4,699     |      | 6,434   |
| 3253111111   | Nitric acid (100 percent) 5/.....  | b/r/ | 1,851,914        | c/r/   | 472,368   | b/   | 59,826    |      | (X)     |
| 3253114101   | Urea original melt liquor.....   | a/   | 1,517,773        | a/r/   | 1,063,625 | c/r/ | 221,851   | b/   | 117,468 |
| 3253114111   | Consumed in the manufacture of urea-ammonium nitrate solutions.....                                      | a/r/ | 597,790          |  | 65,220    |      | 18,261    |      | (D)     |
| 3253114121   | Prills.....  | a/r/ | 175,872          | a/   | 180,404   | a/r/ | 40,425    | b/r/ | 42,032  |
| 3253114131   | Granular.....  | a/r/ | 692,935          | a/r/   | 762,979   |      | (S)       | b/r/ | 60,984  |
| 3253114141   | All other (liquor sales, melamine, feedstock, other).....  | r/   | 51,176           |  | 55,022    |      | 20,894    |      | (D)     |
| 3253121100   | Phosphoric acid (100 percent P2O5).....  |      | 3,196,219        | r/   | 1,096,512 | r/   | 296,668   |      | 173,006 |
|              | By use:  |      |                  |  |           |      |           |      |         |
| 3253121211   | Fertilizer.....  |      | 2,979,744        | a/r/   | 964,745   | b/   | 232,516   |      | 164,979 |
| 3253121222   | Feed and other 6/.....   | r/   | 216,475          | a/r/   | 131,767   | r/   | 64,152    | r/   | 8,027   |
|              | By grade:  |      |                  |  |           |      |           |      |         |
| 3253121311   | Ortho (less than 65 percent P2O5).....   |      | 2,862,980        | a/r/   | 785,224   | b/   | 200,799   |      | 146,621 |
| 3253121321   | Super (more than 65 percent P2O5) 6/.....  |      | 333,239          | r/   | 311,288   | r/   | 95,869    |      | 26,385  |
| 3253124100   | Superphosphate and other phosphatic fertilizer materials:  |      |                  |  |           |      |           |      |         |
|              | Gross weight.....  |      | 4,790,899        | r/   | 4,674,157 | r/   | 837,613   |      | 504,921 |
|              | Nitrogen content.....  |      | 701,951          |  | (X)       |      | (X)       |      | (X)     |
|              | Phosphoric oxide content (100 percent P2O5).....   |      | 2,275,472        |  | 2,238,033 |      | (X)       |      | (X)     |
| 3253124131   | Monoammonium phosphates:   |      |                  |  |           |      |           |      |         |
|              | Gross weight.....  |      | 1,586,059        | r/   | 1,492,722 | a/r/ | 274,391   | r/   | 150,479 |
|              | Nitrogen content.....  |      | 181,281          |  | (X)       |      | (X)       |      | (X)     |
|              | Phosphoric oxide content (100 percent P2O5).....   |      | 808,573          | r/   | 766,340   |      | (X)       |      | (X)     |
| 3253124211   | Diammonium phosphates:   |      |                  |  |           |      |           |      |         |
|              | Gross weight.....  |      | 2,733,790        | r/   | 2,668,215 | a/r/ | 474,370   | a/r/ | 273,551 |
|              | Nitrogen content.....  |      | 490,846          |  | (X)       |      | (X)       |      | (X)     |
|              | Phosphoric oxide content (100 percent P2O5).....   |      | 1,261,907        |  | 1,250,049 |      | (X)       |      | (X)     |
| 3253124222   | Normal, enriched, concentrated, and other ammonium phosphates and other phosphatic fertilizer materials: |      |                  |  |           |      |           |      |         |

Table 2a. Production, Shipments, Consumption and Stocks of Fertilizer Materials and Related Products: 2004  
 [Quantity in short tons. Value in thousands of dollars]

| Product code | Product description   |      | Total production | Total shipments including interplant transfers |           | Stocks 1/ |         |              |
|--------------|---|------|------------------|--|-----------|-----------|---------|--------------|
|              |   |      |                  | Quantity                                       | Value     |           |         |              |
|              | Gross weight.....   | r/   | 471,050          | a/r/   | 513,220   | b/r/      | 88,852  | 80,891       |
|              | Nitrogen content.....   |      | (X)              |  | (X)       |           | (X)     | (X)          |
|              | Phosphoric oxide content (100 percent P2O5).....                                  | a/r/ | 204,992          | a/r/   | 221,644   |           | (X)     | (X)          |
| 3251881100   | Sulfuric acid (100 percent): 5/   |      |                  |  |           |           |         |              |
|              | Total gross.....  | a/   | 10,365,407       | b/r/   | 2,992,642 | b/        | 150,876 | a/r/ 415,459 |
|              | By feedstock:   |      |                  |  |           |           |         |              |
| 3251881111   | Elemental sulfur.....   | a/   | 8,929,825        | b/r/   | 1,834,756 | b/r/      | 94,514  | (X)          |
| 3251881121   | Smelting metallic sulfide ore.....  |      | 545,492          | r/   | 520,878   | a/r/      | 14,769  | (X)          |
| 3251881131   | Decomposition of alkylation and other spent acid.....                             | a/r/ | 695,779          | b/   | 452,102   | b/r/      | 32,601  | 80,891       |
| 3251881141   | Other.....  | a/   | 194,311          | b/r/   | 184,906   | b/r/      | 8,992   | (X)          |
|              | By grade:   |      |                  |  |           |           |         |              |
| 3251881212   | Oleum grades.....   | b/r/ | 453,412          | b/r/   | 299,594   | b/r/      | 14,297  | b/ 26,668    |
| 3251881231   | Other than oleum grades.....  |      | 9,911,995        | b/r/   | 2,693,048 | b/        | 136,579 | a/r/ 388,791 |
| 3251881311   | Spent acid fortified in contact units and included in above production data ..... |      | (D)              |  | (X)       |           | (X)     | (D)          |
|              | Total new acid 7/.....  |      | 9,669,628        |  | (X)       |           | (X)     | (X)          |

D Withheld to avoid disclosing data for individual companies. N Nitrogen content. P2O5 Phosphoric oxide content. r/Revised by 5 percent or more from previously published data. S Does not meet publication standards. X Not applicable.

1/Stocks held by producing companies include amounts held at their nonproducing locations.

2/Production represents total amount of ammonium nitrate produced including amounts for fertilizer, explosives, and other uses, and amounts consumed in manufacturing other products, such as nitrogen solutions. Stocks represent total stocks held by producing companies, including stock of original melt liquor and amounts (liquid and solid) reported as fertilizer, explosives, and other uses.

3/Excludes coke oven byproduct ammonium sulfate.

4/Solutions containing two or more products such as (a) ammonia, ammonium nitrate; (b) ammonia, urea; (c) ammonia, ammonium nitrate, urea.

5/Includes data for government-owned, contractor-operated plants.

6/Product code 3253121222 includes product codes 3253121111 and 3253121221, and product code 3253121321 includes product codes 3253121111 and 3253121322.

7/Total new acid equals total gross acid, minus fortified spent acid and sulfuric acid produced from the decomposition of alkylation acids and other spent acids and sludge acid.

Note: Percent of estimation of each item is indicated as follows: a/10 to 25 percent of this item is estimated. b/26 to 50 percent of this item is estimated. c/Over 50 percent of this item is estimated.

Table 2b. Production, Shipments, Consumption, and Stocks of Fertilizer Materials and Related Products: 2003  
 [Quantity in short tons. Value in thousands of dollars]

| Product code  | Total production  | Total shipments including interplant transfers |               | Stocks 1/    |     |
|---|---|--|---------------|--------------|-----|
|   |   | Quantity                                       | Value         |              |     |
| <b>TOTAL</b>  |   |  |               |              |     |
| Ammonia:  |   |  |               |              |     |
| 3253111120  | Synthetic, anhydrous (100 percent).....   | 11,330,349                                     | 4,477,136     | r/ 975,019   | (X) |
| 3253111121  | Fertilizer use.....   | 10,041,201                                     | r/ 3,956,461  | r/ 871,216   | (X) |
| 3253111131  | Other uses.....   | r/ 1,289,148                                   | 520,675       | 103,803      | (X) |
| Ammonium nitrate (100 percent):                             |   |  |               |              |     |
| 3253111201  | Original melt liquor 2/.....  | 6,327,863                                      | 3,812,366     | 588,472      | (X) |
| 3253111211  | Consumed in the manufacture of other nitrogen solutions (e.g., CAN17, AN20, AAN)..... | 91,574   | (X)           | (X)          | (X) |
| 3253111216  | Liquor consumed in the manufacture of urea-ammonium nitrate solutions.....            | 2,747,490                                      | (X)           | (X)          | (X) |
| 3253111221  | High density prill and granular.....  | 1,422,437                                      | 1,417,791     | r/ 221,052   | (X) |
| 3253111226  | Low density prill and grained.....  | 1,596,050                                      | 1,576,136     | 253,350      | (X) |
| 3253111231  | All other (e.g., liquor sales, etc.).....   | r/ 470,312                                     | r/ 381,215    | 47,822       | (X) |
| 3253111240  | Ammonium sulfate (100 percent).....   | 2,870,717                                      | r/ 2,918,821  | r/ 315,365   | (X) |
| 3253111241  | Synthetic (direct synthesis from sulfuric acid and ammonia).....                      | (D)  | (D)           | (D)          | (X) |
| 3253111246  | Byproduct 3/.....   | (D)  | (D)           | (D)          | (X) |
| Nitrogen solutions, including mixtures (100 percent N)..... |   |  |               |              |     |
| 3253111250  | Ammonium nitrate/urea solutions.....  | 2,863,079                                      | 2,797,029     | 639,344      | (X) |
| 3253111251  | Ammonium nitrate/urea solutions.....  | 2,767,721                                      | 2,715,693     | 627,270      | (X) |
| 3253111256  | All other solutions 4/.....   | 95,358   | 81,336        | 12,074       | (X) |
| 3253111111  | Nitric acid (100 percent) 5/.....   | 7,188,961                                      | r/ 1,910,166  | r/ 201,563   | (X) |
| 3253114101  | Urea original melt liquor.....  | 6,374,760                                      | 4,475,319     | r/ 686,353   | (X) |
| 3253114111  | Consumed in the manufacture of urea-ammonium nitrate solutions.....                   | 2,164,874                                      | 240,664       | 57,238       | (X) |
| 3253114121  | Prills.....   | 1,086,469                                      | r/ 1,087,423  | r/ 205,272   | (X) |
| 3253114131  | Granular.....   | 2,978,769                                      | 3,007,938     | r/ 371,609   | (X) |
| 3253114141  | All other (liquor sales, melamine, feedstock, other).....                             | 144,648  | 139,294       | 52,234       | (X) |
| 3253121100  | Phosphoric acid (100 percent P2O5).....   | 12,537,291                                     | 4,238,605     | r/ 1,189,464 | (X) |
| By use:   |   |  |               |              |     |
| 3253121211  | Fertilizer.....   | 11,628,509                                     | 3,688,202     | r/ 935,310   | (X) |
| 3253121222  | Feed and other 6/.....  | r/ 908,782                                     | r/ 550,403    | r/ 254,154   | (X) |
| By grade:   |   |  |               |              |     |
| 3253121311  | Ortho (less than 65 percent P2O5).....  | 10,911,561                                     | 2,753,515     | r/ 771,148   | (X) |
| 3253121321  | Super (more than 65 percent P2O5) 6/.....   | 1,625,730                                      | r/ 1,485,090  | r/ 418,316   | (X) |
| 3253124100  | Superphosphate and other phosphatic fertilizer materials:                             |  |               |              |     |
|   | Gross weight.....   | 18,576,255                                     | r/ 18,442,458 | r/ 2,827,455 | (X) |
|   | Nitrogen content.....   | (X)  | (X)           | (X)          | (X) |
|   | Phosphoric oxide content (100 percent P2O5).....                                      | 8,837,307                                      | 8,923,196     | (X)          | (X) |
| 3253124131  | Monoammonium phosphates:  |  |               |              |     |
|   | Gross weight.....   | r/ 5,296,491                                   | r/ 5,425,289  | r/ 875,100   | (X) |
|   | Nitrogen content.....   | 606,498  | (X)           | (X)          | (X) |
|   | Phosphoric oxide content (100 percent P2O5).....                                      | 2,718,661                                      | 2,791,099     | r/ (X)       | (X) |
| 3253124211  | Diammonium phosphates:  |  |               |              |     |
|   | Gross weight.....   | 11,549,793                                     | r/ 11,527,071 | 1,729,099    | (X) |
|   | Nitrogen content.....   | 2,122,870                                      | (X)           | (X)          | (X) |
|   | Phosphoric oxide content (100 percent P2O5).....                                      | 5,385,859                                      | 5,429,987     | (X)          | (X) |

Table 2b. Production, Shipments, Consumption, and Stocks of Fertilizer Materials and Related Products: 2003  
 [Quantity in short tons. Value in thousands of dollars]

| Product code                           |  | Total production | Total shipments including interplant transfers |              | Stocks 1/  |
|--|--|------------------|--|--------------|------------|
|  |  |                  | Quantity                                       | Value        |            |
| 3253124222                             | Normal, enriched, concentrated, and other ammonium phosphates and other phosphatic fertilizer materials: |                  |  |              |            |
|  | Gross weight.....  | 1,729,971        | 1,490,098                                      | r/ 223,256   | (X)        |
|  | Nitrogen content.....  | (X)              | (X)  | (X)          | (X)        |
|  | Phosphoric oxide content (100 percent P2O5).....   | 732,787          | 702,110  | (X)          | (X)        |
| 3251881100                             | Sulfuric acid (100 percent): 5/  |                  |  |              |            |
|  | Total gross.....   | 41,143,916       | 11,598,483                                     | 611,407      | (X)        |
|  | By feedstock:  |                  |  |              |            |
| 3251881111                             | Elemental sulfur.....  | 35,370,817       | 6,920,827                                      | 359,893      | (X)        |
| 3251881121                             | Smelting metallic sulfide ore.....   | 2,431,520        | 2,346,018                                      | 62,731       | (X)        |
| 3251881131                             | Decomposition of alkylation and other spent acid.....  | 2,546,640        | 1,775,299                                      | 160,340      | (X)        |
| 3251881141                             | Other.....   | 794,939          | 556,339  | 28,443       | (X)        |
|  | By grade:  |                  |  |              |            |
| 3251881212                             | Oleum grades.....  | 1,570,273        | 1,067,717                                      | 51,198       | (X)        |
| 3251881231                             | Other than oleum grades.....   | 39,573,643       | 10,530,766                                     | 560,209      | (X)        |
| 3251881311                             | Spent acid fortified in contact units and included in above production data.....                         | (D)              | (X)  | (X)          | (X)        |
|  | Total new acid 7/.....   | 38,597,276       | (X)  | (X)          | (X)        |
| <b>FOURTH QUARTER</b>                  |  |                  |  |              |            |
| Ammonia:                               |  |                  |  |              |            |
| 3253111120                             | Synthetic, anhydrous (100 percent).....  | a/ 3,085,541     | b/r/ 1,277,181                                 | c/r/ 283,061 | b/ 261,443 |
| 3253111121                             | Fertilizer use.....  | a/ 2,794,184     | b/r/ 1,179,179                                 | c/r/ 261,674 | b/ 211,744 |
| 3253111131                             | Other uses.....  | b/r/ 291,357     | c/ 98,002                                      | (S)          | c/ 49,699  |
| Ammonium nitrate (100 percent):        |  |                  |  |              |            |
| 3253111201                             | Original melt liquor 2/.....   | a/ 1,754,403     | b/ 1,057,147                                   | b/r/ 169,392 | a/ 134,495 |
| 3253111211                             | Consumed in the manufacture of other nitrogen solutions (e.g., CAN17, AN20, AAN).....                    | 30,021           | (X)  | (X)          | 10,201     |
| 3253111216                             | Liquor consumed in the manufacture of urea-ammonium nitrate solutions.....                               | a/ 757,391       | (X)  | (X)          | a/ 26,157  |
| 3253111221                             | High density prill and granular.....   | a/ 460,225       | a/r/ 446,783                                   | a/r/ 71,976  | a/ 51,786  |
| 3253111226                             | Low density prill and grained.....   | b/ 405,783       | b/ 420,472                                     | b/ 69,824    | b/ 39,269  |
| 3253111231                             | All other (e.g., liquor sales, etc.).....  | b/ 100,983       | b/ 75,982                                      | b/ 9,821     | 7,082      |
| 3253111240                             | Ammonium sulfate (100 percent).....  | 761,968          | a/r/ 773,281                                   | b/r/ 86,422  | 130,297    |
| 3253111241                             | Synthetic (direct synthesis from sulfuric acid and ammonia).....   | (D)              | (D)  | (D)          | (D)        |
| 3253111246                             | Byproduct 3/.....  | (D)              | (D)  | (D)          | (D)        |
| Nitrogen solutions, including mixtures |  |                  |  |              |            |
| 3253111250                             | (100 percent N).....   | 808,710          | 804,810  | 193,023      | 105,545    |
| 3253111251                             | Ammonium nitrate/urea solutions.....   | a/ 776,747       | a/ 776,952                                     | a/ 188,713   | a/ 98,232  |
| 3253111256                             | All other solutions 4/.....  | b/ 31,963        | b/ 27,858                                      | 4,310        | 7,313      |
| 3253111111                             | Nitric acid (100 percent) 5/.....  | b/ 2,041,724     | c/r/ 542,998                                   | c/r/ 56,319  | (X)        |
| 3253114101                             | Urea original melt liquor.....   | a/ 1,618,492     | a/ 1,104,222                                   | a/r/ 178,543 | 133,445    |
| 3253114111                             | Consumed in the manufacture of urea-ammonium nitrate solutions.....                                      | 627,258          | 77,811   | 19,757       | (D)        |

Table 2b. Production, Shipments, Consumption, and Stocks of Fertilizer Materials and Related Products: 2003  
 [Quantity in short tons. Value in thousands of dollars]

| Product code         |  |      | Total production | Total shipments including interplant transfers |           | Value | Stocks 1/ |      |         |
|----------------------|--|------|------------------|--|-----------|-------|-----------|------|---------|
|                      |  |      |                  | Quantity                                       |           |       |           |      |         |
| 3253114121           | Prills.....  | a/   | 198,091          | b/r/   | 185,035   | b/r/  | 39,848    | b/   | 54,046  |
| 3253114131           | Granular.....  | a/   | 735,993          | a/   | 788,647   | a/r/  | 102,753   | a/   | 65,381  |
| 3253114141           | All other (liquor sales, melamine, feedstock, other).....  |      | 57,150           |  | 52,729    |       | 16,185    |      | (D)     |
| 3253121100           | Phosphoric acid (100 percent P2O5).....  |      | 3,247,348        |  | 1,120,063 | r/    | 309,592   |      | 188,071 |
|                      | By use:  |      |                  |  |           |       |           |      |         |
| 3253121211           | Fertilizer.....  | a/   | 3,003,487        |  | 979,262   | b/r/  | 246,125   | a/   | 180,397 |
| 3253121222           | Feed and other 6/.....   | r/   | 243,861          | r/   | 140,801   | r/    | 63,467    |      | 7,674   |
|                      | By grade:  |      |                  |  |           |       |           |      |         |
| 3253121311           | Ortho (less than 65 percent P2O5).....   | a/   | 2,838,454        |  | 732,748   | b/    | 204,224   | a/   | 165,210 |
| 3253121321           | Super (more than 65 percent P2O5) 6/.....  |      | 408,894          | r/   | 387,315   | r/    | 105,368   |      | 22,861  |
| 3253124100           | Superphosphate and other phosphatic fertilizer materials:  |      |                  |  |           |       |           |      |         |
|                      | Gross weight.....  |      | 4,934,380        | r/   | 4,851,298 | r/    | 746,523   |      | 510,176 |
|                      | Nitrogen content.....  |      | (X)              |  | (X)       |       | (X)       |      | (X)     |
|                      | Phosphoric oxide content (100 percent P2O5).....   | r/   | 2,348,064        | r/   | 2,321,588 |       | (X)       |      | (X)     |
| 3253124131           | Monoammonium phosphates:   |      |                  |  |           |       |           |      |         |
|                      | Gross weight.....  | a/r/ | 1,356,992        | a/r/   | 1,358,711 | a/r/  | 220,721   |      | 102,072 |
|                      | Nitrogen content.....  | a/   | 163,537          |  | (X)       |       | (X)       |      | (X)     |
|                      | Phosphoric oxide content (100 percent P2O5).....   | a/   | 703,265          | a/   | 716,726   |       | (X)       |      | (X)     |
| 3253124211           | Diammonium phosphates:   |      |                  |  |           |       |           |      |         |
|                      | Gross weight.....  | a/r/ | 3,096,963        | b/r/   | 3,095,263 | b/    | 458,667   |      | 286,334 |
|                      | Nitrogen content.....  | a/   | 610,232          |  | (X)       |       | (X)       |      | (X)     |
|                      | Phosphoric oxide content (100 percent P2O5).....   | a/r/ | 1,428,427        | a/r/   | 1,406,707 |       | (X)       |      | (X)     |
| 3253124222           | Normal, enriched, concentrated, and other ammonium phosphates and other phosphatic fertilizer materials: |      |                  |  |           |       |           |      |         |
|                      | Gross weight.....  | a/   | 480,425          | a/   | 397,324   | b/r/  | 67,135    |      | 121,770 |
|                      | Nitrogen content.....  |      | (X)              |  | (X)       |       | (X)       |      | (X)     |
|                      | Phosphoric oxide content (100 percent P2O5).....   | a/   | 216,372          |  | 198,155   |       | (X)       |      | (X)     |
| 3251881100           | Sulfuric acid (100 percent): 5/  |      |                  |  |           |       |           |      |         |
|                      | Total gross.....   | a/   | 10,618,163       | b/   | 2,966,588 | b/    | 155,311   | a/   | 397,881 |
|                      | By feedstock:  |      |                  |  |           |       |           |      |         |
| 3251881111           | Elemental sulfur.....  | a/   | 9,182,954        | b/   | 1,807,494 | c/    | 92,818    |      | (X)     |
| 3251881121           | Smelting metallic sulfide ore.....   |      | 625,348          |  | 588,160   |       | 15,200    |      | (X)     |
| 3251881131           | Decomposition of alkylation and other spent acid.....  | a/   | 626,728          | a/   | 431,020   | b/    | 40,262    |      | (D)     |
| 3251881141           | Other.....   | a/   | 183,133          | a/   | 139,914   | b/    | 7,031     |      | (X)     |
|                      | By grade:  |      |                  |  |           |       |           |      |         |
| 3251881212           | Oleum grades.....  | b/   | 397,885          | b/   | 256,589   | b/    | 12,452    | b/   | 25,792  |
| 3251881231           | Other than oleum grades.....   | a/   | 10,220,278       | b/   | 2,709,999 | b/    | 142,859   | a/   | 372,089 |
| 3251881311           | Spent acid fortified in contact units and included in above production data.....                         |      | (D)              |  | (X)       |       | (X)       |      | (D)     |
|                      | Total new acid 7/.....   |      | 9,991,435        |  | (X)       |       | (X)       |      | (X)     |
| <b>THIRD QUARTER</b> |  |      |                  |  |           |       |           |      |         |
|                      | Ammonia:   |      |                  |  |           |       |           |      |         |
| 3253111120           | Synthetic, anhydrous (100 percent).....  | a/   | 2,544,050        | b/r/   | 872,215   | c/r/  | 190,211   | b/   | 374,252 |
| 3253111121           | Fertilizer use.....  | a/   | 2,264,007        | b/r/   | 776,863   | c/r/  | 171,381   | b/   | 320,309 |
| 3253111131           | Other uses.....  | b/r/ | 280,043          | c/   | 95,352    | c/    | 18,830    | c/r/ | 53,943  |

Table 2b. Production, Shipments, Consumption, and Stocks of Fertilizer Materials and Related Products: 2003  
 [Quantity in short tons. Value in thousands of dollars]

| Product code  |  |    | Total production | Total shipments including interplant transfers |           | Value        | Stocks 1/  |
|---|--|----|------------------|--|-----------|--------------|------------|
|   |  |    |                  | Quantity                                       |           |              |            |
| Ammonium nitrate (100 percent):                             |  |    |                  |  |           |              |            |
| 3253111201  | Original melt liquor 2/.....   | b/ | 1,477,703        | b/   | 797,914   | b/ 133,843   | a/ 138,406 |
| 3253111211  | Consumed in the manufacture of other nitrogen solutions (e.g., CAN17, AN20, AAN).....                    |    | 21,904           |  | (X)       | (X)          | (D)        |
| 3253111216  | Liquor consumed in the manufacture of urea-ammonium nitrate solutions.....                               | a/ | 722,832          |  | (X)       | (X)          | a/ 38,349  |
| 3253111221  | High density prill and granular.....   | a/ | 197,321          | a/   | 194,750   | a/r/ 40,406  | a/ 33,141  |
| 3253111226  | Low density prill and grained.....   | b/ | 390,790          | c/   | 403,175   | c/ 65,662    | c/ 34,004  |
| 3253111231  | All other (e.g., liquor sales, etc.).....  | b/ | 144,856          | b/   | 87,758    | b/ 11,407    | (D)        |
| 3253111240  | Ammonium sulfate (100 percent).....  |    | 657,420          | b/r/   | 622,580   | b/r/ 72,424  | 107,325    |
| 3253111241  | Synthetic (direct synthesis from sulfuric acid and ammonia).....   |    | (D)              |  | (D)       | (D)          | 7,100      |
| 3253111246  | Byproduct 3/.....  |    | (D)              |  | (D)       | (D)          | 100,225    |
| Nitrogen solutions, including mixtures (100 percent N)..... |  |    |                  |  |           |              |            |
| 3253111250  | Ammonium nitrate/urea solutions.....   | a/ | 769,875          |  | 742,435   | 167,253      | 95,948     |
| 3253111251  | All other solutions 4/.....  | a/ | 750,175          | a/   | 723,999   | a/ 164,567   | a/ 88,076  |
| 3253111256  |  | b/ | 19,700           | b/   | 18,436    | 2,686        | 7,872      |
| 3253111111  | Nitric acid (100 percent) 5/.....  | b/ | 1,672,665        | c/r/   | 449,869   | b/r/ 46,647  | (X)        |
| 3253114101  | Urea original melt liquor.....   | a/ | 1,551,227        | a/   | 1,039,932 | a/r/ 149,572 | b/ 160,018 |
| 3253114111  | Consumed in the manufacture of urea-ammonium nitrate solutions.....                                      |    | 568,022          |  | 40,779    | 7,619        | (D)        |
| 3253114121  | Prills.....  | a/ | 233,446          | a/r/   | 251,688   | b/r/ 46,826  | b/ 69,042  |
| 3253114131  | Granular.....  | a/ | 712,433          | a/   | 712,028   | b/r/ 82,715  | a/ 72,892  |
| 3253114141  | All other (liquor sales, melamine, feedstock, other).....  |    | 37,326           |  | 35,437    | 12,412       | (D)        |
| 3253121100  | Phosphoric acid (100 percent P2O5).....  |    | 3,115,925        |  | 1,043,564 | r/ 298,236   | 176,915    |
| By use:   |  |    |                  |  |           |              |            |
| 3253121211  | Fertilizer.....  | a/ | 2,895,044        |  | 908,234   | b/r/ 233,742 | a/ 163,797 |
| 3253121222  | Feed and other 6/.....   | r/ | 220,881          | r/   | 135,330   | b/r/ 64,494  | 13,118     |
| By grade:   |  |    |                  |  |           |              |            |
| 3253121311  | Ortho (less than 65 percent P2O5).....   | a/ | 2,717,325        |  | 672,054   | b/ 189,234   | a/ 153,081 |
| 3253121321  | Super (more than 65 percent P2O5) 6/.....  |    | 398,600          | r/   | 371,510   | r/ 109,002   | 23,834     |
| 3253124100  | Superphosphate and other phosphatic fertilizer materials:  |    |                  |  |           |              |            |
|   | Gross weight.....  |    | 4,631,523        | r/   | 4,787,531 | r/ 743,901   | 498,752    |
|   | Nitrogen content.....  |    | (X)              |  | (X)       | (X)          | (X)        |
|   | Phosphoric oxide content (100 percent P2O5).....   |    | 2,203,067        |  | 2,327,235 | (X)          | (X)        |
| 3253124131  | Monoammonium phosphates:   |    |                  |  |           |              |            |
|   | Gross weight.....  | a/ | 1,325,354        | a/   | 1,433,936 | b/ 234,493   | 110,904    |
|   | Nitrogen content.....  | a/ | 141,552          |  | (X)       | (X)          | (X)        |
|   | Phosphoric oxide content (100 percent P2O5).....   | a/ | 677,226          | a/   | 727,789   | (X)          | (X)        |
| 3253124211  | Diammonium phosphates:   |    |                  |  |           |              |            |
|   | Gross weight.....  | a/ | 2,950,078        | b/r/   | 3,064,316 | a/r/ 465,759 | 295,196    |
|   | Nitrogen content.....  | a/ | 530,536          |  | (X)       | (X)          | (X)        |
|   | Phosphoric oxide content (100 percent P2O5).....   | a/ | 1,380,768        | a/   | 1,458,672 | (X)          | (X)        |
| 3253124222  | Normal, enriched, concentrated, and other ammonium phosphates and other phosphatic fertilizer materials: |    |                  |  |           |              |            |

Table 2b. Production, Shipments, Consumption, and Stocks of Fertilizer Materials and Related Products: 2003  
 [Quantity in short tons. Value in thousands of dollars]

| Product code                           |   | Total production | Total shipments including interplant transfers |           |              | Stocks 1/    |
|--|---|------------------|--|-----------|--------------|--------------|
|  |   |                  | Quantity                                       | Value     |              |              |
|  | Gross weight.....   | 356,091          |  | 289,279   | b/r/ 43,649  | 92,652       |
|  | Nitrogen content.....   | (X)              |  | (X)       | (X)          | (X)          |
|  | Phosphoric oxide content (100 percent P2O5).....                                      | a/ 145,073       | a/   | 140,774   | (X)          | (X)          |
| 3251881100                             | Sulfuric acid (100 percent): 5/   |                  |  |           |              |              |
|  | Total gross.....  | a/ 10,302,008    | b/   | 2,999,716 | b/ 161,732   | a/ 381,608   |
|  | By feedstock:   |                  |  |           |              |              |
| 3251881111                             | Elemental sulfur.....   | a/ 8,763,100     | b/   | 1,764,988 | c/ 92,893    | (X)          |
| 3251881121                             | Smelting metallic sulfide ore.....  | 616,135          |  | 624,375   | 17,939       | (X)          |
| 3251881131                             | Decomposition of alkylation and other spent acid.....                                 | a/ 717,878       | b/   | 470,016   | b/ 43,659    | (D)          |
| 3251881141                             | Other.....  | a/ 204,895       | a/   | 140,337   | b/ 7,241     | (X)          |
|  | By grade:   |                  |  |           |              |              |
| 3251881212                             | Oleum grades.....   | b/ 398,683       | b/   | 296,062   | b/ 14,765    | b/ 27,035    |
| 3251881231                             | Other than oleum grades.....  | a/ 9,903,325     | b/   | 2,703,654 | b/ 146,967   | a/ 354,573   |
| 3251881311                             | Spent acid fortified in contact units and included in above production data.....      | (D)              |  | (X)       | (X)          | (D)          |
|  | Total new acid 7/.....  | 9,584,130        |  | (X)       | (X)          | (X)          |
| <b>SECOND QUARTER</b>                  |   |                  |  |           |              |              |
| Ammonia:                               |   |                  |  |           |              |              |
| 3253111120                             | Synthetic, anhydrous (100 percent).....   | a/ 3,014,981     | b/r/   | 1,234,535 | c/r/ 264,866 | b/ 319,794   |
| 3253111121                             | Fertilizer use.....   | a/ 2,667,360     | b/r/   | 1,090,205 | c/r/ 236,305 | b/ 270,598   |
| 3253111131                             | Other uses.....   | b/r/ 347,621     | b/   | 144,330   | c/ 28,561    | c/r/ 49,196  |
| Ammonium nitrate (100 percent):        |   |                  |  |           |              |              |
| 3253111201                             | Original melt liquor 2/.....  | a/ 1,588,941     | b/   | 997,810   | b/ 151,089   | a/r/ 142,026 |
| 3253111211                             | Consumed in the manufacture of other nitrogen solutions (e.g., CAN17, AN20, AAN)..... | r/ 16,483        |  | (X)       | (X)          | (D)          |
| 3253111216                             | Liquor consumed in the manufacture of urea-ammonium nitrate solutions.....            | a/ 708,806       |  | (X)       | (X)          | a/r/ 35,524  |
| 3253111221                             | High density prill and granular.....  | a/ 331,971       | a/   | 383,047   | a/ 56,824    | a/ 33,073    |
| 3253111226                             | Low density prill and grained.....  | b/ 409,794       | b/   | 382,764   | c/ 60,938    | b/ 46,862    |
| 3253111231                             | All other (e.g., liquor sales, etc.).....   | b/r/ 121,887     | b/r/   | 100,991   | b/r/ 13,699  | (D)          |
| 3253111240                             | Ammonium sulfate (100 percent).....   | 736,611          | b/r/   | 726,078   | b/r/ 77,584  | 102,467      |
| 3253111241                             | Synthetic (direct synthesis from sulfuric acid and ammonia).....                      | (D)              |  | (D)       | (D)          | 11,154       |
| 3253111246                             | Byproduct 3/.....   | (D)              |  | (D)       | (D)          | 91,313       |
| Nitrogen solutions, including mixtures |   |                  |  |           |              |              |
| 3253111250                             | (100 percent N).....  | 734,700          |  | 736,347   | 162,055      | 100,051      |
| 3253111251                             | Ammonium nitrate/urea solutions.....  | a/ 712,371       | a/   | 718,831   | a/ 159,453   | a/ 90,642    |
| 3253111256                             | All other solutions 4/.....   | b/ 22,329        | b/   | 17,516    | b/ 2,602     | 9,409        |
| 3253111111                             | Nitric acid (100 percent) 5/.....   | b/ 1,771,120     | c/r/   | 459,267   | b/r/ 49,359  | (X)          |
| 3253114101                             | Urea original melt liquor.....  | a/ 1,699,114     | a/   | 1,209,936 | a/r/ 190,214 | r/ 201,896   |
| 3253114111                             | Consumed in the manufacture of urea-ammonium nitrate solutions.....                   | 543,956          |  | 63,961    | 16,163       | (D)          |
| 3253114121                             | Prills.....   | a/ 321,383       | a/r/   | 321,412   | a/r/ 60,699  | (D)          |
| 3253114131                             | Granular.....   | a/ 804,510       | a/   | 792,439   | r/ 99,560    | a/ 70,013    |
| 3253114141                             | All other (liquor sales, melamine, feedstock, other).....                             | 29,265           |  | 32,124    | 13,792       | (D)          |

Table 2b. Production, Shipments, Consumption, and Stocks of Fertilizer Materials and Related Products: 2003  
 [Quantity in short tons. Value in thousands of dollars]

| Product code         |  | Total production | Total shipments including interplant transfers |      |         | Stocks 1/  |
|----------------------|--|------------------|--|------|---------|------------|
|                      |  |                  | Quantity                                       |      | Value   |            |
| 3253121100           | Phosphoric acid (100 percent P2O5).....  | 3,022,975        | 1,036,641                                      | r/   | 293,510 | 176,977    |
|                      | By use:  |                  |  |      |         |            |
| 3253121211           | Fertilizer.....  | a/ 2,778,997     | 884,425  | b/r/ | 226,577 | a/ 163,025 |
| 3253121222           | Feed and other 6/.....   | r/ 243,978       | r/ 152,216                                     | r/   | 66,933  | 13,952     |
|                      | By grade:  |                  |  |      |         |            |
| 3253121311           | Ortho (less than 65 percent P2O5).....   | a/ 2,640,668     | 668,576  | b/r/ | 191,708 | a/ 158,490 |
| 3253121321           | Super (more than 65 percent P2O5) 6/.....  | 382,307          | r/ 368,065                                     | r/   | 101,802 | 18,487     |
| 3253124100           | Superphosphate and other phosphatic fertilizer materials:  |                  |  |      |         |            |
|                      | Gross weight.....  | 4,432,268        | r/ 4,273,072                                   | r/   | 665,368 | 643,523    |
|                      | Nitrogen content.....  | 649,594          | (X)  | (X)  | (X)     | (X)        |
|                      | Phosphoric oxide content (100 percent P2O5).....   | 2,117,380        | 2,063,690                                      | (X)  | (X)     | (X)        |
| 3253124131           | Monoammonium phosphates:   |                  |  |      |         |            |
|                      | Gross weight.....  | a/ 1,317,673     | a/r/ 1,354,795                                 | b/r/ | 220,387 | 167,531    |
|                      | Nitrogen content.....  | a/ 151,967       | (X)  | (X)  | (X)     | (X)        |
|                      | Phosphoric oxide content (100 percent P2O5).....   | a/ 677,090       | a/ 688,056                                     | (X)  | (X)     | (X)        |
| 3253124211           | Diammonium phosphates:   |                  |  |      |         |            |
|                      | Gross weight.....  | a/ 2,706,951     | b/r/ 2,511,226                                 | b/r/ | 386,705 | 385,755    |
|                      | Nitrogen content.....  | a/ 480,619       | (X)  | (X)  | (X)     | (X)        |
|                      | Phosphoric oxide content (100 percent P2O5).....   | a/ 1,272,696     | a/ 1,192,087                                   | (X)  | (X)     | (X)        |
| 3253124222           | Normal, enriched, concentrated, and other ammonium phosphates and other phosphatic fertilizer materials: |                  |  |      |         |            |
|                      | Gross weight.....  | 407,644          | 407,051  | a/r/ | 58,276  | 90,237     |
|                      | Nitrogen content.....  | (X)              | (X)  | (X)  | (X)     | (X)        |
|                      | Phosphoric oxide content (100 percent P2O5).....   | a/ 167,594       | 183,547  | (X)  | (X)     | (X)        |
| 3251881100           | Sulfuric acid (100 percent): 5/  |                  |  |      |         |            |
|                      | Total gross.....   | a/ 10,169,850    | b/ 2,847,471                                   | b/   | 154,757 | a/ 432,996 |
|                      | By feedstock:  |                  |  |      |         |            |
| 3251881111           | Elemental sulfur.....  | a/ 8,640,292     | b/ 1,681,354                                   | c/   | 88,866  | (X)        |
| 3251881121           | Smelting metallic sulfide ore.....   | 592,449          | 517,989  |      | 13,813  | (X)        |
| 3251881131           | Decomposition of alkylation and other spent acid.....  | a/ 729,722       | a/ 502,005                                     | b/   | 44,664  | (D)        |
| 3251881141           | Other.....   | a/ 207,387       | a/ 146,123                                     | b/   | 7,414   | (X)        |
|                      | By grade:  |                  |  |      |         |            |
| 3251881212           | Oleum grades.....  | b/ 358,487       | b/ 235,274                                     | b/   | 11,395  | b/ 30,035  |
| 3251881231           | Other than oleum grades.....   | a/ 9,811,363     | b/ 2,612,197                                   | b/   | 143,362 | a/ 402,961 |
| 3251881311           | Spent acid fortified in contact units and included in above production data.....                         | (D)              | (X)  | (X)  | (X)     | (D)        |
|                      | Total new acid 7/.....   | 9,440,128        | (X)  | (X)  | (X)     | (X)        |
| <b>FIRST QUARTER</b> |  |                  |  |      |         |            |
|                      | Ammonia:   |                  |  |      |         |            |
| 3253111120           | Synthetic, anhydrous (100 percent).....  | a/ 2,685,777     | b/ 1,093,205                                   | c/   | 236,881 | b/ 306,990 |
| 3253111121           | Fertilizer use.....  | a/ 2,315,650     | b/ 910,214                                     | c/   | 201,856 | (D)        |
| 3253111131           | Other uses.....  | b/r/ 370,127     | b/ 182,991                                     | b/   | 35,025  | (D)        |



Table 2b. Production, Shipments, Consumption, and Stocks of Fertilizer Materials and Related Products: 2003  
 [Quantity in short tons. Value in thousands of dollars]

| Product code  |  |    | Total production | Total shipments including interplant transfers |           | Stocks 1/               |
|---|--|----|------------------|--|-----------|-------------------------|
|   |  |    |                  | Quantity                                       | Value     |                         |
| Ammonium nitrate (100 percent):                             |  |    |                  |  |           |                         |
| 3253111201  | Original melt liquor 2/.....   | a/ | 1,506,816        | b/   | 959,495   | b/ 134,148 a/r/ 205,725 |
| 3253111211  | Consumed in the manufacture of other nitrogen solutions (e.g., CAN17, AN20, AAN).....                    |    | 23,166           |  | (X)       | (X) (D)                 |
| 3253111216  | Liquor consumed in the manufacture of urea-ammonium nitrate solutions.....                               | a/ | 558,461          |  | (X)       | a/r/ 48,937             |
| 3253111221  | High density prill and granular.....   |    | 432,920          | a/   | 393,211   | a/ 51,846 94,737        |
| 3253111226  | Low density prill and grained.....   | b/ | 389,683          | b/   | 369,725   | b/ 56,926 c/ 36,717     |
| 3253111231  | All other (e.g., liquor sales, etc.).....  | b/ | 102,586          | b/   | 116,484   | b/ 12,895 (D)           |
| 3253111240  | Ammonium sulfate (100 percent).....  |    | 714,718          | a/r/   | 796,882   | b/r/ 78,935 128,206     |
| 3253111241  | Synthetic (direct synthesis from sulfuric acid and ammonia).....   |    | (D)              |  | (D)       | (D) 11,667              |
| 3253111246  | Byproduct 3/.....  |    | (D)              |  | (D)       | (D) 116,539             |
| Nitrogen solutions, including mixtures (100 percent N)..... |  |    |                  |  |           |                         |
| 3253111250  | Ammonium nitrate/urea solutions.....   | a/ | 549,794          |  | 513,437   | 117,013 145,561         |
| 3253111251  | All other solutions 4/.....  | b/ | 528,428          | a/   | 495,911   | a/ 114,537 a/ 136,016   |
| 3253111256  |  | b/ | 21,366           | b/   | 17,526    | b/ 2,476 9,545          |
| 3253111111  | Nitric acid (100 percent) 5/.....  | b/ | 1,703,452        | c/r/   | 458,032   | b/r/ 49,238 (X)         |
| 3253114101  | Urea original melt liquor.....   | a/ | 1,505,927        | a/   | 1,121,229 | a/r/ 168,024 192,605    |
| 3253114111  | Consumed in the manufacture of urea-ammonium nitrate solutions.....                                      |    | 425,638          |  | 58,113    | 13,699 (D)              |
| 3253114121  | Prills.....  | a/ | 333,549          |  | 329,288   | a/ 57,899 (D)           |
| 3253114131  | Granular.....  | a/ | 725,833          | a/   | 714,824   | r/ 86,581 a/ 64,211     |
| 3253114141  | All other (liquor sales, melamine, feedstock, other).....  |    | 20,907           |  | 19,004    | 9,845 (D)               |
| 3253121100  | Phosphoric acid (100 percent P2O5).....  |    | 3,151,043        |  | 1,038,337 | r/ 288,126 174,648      |
| By use:   |  |    |                  |  |           |                         |
| 3253121211  | Fertilizer.....  | a/ | 2,950,981        |  | 916,281   | b/r/ 228,866 a/ 165,800 |
| 3253121222  | Feed and other 6/.....   | r/ | 200,062          | r/   | 122,056   | r/ 59,260 r/ 8,848      |
| By grade:   |  |    |                  |  |           |                         |
| 3253121311  | Ortho (less than 65 percent P2O5).....   | a/ | 2,715,114        |  | 680,137   | b/r/ 185,982 a/ 150,536 |
| 3253121321  | Super (more than 65 percent P2O5) 6/.....  |    | 435,929          | r/   | 358,200   | r/ 102,144 24,112       |
| 3253124100  | Superphosphate and other phosphatic fertilizer materials:  |    |                  |  |           |                         |
|   | Gross weight.....  |    | 4,578,084        | r/   | 4,530,557 | r/ 671,663 546,165      |
|   | Nitrogen content.....  |    | 676,477          |  | (X)       | (X) (X)                 |
|   | Phosphoric oxide content (100 percent P2O5).....   |    | 2,168,796        |  | 2,210,683 | (X) (X)                 |
| 3253124131  | Monoammonium phosphates:   |    |                  |  |           |                         |
|   | Gross weight.....  | a/ | 1,296,472        | a/r/   | 1,277,847 | b/r/ 199,499 173,738    |
|   | Nitrogen content.....  | a/ | 149,442          |  | (X)       | (X) (X)                 |
|   | Phosphoric oxide content (100 percent P2O5).....   | a/ | 661,080          | a/   | 658,528   | (X) (X)                 |
| 3253124211  | Diammonium phosphates:   |    |                  |  |           |                         |
|   | Gross weight.....  | a/ | 2,795,801        | b/r/   | 2,856,266 | b/r/ 417,968 a/ 213,242 |
|   | Nitrogen content.....  | a/ | 501,483          |  | (X)       | (X) (X)                 |
|   | Phosphoric oxide content (100 percent P2O5).....   | a/ | 1,303,968        | a/   | 1,372,521 | (X) (X)                 |
| 3253124222  | Normal, enriched, concentrated, and other ammonium phosphates and other phosphatic fertilizer materials: |    |                  |  |           |                         |

Table 2b. Production, Shipments, Consumption, and Stocks of Fertilizer Materials and Related Products: 2003  
 [Quantity in short tons. Value in thousands of dollars]

| Product code | Total production   | Total shipments including interplant transfers |              | Stocks 1/  |            |
|--------------|--|--|--------------|------------|------------|
|              |  | Quantity                                       | Value        |            |            |
|              | Gross weight.....  | 485,811  | 396,444 a/r/ | 54,196     | 159,185    |
|              | Nitrogen content.....  | (X)  | (X)          | (X)        | (X)        |
|              | Phosphoric oxide content (100 percent P2O5).....                                 | 203,748  | 179,634      | (X)        | (X)        |
| 3251881100   | Sulfuric acid (100 percent): 5/  |  |              |            |            |
|              | Total gross.....   | a/ 10,053,895                                  | b/ 2,784,708 | b/ 139,607 | a/ 410,319 |
|              | By feedstock:  |  |              |            |            |
| 3251881111   | Elemental sulfur.....  | a/ 8,784,471                                   | b/ 1,666,991 | b/ 85,316  | (X)        |
| 3251881121   | Smelting metallic sulfide ore.....   | 597,588  | 615,494      | 15,779     | (X)        |
| 3251881131   | Decomposition of alkylation and other spent acid.....                            | a/ 472,312                                     | a/ 372,258   | b/ 31,755  | (D)        |
| 3251881141   | Other.....   | b/ 199,524                                     | c/ 129,965   | (S)        | (X)        |
|              | By grade:  |  |              |            |            |
| 3251881212   | Oleum grades.....  | b/ 415,218                                     | b/ 279,792   | c/ 12,586  | b/ 22,208  |
| 3251881231   | Other than oleum grades.....   | a/ 9,638,677                                   | b/ 2,504,916 | b/ 127,021 | a/ 388,111 |
| 3251881311   | Spent acid fortified in contact units and included in above production data..... | (D)  | (X)          | (X)        | (D)        |
|              | Total new acid 7/.....   | 9,581,583                                      | (X)          | (X)        | (X)        |

D Withheld to avoid disclosing data for individual companies. N Nitrogen content. P2O5 Phosphoric oxide content. r/Revised by 5 percent or more from previously published data. S Does not meet publication standards. X Not applicable.

1/Stocks held by producing companies include amounts held at their nonproducing locations.

2/Production represents total amount of ammonium nitrate produced including amounts for fertilizer, explosives, and other uses, and amounts consumed in manufacturing other products, such as nitrogen solutions. Stocks represent total stocks held by producing companies, including stock of original melt liquor and amounts (liquid and solid) reported as fertilizer, explosives, and other uses.

3/Excludes coke oven byproduct ammonium sulfate.

4/Solutions containing two or more products such as (a) ammonia, ammonium nitrate; (b) ammonia, urea; (c) ammonia, ammonium nitrate, urea.

5/Includes data for government-owned, contractor-operated plants.

6/Product code 3253121222 includes product codes 3253121111 and 3253121221, and product code 3253121321 includes product codes 3253121111 and 3253121322.

7/Total new acid equals total gross acid, minus fortified spent acid and sulfuric acid produced from the decomposition of alkylation acids and other spent acids and sludge acid.

Note: Percent of estimation of each item is indicated as follows: a/10 to 25 percent of this item is estimated. b/26 to 50 percent of this item is estimated. c/Over 50 percent of this item is estimated.

Table 3. Quantity of Production, Exports, Imports, and Apparent Consumption of Fertilizer Materials: 2004 and 2003  
 [Quantity in thousands of metric tons]

| Product code | Product description  | Production | Exports of domestic merchandise 1/ | Percent exports to production | Imports for consumption 2/ | Apparent consumption 3/ | Percent imports to apparent consumption |
|--------------|--|------------|------------------------------------|-------------------------------|----------------------------|-------------------------|---|
| <b>2004</b>  |  |            |                                    |                               |                            |                         |   |
| 3253111120   | Ammonia, synthetic anhydrous.....                            | 10,938.9   | 463.3                              | 4.2                           | 7,177.9                    | 17,653.5                | 40.7                                    |
| 3253111201   | Ammonium nitrate, original solution.....                     | 6,558.5    | 110.0                              | 1.7                           | 1,056.0                    | 7,504.5                 | 14.1                                    |
| 3253111250   | Nitrogen solutions, ammonium nitrate/<br>urea solutions..... | 2,960.0    | 33.3                               | 1.1                           | 2,011.8                    | 4,938.4                 | 40.7                                    |
| 3253111240   | Ammonium sulfate.....  | 2,726.1    | 717.6                              | 26.3                          | 325.8                      | 2,334.3                 | 14.0                                    |
| 3253114100   | Urea.....  | 5,755.4    | 704.2                              | 12.2                          | 4,934.7                    | 9,985.9                 | 49.4                                    |
| 3253121100   | Phosphoric acid.....   | 11,514.8   | 298.8                              | 2.6                           | 108.3                      | 11,324.2                | 1.0                                     |
| 3253124211   | Diammonium phosphates.....                                   | 10,088.7   | 5,040.9                            | 50.0                          | 60.6                       | 5,108.5                 | 1.2                                     |
| 3251881100   | Sulfuric acid, gross.....                                    | 38,029.4   | 204.6                              | 0.5                           | 2,400.5                    | 40,225.3                | 6.0                                     |
| <b>2003</b>  |  |            |                                    |                               |                            |                         |   |
| 3253111120   | Ammonia, synthetic anhydrous.....                            | 10,278.9   | 348.0                              | 3.4                           | 5,410.1                    | 15,341.0                | 35.3                                    |
| 3253111201   | Ammonium nitrate, original solution.....                     | 5,740.6    | 42.1                               | 0.7                           | 897.2                      | 6,595.7                 | 13.6                                    |
| 3253111250   | Nitrogen solutions, ammonium nitrate/<br>urea solutions..... | 2,597.4    | 34.4                               | 1.3                           | r/ 1,312.8                 | r/ 3,875.8              | r/ 33.9                                 |
| 3253111240   | Ammonium sulfate.....  | 2,604.3    | 621.7                              | 23.9                          | r/ 185.9                   | r/ 2,168.5              | r/ 8.6                                  |
| 3253114100   | Urea.....  | 5,783.2    | 722.6                              | 12.5                          | 3,752.2                    | 8,812.7                 | 42.6                                    |
| 3253121100   | Phosphoric acid.....   | 11,373.8   | (D)                                | (D)                           | 71.4                       | (D)                     | (D)                                     |
| 3253124211   | Diammonium phosphates.....                                   | 10,478.0   | 4,677.3                            | 44.6                          | 54.8                       | 5,855.4                 | 0.9                                     |
| 3251881100   | Sulfuric acid, gross.....                                    | 37,325.8   | 166.8                              | 0.4                           | 718.4                      | 37,877.3                | 1.9                                     |

D Withheld to avoid disclosing data for individual companies. r/Revised by 5 percent or more from previously published data.

1/Source: Census Bureau report EM 545, U.S. Exports.

2/Source: Census Bureau report IM 145, U.S. Imports for Consumption.

3/Apparent consumption is derived by subtracting exports from manufacturers' production plus imports. Apparent consumption does not include any adjustments for changes in inventories.

Note: For comparison of North American Industry Classification System (NAICS)-based product codes, HTSUSA import codes, and Schedule B export codes, see Table 4.

Table 4. Comparison of North American Industry Classification System (NAICS)-Based Product Codes with Schedule B Export Codes, and HTSUSA Import Codes: 2004

| Product code | Product description                                      | Export code 1/                               | Import code 2/                               |
|--------------|--|--|--|
| 3253111120   | Anhydrous ammonia, synthetic.....                        | 2814.10.0000                                 | 2814.10.0000                                 |
| 3253111201   | Ammonium nitrate, original solution.....                 | 3102.30.0000                                 | 3102.30.0000                                 |
| 3253111240   | Ammonium sulfate.....                                    | 3102.21.0000                                 | 3102.21.0000                                 |
| 3253111251   | Nitrogen solutions, ammonium nitrate/urea solutions..... | 3102.80.0000                                 | 3102.80.0000                                 |
| 3253114100   | Urea.....  | 3102.10.0000                                 | 3102.10.0000                                 |
| 3253121100   | Phosphoric acid.....                                     | 2809.20.0010<br>2809.20.0020<br>2809.20.0030 | 2809.20.0010<br>2809.20.0020<br>2809.20.0030 |
| 3253124111   | Normal and enriched superphosphates.....                 | 3103.10.0010                                 | 3103.10.0010                                 |
| 3253124121   | Concentrated superphosphates.....                        | 3103.10.0020                                 | 3103.10.0020                                 |
| 3253124211   | Diammonium phosphates.....                               | 3105.30.0000                                 | 3105.30.0000                                 |
| 3251881100   | Sulfuric acid.....                                       | 2807.00.0000                                 | 2807.00.0000                                 |

1/Source: 2004 edition, Harmonized System-based Schedule B, Statistical Classification of Domestic and Foreign Commodities Exported from the United States.

2/Harmonized Tariff Schedule of the United States, Annotated (2004).

# Appendix.

## General CIR Survey Information, Explanation of General Terms and Historical Note

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### GENERAL

The CIR program has been providing monthly, quarterly, and annual measures of industrial activity for many years. Since 1904, with its cotton and fats and oils surveys, the CIR program has formed an essential part of an integrated statistical system involving the quinquennial economic census, manufacturing sector, and the annual survey of manufactures. The CIR surveys, however, provide current statistics at a more detailed product level than either of the other two statistical programs.

The primary objective of the CIR program is to produce timely, accurate data on production and shipments of selected products. The data are used to satisfy economic policy needs and for market analysis, forecasting, and decision making in the private sector. The product-level data generated by these surveys are used extensively by individual firms, trade associations, and market analysts in planning or recommending marketing and legislative strategies, particularly if their industry is significantly affected by foreign trade. Although production and shipments information are the two most common data items collected, the CIR program collects other measures also such as inventories, orders, and consumption. These surveys measure manufacturing activity in important commodity areas such as textiles and apparel, chemicals, primary metals, computer and electronic components, industrial equipment, aerospace equipment, and consumer goods.

The CIR program uses a unified data collection, processing, and publication system. The U.S. Census Bureau updates the survey panels for most reports annually and reconciles the estimates to the results of the broader-based annual survey of manufactures and the economic census, manufacturing sector. The manufacturing sector provides a complete list of all producers of the products covered by the CIR program and serves as the primary source for CIR sampling. Where a small number of producers exist, CIR surveys cover all known producers of a product. However, when the number of producers is too large, cutoff and random sampling techniques are used. Surveys are continually reviewed and modified to provide the most up-to-date information on products produced. The CIR program includes a group of mandatory and voluntary surveys. Typically the monthly and quarterly surveys are conducted on a voluntary basis. Those companies that choose not to respond to the voluntary surveys are required to submit a mandatory annual counterpart corresponding to the more frequent survey.

### NORTH AMERICAN INDUSTRY CLASSIFICATION SYSTEM (NAICS), 1997

The adoption of the North American Industry Classification System (NAICS) in the 1997 Economic Census has had a major impact on the comparability of current and historic data. Approximately half of the industries in the manufacturing sector of NAICS do not have comparable industries in the Standard Industrial Classification (SIC) system that was used in the past.

While most of the change affecting the manufacturing sector was change within the sector, some industries left manufacturing and others came into manufacturing. Prominent among those that left manufacturing are logging and portions of publishing. Prominent among the industries that came into the manufacturing sector are bakeries, candy stores where candy is made on the premises, custom tailors, makers of custom draperies, and tire retreading. The net effect of the classification changes are such that if the 1997 value of shipments data for all manufacturers were tabulated on an SIC basis, it would be approximately 3 percent higher.

Listed below are the NAICS sectors:

- 21 Mining
- 22 Utilities
- 23 Construction
- 31-33 Manufacturing
- 42 Wholesale Trade
- 44-45 Retail Trade
- 48-49 Transportation and Warehousing
- 51 Information
- 52 Finance and Insurance
- 53 Real Estate and Rental and Leasing
- 54 Professional, Scientific, and Technical Services
- 55 Management of Companies and Enterprises
- 56 Administrative and Support and Waste Management and Remediation Services
- 61 Educational Services
- 62 Health Care and Social Assistance
- 71 Arts, Entertainment, and Recreation
- 72 Accommodation and Food Services
- 81 Other Services (except Public Administration)

(Not listed above are the Agriculture, Forestry, Fishing, and Hunting sector (NAICS 11), partially covered by the census of agriculture conducted by the U.S. Department of Agriculture, and the Public Administration sector (NAICS 92), covered by the census of governments conducted by the Census Bureau.)

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The 20 NAICS sectors are subdivided into 96 subsectors (three-digit codes), 313 industry groups (four-digit codes), and, as implemented in the United States, 1170 industries (five- and six-digit codes).

## FUNDING

The Census Bureau funds most of the surveys. However, a number of surveys are paid for either fully or partially by other Federal Government agencies or private trade associations. A few surveys are mandated, but all are authorized by Title 13 of the United States Code.

## RELIABILITY OF DATA

Survey error may result from several sources including the inability to obtain information about all cases in the survey, response errors, definitional difficulties, differences in the interpretation of questions, mistakes in recording or coding the reported data, and other errors of collection, response, coverage, and estimation. These nonsampling errors also occur in complete censuses. Although no direct measurement of the biases due to these nonsampling errors has been obtained, precautionary steps were taken in all phases of the collection, processing, and tabulation of the data in an effort to minimize their influence.

A major source of bias in the published estimates is the imputing of data for nonrespondents, for late reporters, and for data that fail logic edits. Missing figures are imputed based on period-to-period movements shown by reporting firms. A figure is considered to be an impute if the value was not directly reported on the questionnaire, directly derived from other reported items, directly available from supplemental sources, or obtained from the respondent during the analytical review phase. Imputation generally is limited to a maximum of 10 percent for any one data cell. Figures with imputation rates greater than 10 percent are suppressed or footnoted. The imputation rate is not an explicit indicator of the potential error in published figures due to nonresponse, because the actual yearly movements for nonrespondents may or may not closely agree with the imputed movements. The range of difference between the actual and imputed figures is assumed to be small. The degree of uncertainty regarding the accuracy of the published data increases as the percentage of imputation increases. Figures with imputation rates above 10 percent should be used with caution.

## DATA REVISIONS

Statistics for previous years may be revised as the result of corrected figures from respondents, late reports for which imputations were originally made, or other corrections. Data that have been revised by more than 5 percent from previously published data are indicated by footnotes.

## DISCLOSURE

The Census Bureau collects the CIR data under the authority of Title 13, United States Code, which specifies that the information can only be used for statistical purposes and cannot be published or released in any manner that would identify a person, household, or establishment. "D" indicates that data in the cell have been suppressed to avoid disclosure of information pertaining to individual companies.

## EXPLANATION OF GENERAL TERMS

**Capacity.** The maximum quantity of a product that can be produced in a plant in 1 day if operating for 24 hours. Includes the capacity of idle plants until the plant is reported to be destroyed, dismantled, or abandoned.

**Consumption.** Materials used in producing or processing a product or otherwise removing the product from the inventory.

**Exports.** Includes all types of products shipped to foreign countries, or to agents or exporters for reshipment to foreign countries.

**Gross shipments.** The quantity or value of physical shipments from domestic establishments of all products sold, transferred to other establishments of the same company, or shipped on consignment, whether for domestic or export sale or use. Shipments of products purchased for resale are omitted. Shipments of products made under toll arrangements are included.

**Interplant transfers.** Shipments to other domestic plants within a company for further assembly, fabrication, or manufacture.

**Inventories.** The quantity or value of finished goods, work in progress, and materials on hand.

**Machinery in place.** The number of machines of a particular type in place as of a particular date whether the machinery was used for production, prototype, or sampling, or was idle. Machinery in place includes all machinery set up in operating positions.

**Net receipts.** Derived by subtracting the materials held at the end of the previous month from the sum of materials used during the current month.

**Production.** The total volume of products produced, including: products sold; products transferred or added to inventory after adjustments for breakage, shrinkage, and obsolescence, plus any other inventory adjustment; and products that undergo further manufacture at the same establishment.

**Quantities produced and consumed.** Quantities of each type of product produced by a company for internal consumption within that same company.

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**Quantity and value of new orders.** The sales value of orders received during the current reporting period for products and services to be delivered immediately or at some future date. Also represents the net sales value of contract change documents that increase or decrease the sales value of the orders to which they are related, when the parties concerned are in substantial agreement as to the amount involved. Included as orders are only those that are supported by binding legal documents such as signed contracts or letter contracts.

**Quantity and value of shipments.** The figures on quantity and value of shipments represent physical shipments of all products sold, transferred to other establishments of the same company, or shipped on consignment, whether for domestic or export sale. The value represents the net sales price, f.o.b. plant, to the customer or branch to which the products are shipped, net of discounts, allowances, freight charges, and

returns. Shipments to a company's own branches are assigned the same value as comparable appropriate allocation of company overhead and profit. Products bought and resold without further manufacture are excluded.

**Stocks.** Total quantity of ending finished inventory.

**Unfilled orders (backlog).** Calculated by adding net new orders and subtracting net sales from the backlog at the end of the preceding year.

#### **HISTORICAL NOTE**

Data on inorganic fertilizer chemicals and sulfuric acid have been collected by the Census Bureau since 1941. Historical data may be obtained from Current Industrial Reports (called Facts for Industry before 1959) available at your local Federal Depository Library.