

# Inorganic Fertilizer Materials and Related Products

1998

Issued January 2000

MA325B(98)-1

*(Formerly Series No. MA28B)*

Information about the scope of the survey, methodology, explanation of terms and historical notes for this survey may be found in the introduction of the 1997 Manufacturing Profiles, issued August 1999.

Current data are released electronically on Internet for all individual surveys as they become available. Use: <http://www.census.gov/econ/www/manumenu.html>. Individual reports can be accessed by choosing "Current Industrial Reports (CIR's)," clicking on "Report Number Index;" from the "Industrial Products by Numeric Index," choose the survey of interest. Follow the menu to view the PDF file or to download the worksheet file (WK format) to your personal computer.

These data are also available through the U.S. Department of Commerce and STAT-USA Electronic Bulletin Board by subscription. To access, dial 202-482-3870 and follow the prompts to register. Also, you may call 202-482-1986 or 1-800-STAT-USA, for further information. The Internet address is: [www.stat-usa.gov/](http://www.stat-usa.gov/).

NOTE: Data are now published on the new North American Industry Classification System (NAICS) basis and therefore are not always comparable to the old Standard Industrial Classification (SIC)

code. For further information on NAICS, see [www.census.gov/epcd/www/naics.html](http://www.census.gov/epcd/www/naics.html).

## Summary of Findings

United States production of sulfuric acid in 1998 totaled 48,512.5 thousand short tons (100 percent H<sub>2</sub>SO<sub>4</sub>), approximately 1 percent above the 1997 figure of 47,929.2 thousand short tons. Value of shipments, including interplant transfers in 1998 amounted to \$683.0 million, compared to the 1997 value of \$576.5 million.

Value of shipments of synthetic ammonia, nitric acid, and ammonium compounds decreased 17 percent to \$2,951.4 million in 1998, from the 1997 level of \$3,478.3 million. Shipments of urea decreased 15 percent to \$667.1 million in 1998, and shipments of phosphoric acid increased 7.2 percent to \$1,514.7 million.

Production of superphosphate and other phosphatic fertilizer materials for 1998 decreased 2 percent to 10,258.5 thousand short tons (100 percent P<sub>2</sub>O<sub>5</sub>). Value of shipments amounted to \$3,046.5 million in 1998, compared to the 1997 value of \$3,691.8 million.

Current  
Industrial  
Reports

Address inquiries concerning these data to Primary Goods Industries Branch, Manufacturing and Construction Division (MCD), Washington, DC 20233-6900, or call Walter Hunter, 301-457-4798.

For mail or fax copies of this publication, please contact the Information Services Center, MCD, Washington, DC 20233-6900, or call 301-457-4673.

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: 1998 to 1994  
 [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)
325311120	Ammonia, synthetic anhydrous 1/.....	1998.....	18,474.9	8,803.1	1,214.2
		1997.....	17,890.7	8,588.6	1,577.9
		1996.....	17,922.8	9,919.1	1,689.7
		1995.....	17,402.2	9,722.8	1,661.6
		1994.....	17,869.1	10,525.3	1,540.8
3253111201	Ammonium nitrate, original melt liquor 2/.....	1998.....	9,078.6	(X)	(X)
		1997.....	8,604.4	(X)	(X)
		1996.....	8,497.8	(X)	(X)
		1995.....	8,489.1	(X)	(X)
		1994.....	8,567.6	(X)	(X)
3253111240	Ammonium sulfate 1/.....	1998.....	2,787.4	2,861.5	181.3
		1997.....	2,710.7	2,544.0	180.6
		1996.....	2,662.0	2,543.5	213.6
		1995.....	2,646.7	2,551.7	195.3
		1994.....	2,584.1	2,484.9	168.8
3253114000	Urea (100 percent).....	1998.....	8,865.0	5,585.8	667.1
		1997.....	8,189.9	5,342.0	772.3
		1996.....	8,548.3	5,781.4	911.9
		1995.....	8,116.7	5,242.8	848.3
		1994.....	8,360.3	5,456.9	726.1
3253111111	Nitric acid (100 percent).....	1998.....	9,285.1	1,506.1	159.9
		1997.....	9,432.7	1,804.5	216.2
		1996.....	9,204.8	1,460.9	196.9
		1995.....	8,839.0	1,291.1	168.2
		1994.....	8,713.7	931.8	116.5
3253121000	Phosphoric acid (100 percent P2O5).....	1998.....	13,891.2	4,649.4	1,514.7
		1997.....	13,158.7	4,587.5	1,405.1
		1996.....	13,210.0	4,401.8	1,226.8
		1995.....	13,133.8	4,409.3	1,219.5
		1994.....	12,792.0	4,227.7	1,103.1
3251881000	Sulfuric acid, gross (100 percent).....	1998.....	48,512.5	13,042.7	683.0
		1997.....	47,929.2	12,961.7	r/ 576.5
		1996.....	47,770.3	13,014.8	571.7
		1995.....	47,519.3	12,677.7	539.3
		1994.....	44,861.9	11,767.2	461.9
3253124000	Superphosphates and other fertilizer materials (100 percent P2O5).....	1998.....	10,258.5	10,292.9	3,046.5
		1997.....	10,473.2	10,379.9	3,691.8
		1996.....	10,547.2	10,500.9	3,927.6
		1995.....	10,364.2	10,231.0	3,594.3
		1994.....	10,041.6	9,966.9	2,920.7

r/Revised by 5 percent or more from previously published data. X Not applicable.

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 2. Production and Shipments of Fertilizer Materials: 1998 and 1997  
 [Quantity in thousands of short tons. Value in millions of dollars]

Product code	Chemical and basis	1998			1997		
		Total production	Total shipments, including interplant transfers		Total production	Total shipments, including interplant transfers	
		Quantity	Value	Quantity	Value	Quantity	Value
3251881000	Sulfuric acid, gross (new and fortified).....	48,512.5	13,042.7	683.0	47,929.2	12,961.7	r/ 576.5
	By feedstock:						
3251881111	Elemental sulfur.....	39,519.0	7,832.4	440.9	38,957.7	7,637.4	r/ 389.9
3251881121	Smelting metallic sulfide ore.....	3,744.6	3,268.8	87.4	3,847.1	3,378.9	r/ 57.6
3251881131	Decomposition of alkylation and other spent acid.....	4,852.4	1,660.4	134.8	4,774.5	1,700.9	114.5
3251881141	Other.....	396.5	281.1	19.8	350.0	244.6	14.5
	By grade:						
3251881211	Oleum under 40 percent.....	(D)	(D)	(D)	r/ 1,424.6	r/ 857.3	r/ 46.7
3251881221	Oleum 40 percent and over 40 percent.....	(D)	(D)	(D)	r/ 338.5	r/ 224.8	r/ 15.8
3251881231	Other than oleum 1/.....	46,684.5	11,925.3	615.3	46,166.1	11,879.7	r/ 513.9
3253111000	Synthetic ammonia, nitric acid, and ammonium compounds.....	(X)	(X)	2,951.4	(X)	(X)	3,478.3
3253111111	Nitric acid (100 percent HNO3) 2/.....	9,285.1	1,506.1	159.9	9,432.7	1,804.5	216.2
3253111120	Ammonia, synthetic anhydrous (100 percent NH3) 3/.....	18,474.9	8,803.1	1,214.2	17,890.7	8,588.6	1,577.9
3253111121	Fertilizer use.....	15,860.6	7,238.8	1,014.7	15,348.7	6,816.7	1,285.0
3253111131	Other uses.....	2,614.3	1,564.4	199.5	2,542.1	1,771.9	293.0
	Ammonium nitrate:						
3253111201	Original melt liquor (100 percent NH4 NO3) 4/.....	9,078.6	4,519.4	597.3	8,604.4	4,365.9	614.3
	Consumed in the manufacture of:						
3253111211	Other nitrogen solutions (100 percent NH4 NO3).....	253.2	(X)	(X)	245.3	(X)	(X)
3253111216	Ammonium nitrate-urea solutions.....	4,039.7	(X)	(X)	3,799.9	(X)	(X)
3253111221	High density prill and granular.....	2,605.3	2,490.9	291.9	2,528.2	2,444.9	r/ 318.5
3253111226	Low density prill and grained.....	1,657.1	1,630.4	246.8	1,653.3	1,619.1	250.4
3253111231	All other (liquor sales, etc.).....	523.4	398.0	58.5	377.7	r/ 301.9	45.4
3253111240	Ammonium sulfate, synthetic and byproduct other than coke oven (100 percent (NH4)2 SO4) /3.....	2,787.4	2,861.5	181.3	2,710.7	2,544.0	180.6
3253111241	Synthetic.....	(D)	(D)	(D)	(D)	(D)	(D)
3253111246	Byproduct, other than coke oven.....	(D)	(D)	(D)	(D)	(D)	(D)
3253111250	Nitrogen solutions (100 percent N), including mixtures containing urea.....	3,888.1	3,575.0	756.2	3,627.0	3,214.6	815.6
3253111251	Ammonium nitrate/urea solutions.....	3,803.8	3,491.0	739.6	3,495.6	3,083.9	787.9
3253111256	All other compounds and solutions (e.g. CAN17, AN20, AAN and others) and solutions containing free ammonia, including data for solutions containing two or more products such as (a) ammonia, ammonium-nitrate; (b) ammonia, urea; (c) ammonia, ammonium-nitrate, urea.....	84.3	84.0	16.6	131.4	130.6	27.7
3253111261	Other ammonium compounds, including ammonium chloride, gray and white.....	(X)	(X)	42.6	(X)	(X)	73.7

Table 2. Production and Shipments of Fertilizer Materials: 1998 and 1997  
 [Quantity in thousands of short tons. Value in millions of dollars]

Product code	Chemical and basis	Total production	1998		Total production	1997	
			Quantity	Value		Quantity	Value
3253114000	Urea original melt liquor (100 percent).....	8,865.0	5,585.8	667.1	8,189.9	5,342.0	772.3
	Consumed in the manufacture of:						
3253114011	Urea-ammonium nitrate solutions.....	3,032.4	(X)	(X)	2,776.5	(X)	(X)
3253114021	Prills.....	2,010.2	1,900.2	237.2	2,455.1	2,412.5	348.7
3253114031	Granular.....	3,544.1	3,435.7	402.2	2,696.3	2,665.1	390.0
3253114041	All other (liquor sales, melamine, feedstock, other).....	278.3	249.9	27.7	262.0	264.4	33.6
3253121000	Phosphoric acid (100 percent P2O5).....	13,891.2	4,649.4	1,514.7	13,158.7	4,587.5	1,405.1
3253121111	Thermal.....	310.8	179.0	115.8	299.1	169.2	117.9
3253121121	Wet.....	13,580.4	4,470.3	1,398.8	12,859.6	4,418.3	1,287.2
	By use:						
3253121211	Fertilizer.....	12,692.6	(D)	(D)	11,979.7	(D)	(D)
3253121221	Feed and other.....	887.7	(D)	(D)	880.0	(D)	(D)
	By grade:						
3253121311	Ortho (less than 65 percent P2O5).....	12,028.0	3,271.9	1,010.1	11,411.1	3,251.2	897.1
3253121321	Super (65 percent or more P2O5).....	1,552.3	1,198.4	388.8	1,448.5	1,167.1	390.1
3253144000	Superphosphates and other phosphatic fertilizer materials:						
	Gross weight 5/.....	19,678.0	19,659.9	(X)	21,190.7	20,490.4	(X)
	Phosphoric oxide content (100 percent P2O5).....	10,258.5	10,292.9	3,046.5	10,473.2	10,379.9	3,691.8
3253144111, 121	Normal, enriched, and concentrated superphosphates:						
	Gross weight.....	1,469.6	1,341.3	(X)	1,619.6	1,428.5	(X)
	Phosphoric oxide content (100 percent P2O5).....	656.5	633.2	203.8	728.0	675.9	r/ 218.5
3253144131	Monoammonium phosphates:						
	Gross weight.....	3,769.4	3,758.3	(X)	3,499.5	3,496.1	(X)
	Phosphoric oxide content (100 percent P2O5).....	2,017.5	2,007.9	596.7	1,852.5	1,863.1	667.3
3253144211	Diammonium phosphates:						
	Gross weight.....	13,790.6	13,944.8	(X)	15,539.1	15,005.3	(X)
	Phosphoric oxide content (100 percent P2O5).....	7,224.1	7,299.0	2,131.1	7,631.7	7,564.3	2,704.6
3253144221, 231	Other ammonium phosphates and other phosphatic fertilizer materials:						
	Gross weight.....	648.4	615.6	(X)	532.6	560.4	(X)
	Phosphoric oxide content (100 percent P2O5).....	360.4	352.7	115.0	261.1	276.6	101.4

D Withheld to avoid disclosing data for individual companies. r/Revised by 5 percent or more from previously published data. X Not applicable.

1/Data for "Other than oleum" include chamber process acid.

2/Includes unspecified amounts of nitric acid produced but not withdrawn from the system.

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

4/Represents total amount of original melt liquor produced, including amounts used for fertilizer, explosives, and other uses and amounts consumed in manufacturing other products such as nitrogen solutions (product code 3253111250).

5/Value for gross weight and (100 percent P2O5) are the same value for each 3253144000 product code.

Table 3. Quantities of Selected Fertilizer Materials Produced and Consumed: 1998 and 1997  
 [Quantity in thousands of short tons]

Product code	Product description	Basis	Consumed in producing plants	
			1998	1997
3251881000	Sulfuric acid, gross (new and fortified).....	100 percent H2SO4.....	34,998.9	34,165.4
3253111111	Nitric acid.....	100 percent HNO3.....	8,353.8	8,399.0
3253111120	Ammonia, synthetic anhydrous 1/.....	100 percent HN3.....	9,646.8	8,049.2
Ammonium nitrate:				
3253111211	Other nitrogen solutions 2/.....	100 percent NH4NO3.....	247.2	245.3
3253111216	Urea-ammonium nitrate solutions.....	.....do.....	4,039.6	3,805.7
3253111221	High density prill and granular.....	.....do.....	(D)	(D)
3253111226	Low density prill and grained.....	.....do.....	(D)	(D)
3253111231	All other (liquor sales, etc.).....	.....do.....	22.4	r/ 13.7
3253111240	Ammonium sulfate 1/.....	100 percent (NH4)2 SO4..	68.4	70.3
Urea:				
3253114011	Urea-ammonium nitrate solutions 2/.....	100 percent urea.....	3,032.4	2,776.5
3253114021	Prills.....	.....do.....	(D)	(D)
3253114031	Granular.....	.....do.....	(D)	(D)
3253114041	All other (liquor sales, melamine, feedstock, other).....	.....do.....	(D)	(D)
3253121000	Phosphoric acid .....	100 percent P2O5.....	9,126.5	8,708.5
3253121111	Thermal.....	.....do.....	(D)	(D)
3253121121	Wet.....	.....do.....	(D)	(D)
3253144000	Superphosphates and other phosphatic fertilizers materials.....	.....do.....	38.2	47.2

D Withheld to avoid disclosing data for individual companies. 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/Excludes amount converted to solid nitrate.

Table 4. Summary of Selected Fertilizer Materials, Interplant Transfers: 1998 and 1997  
 [Quantity in thousands of short tons. Value in millions of dollars]

Product code	Product description	Basis	1998		1997	
			Quantity	Value	Quantity	Value
3251881000	Sulfuric acid, gross (new and fortified).....	100 percent H2SO4.....	2,356.9	47.6	2,121.2	r/ 51.0
3251881211	Oleum under 40 percent.....	.....do.....	(D)	(D)	(D)	(D)
3251881221	Oleum 40 percent or more.....	.....do.....	(D)	(D)	(D)	(D)
3251881231	Other than oleum 1/.....	.....do.....	(D)	(D)	(D)	(D)
3253111120	Ammonia, synthetic anhydrous 2/.....	100 percent NH3.....	641.5	79.7	903.8	137.9
3253111121	Fertilizer use.....	.....do.....	(D)	(D)	(D)	(D)
3253111131	Other uses.....	.....do.....	(D)	(D)	(D)	(D)
3253111240	Ammonium sulfate 2/.....	100 percent (NH4)2 SO4...	(D)	(D)	(D)	(D)
3253111111	Nitric acid.....	100 percent HNO3.....	(D)	(D)	(D)	(D)
3253114000	Urea.....	100 percent Urea.....	(D)	(D)	(D)	(D)
3253121000	Phosphoric acid .....	100 percent P2O5.....	1,944.6	595.6	1,998.7	485.9
3253144000	Superphosphates and other phosphatic fertilizer materials.....	.....do.....	(D)	(D)	(D)	(D)

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

1/Data for "Other than oleum" includes chamber process acid.

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

**Table 5. Total Shipments (Including Interplant Transfers) of Sulfuric Acid by States: 1998 and 1997**

[Quantity in thousands of short tons of 100 percent H<sub>2</sub>SO<sub>4</sub>. Value in millions of dollars]

State	1998		1997	
	Quantity	Value	Quantity	Value
United States.....	13,042.7	683.0	12,961.7	576.5
Arizona.....	(D)	(D)	(D)	(D)
California.....	779.2	(D)	848.5	(D)
Florida.....	947.5	30.5	950.0	30.0
Georgia.....	447.7	20.4	r/ 419.9	r/ 18.7
Illinois.....	(D)	(D)	(D)	(D)
Louisiana.....	1,979.0	130.5	1,936.9	92.4
New Jersey.....	(D)	(D)	(D)	(D)
Ohio.....	(D)	(D)	(D)	(D)
Texas.....	2,012.7	141.8	1,884.2	115.6
Virginia.....	(D)	(D)	(D)	(D)
Washington.....	(D)	(D)	(D)	(D)
Other states.....	4,043.0	218.8	4,009.8	r/ 178.5

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

**Table 6. Production of New Sulfuric Acid by States: 1998 and 1997**

[Thousands of short tons of 100 percent H<sub>2</sub>SO<sub>4</sub>]

State	1998 1/	1997 1/
United States.....	43,660.1	43,154.8
Arizona.....	2,201.4	2,361.5
California.....	1,120.9	1,206.8
Florida.....	21,282.7	20,989.5
Georgia.....	632.2	595.3
Illinois.....	(D)	(D)
Louisiana.....	6,322.1	6,103.5
Missouri.....	(D)	(D)
New Jersey.....	(D)	(D)
New Mexico.....	(D)	(D)
Ohio.....	(D)	(D)
Oklahoma and Texas.....	4,469.2	4,140.9
Virginia.....	(D)	(D)
Washington.....	(D)	(D)
Other states.....	4,763.9	4,796.1

D Withheld to avoid disclosing data for individual companies.

1/Includes data for government-owned, privately-operated plants.

Table 7. Primary Production of Inorganic Fertilizer Chemicals by Quarter: 1998 and 1997  
[Thousands of short tons]

Product code	Product description	Year	Total	First quarter	Second quarter	Third quarter	Fourth quarter
3253111000	Ammonia, synthetic anhydrous (100 percent percent NH3):	Production..... 1998.....	18,474.9	4,696.6	4,689.2	4,537.3	4,551.8
		..... 1997.....	17,890.7	4,405.0	4,466.7	4,403.3	4,615.7
		Stocks on hand, end of quarter..... 1998.....	(NA)	(D)	(D)	(D)	(D)
		..... 1997.....	(NA)	1,554.5	822.2	1,456.0	2,045.3
3253111120	Fertilizer use:	Production..... 1998.....	15,860.6	4,059.0	3,995.6	3,877.8	3,928.2
		..... 1997.....	15,348.7	3,852.8	3,850.9	3,736.2	3,908.8
		Stocks on hand, end of quarter..... 1998.....	(NA)	(D)	(D)	(D)	(D)
		..... 1997.....	(NA)	(D)	(D)	(D)	(D)
3253111131	Other uses:	Production..... 1998.....	2,614.3	637.6	693.6	659.5	623.6
		..... 1997.....	2,542.1	552.2	615.8	667.2	706.9
		Stocks on hand, end of quarter..... 1998.....	(NA)	(D)	(D)	(D)	(D)
		..... 1997.....	(NA)	(D)	(D)	(D)	(D)
3253111201	Ammonium nitrate (100 percent NH4NO3): Original melt liquor 1/:	Production..... 1998.....	9,078.6	2,234.3	2,361.8	2,162.0	2,320.6
		..... 1997.....	8,604.4	2,194.5	2,206.5	2,009.7	2,193.7
		Stocks on hand, end of quarter..... 1998.....	(NA)	(D)	(D)	(D)	(D)
		..... 1997.....	(NA)	284.9	255.6	301.5	218.8
3253111211	Total production: Consumed in the manufacture of other nitrogen solutions (e.g. CAN17, AN20, AAN):	Production..... 1998.....	253.2	62.3	69.7	69.0	52.3
		..... 1997.....	245.3	63.0	60.9	52.7	68.7
		Stocks on hand, end of quarter..... 1998.....	(NA)	(D)	(D)	(D)	(D)
		..... 1997.....	(NA)	(D)	(D)	(D)	(D)
3253111216	Liquor consumed in the manufacture of urea-ammonium nitrate solutions:	Production..... 1998.....	4,039.7	913.5	1,033.3	992.3	1,100.6
		..... 1997.....	3,799.9	997.3	955.5	942.6	904.5
		Stocks on hand, end of quarter..... 1998.....	(NA)	58.1	20.8	40.0	78.3
		..... 1997.....	(NA)	32.1	31.0	32.1	62.0
3253111221	High density prill and granular:	Production..... 1998.....	2,605.3	705.7	747.5	536.0	616.2
		..... 1997.....	2,528.2	697.5	675.4	509.5	645.8
		Stocks on hand, end of quarter..... 1998.....	(NA)	26.3	26.4	49.4	38.0
		..... 1997.....	(NA)	46.2	42.4	(D)	35.6
3253111226	Low density prill and grained:	Production..... 1998.....	1,657.1	418.5	381.9	442.0	414.6
		..... 1997.....	1,653.3	336.5	418.4	417.3	481.1
		Stocks on hand, end of quarter..... 1998.....	(NA)	(D)	(D)	(D)	(D)
		..... 1997.....	(NA)	(D)	(D)	(D)	(D)
3253111231	All other (e.g. liquor sales, etc.)	Production..... 1998.....	523.4	134.4	129.4	122.7	136.9
		..... 1997.....	377.7	100.1	96.3	87.7	93.6
		Stocks on hand, end of quarter..... 1998.....	(NA)	(D)	(D)	10.3	(D)
		..... 1997.....	(NA)	12.7	(D)	(D)	3.4
3253111240	Ammonium sulfate (100 percent (NH4)2 SO4):	Production..... 1998.....	2,787.4	698.1	719.8	672.1	697.4
		..... 1997.....	2,701.7	593.8	709.4	696.7	701.8
		Stocks on hand, end of quarter..... 1998.....	(NA)	212.1	119.7	79.8	212.1
		..... 1997.....	(NA)	138.3	100.2	220.4	266.6
3253111111	Nitric acid (100 percent HNO3):	Production..... 1998.....	9,285.1	2,284.4	2,349.5	2,240.0	2,411.2
		..... 1997.....	9,432.7	2,426.3	2,421.1	2,185.6	2,399.7
		Stocks on hand, end of quarter..... 1998.....	(NA)	(X)	(X)	(X)	(X)
		..... 1997.....	(NA)	(X)	(X)	(X)	(X)



Table 7. Primary Production of Inorganic Fertilizer Chemicals by Quarter: 1998 and 1997  
 [Thousands of short tons]

Product code	Product description	Year	Total	First quarter	Second quarter	Third quarter	Fourth quarter	
3253111250	Nitrogen solutions, including mixtures containing urea (100 percent N):	Production.....	1998.....	3,907.1	880.4	919.6	977.4	1,129.7
			1997.....	3,627.0	978.6	935.0	844.0	869.3
		Stocks on hand, end of quarter.....	1998.....	(NA)	(D)	(D)	(D)	(D)
			1997.....	(NA)	461.2	308.0	473.8	425.3
3253111251	Solutions containing ammonium nitrate/urea:	Production.....	1998.....	3,822.8	861.4	896.4	956.2	1,108.7
			1997.....	3,495.6	946.7	895.0	803.6	850.3
		Stocks on hand, end of quarter.....	1998.....	(NA)	(D)	(D)	(D)	(D)
			1997.....	(NA)	455.8	304.3	462.9	420.2
3253111256	All other solutions:	Production.....	1998.....	84.3	19.0	23.2	21.2	21.0
			1997.....	131.4	31.9	40.1	40.4	19.0
		Stocks on hand, end of quarter.....	1998.....	(NA)	(D)	(D)	(D)	(D)
			1997.....	(NA)	5.5	3.7	10.9	5.2
3253121000	Phosphoric acid (100 percent P2O5):	Production.....	1998.....	13,864.2	3,637.5	3,451.2	3,384.5	3,390.9
			1997.....	13,158.8	3,214.1	3,251.2	3,212.5	3,481.0
		Stocks on hand, end of quarter.....	1998.....	(NA)	203.7	210.7	198.2	224.7
			1997.....	(NA)	208.1	220.2	216.7	234.9
3253121111	Thermal:	Production.....	1998.....	283.9	78.7	78.7	60.6	65.9
			1997.....	299.1	130.0	56.4	56.6	56.2
		Stocks on hand, end of quarter.....	1998.....	(NA)	7.3	9.0	(S)	5.4
			1997.....	(NA)	12.6	10.3	8.2	8.1
3253121121	Wet:	Production.....	1998.....	13,580.3	3,558.8	3,372.5	3,324.0	3,325.1
			1997.....	12,859.6	3,084.1	3,194.8	3,155.9	3,424.8
		Stocks on hand, end of quarter.....	1998.....	(NA)	196.4	201.7	198.2	219.3
			1997.....	(NA)	195.5	210.0	208.5	226.9
3253121211	By use: Fertilizer:	Production.....	1998.....	12,692.6	3,334.4	3,143.7	3,116.2	3,098.3
			1997.....	11,979.7	2,876.4	2,966.7	2,930.1	3,206.5
		Stocks on hand, end of quarter.....	1998.....	(NA)	(D)	(D)	(D)	(D)
			1997.....	(NA)	(D)	(D)	(D)	(D)
3253121221	Feed and other:	Production.....	1998.....	887.7	224.4	228.8	207.8	226.8
			1997.....	880.0	207.7	228.1	225.8	218.4
		Stocks on hand, end of quarter.....	1998.....	(NA)	(D)	(D)	(D)	(D)
			1997.....	(NA)	(D)	(D)	(D)	(D)
3253121311	By grade: Ortho (less than 65 percent P2O5):	Production.....	1998.....	12,028.0	3,178.5	2,987.8	2,928.1	2,933.7
			1997.....	11,411.1	2,737.6	2,827.7	2,791.3	3,054.5
		Stocks on hand, end of quarter.....	1998.....	(NA)	172.4	(D)	175.0	197.0
			1997.....	(NA)	170.9	184.7	182.8	198.9
3253121321	Super (more than 65 percent P2O5):	Production.....	1998.....	1,552.3	380.3	384.7	395.9	391.4
			1997.....	1,448.5	346.4	367.2	364.6	370.4
		Stocks on hand, end of quarter.....	1998.....	(NA)	23.4	(D)	20.9	22.3
			1997.....	(NA)	24.7	25.2	24.0	28.0

Table 7. Primary Production of Inorganic Fertilizer Chemicals by Quarter: 1998 and 1997  
[Thousands of short tons]

Product code	Product description	Year	Total	First quarter	Second quarter	Third quarter	Fourth quarter
3253114000	Urea original melt liquor (100 percent urea):						
	Production.....	1998.....	8,974.6	2,137.0	2,201.4	2,338.2	2,298.1
		1997.....	r/ 8,304.1	r/ 2,253.5	r/ 2,134.2	r/ 1,952.4	r/ 1,964.1
	Stocks on hand, end of quarter.....	1998.....	(NA)	188.2	211.1	278.0	275.4
		1997.....	(NA)	373.7	296.1	328.2	259.7
	Total production:						
3253114011	Consumed in the manufacture of urea-ammonium nitrate solutions:						
	Production.....	1998.....	3,142.1	691.5	724.1	812.4	914.0
		1997.....	2,890.7	755.0	722.5	707.4	705.8
	Stocks on hand, end of quarter.....	1998.....	(NA)	(D)	(D)	(D)	(D)
		1997.....	(NA)	(D)	(D)	(D)	(D)
3253114021	Prills:						
	Production.....	1998.....	2,010.2	501.5	508.4	491.5	508.9
		1997.....	r/ 2,455.1	r/ 722.9	r/ 665.1	r/ 524.4	r/ 542.7
	Stocks on hand, end of quarter.....	1998.....	(NA)	57.2	77.0	107.5	116.0
		1997.....	(NA)	87.2	44.0	47.3	82.9
3253114031	Granular:						
	Production.....	1998.....	3,544.1	878.5	885.0	972.5	808.1
		1997.....	2,696.3	697.6	680.4	665.0	653.2
	Stocks on hand, end of quarter.....	1998.....	(NA)	38.2	84.9	145.5	130.0
		1997.....	(NA)	139.1	109.5	130.6	72.9
3253114041	All other (solid and solution):						
	Production.....	1998.....	278.3	65.5	83.9	61.8	67.1
		1997.....	r/ 262.0	r/ 77.9	r/ 66.2	r/ 55.4	r/ 62.4
	Stocks on hand, end of quarter.....	1998.....	(NA)	(D)	(D)	(D)	(D)
		1997.....	(NA)	(D)	(D)	(D)	(D)

D Withheld to avoid disclosing data for individual companies. NA Not available. r/Revised 5 percent or more from previously published data. S Does not meet publication standards. X Not applicable.

1/Represents total amount of original solution produced, including amounts used for fertilizer, explosive, and other uses and amounts consumed in manufacturing other products, such as nitrogen solutions.

Note: The 1998 and 1997 stocks on hand, end of quarter, were originally published in the Current Industrial Report Series, MQ28B, "Fertilizer Materials." Detail may not add to total because of independent rounding.

Table 8. Production, Shipments, and Stocks of Superphosphates and Other Phosphatic Fertilizer Materials  
by Quarter: 1998 and 1997  
[Thousands of short tons]

Product code	Product description	Year	Total	First quarter	Second quarter	Third quarter	Fourth quarter
3253144000	Superphosphates and other phosphatic fertilizer materials:						
	Production (100 percent P2O5).....	1998.....	10,259.6	2,589.9	2,722.9	2,438.4	2,508.4
		1997.....	10,473.2	2,557.0	2,670.2	2,602.5	2,643.5
	Shipments, including interplant transfers (100 percent P2O5).....	1998.....	10,292.0	2,612.8	2,709.2	2,357.6	2,612.4
		1997.....	10,379.9	2,590.6	2,758.8	2,483.6	2,546.9
	Stocks on hand, end of quarter (gross weight).....	1998.....	(NA)	709.4	647.3	786.2	627.8
		1997.....	(NA)	669.3	569.9	513.7	771.3
3253144111, 121	Normal, concentrated, and enriched superphosphates: 1/						
	Production (100 percent P2O5).....	1998.....	657.4	176.5	194.3	177.7	108.9
		1997.....	728.0	164.6	195.9	202.0	165.5
	Shipments, including interplant transfers (100 percent P2O5).....	1998.....	632.3	178.6	171.9	173.0	108.7
		1997.....	675.9	153.3	193.8	206.1	122.6
	Stocks on hand, end of quarter (gross weight).....	1998.....	(NA)	83.8	117.0	99.2	90.5
		1997.....	(NA)	109.0	80.1	54.1	124.3
3253144131	Ammonium phosphates: Monoammonium phosphates:						
	Production (100 percent P2O5).....	1998.....	2,017.5	559.7	519.5	530.5	407.8
		1997.....	1,852.5	461.3	471.4	465.7	454.1
	Shipments, including interplant transfers (100 percent P2O5).....	1998.....	2,007.9	531.3	525.6	507.0	444.0
		1997.....	1,863.1	434.1	498.8	483.4	446.7
	Stocks on hand, end of quarter (gross weight).....	1998.....	(NA)	156.2	161.4	207.3	146.6
		1997.....	(NA)	174.4	134.8	88.8	120.4
3253144211	Diammonium phosphates:						
	Production (100 percent P2O5).....	1998.....	7,224.3	1,739.1	1,897.8	1,670.5	1,917.0
		1997.....	7,631.7	1,871.6	1,915.4	1,887.0	1,957.6
	Shipments, including interplant transfers (100 percent P2O5).....	1998.....	7,299.1	1,800.0	1,883.2	1,622.3	1,993.6
		1997.....	7,564.3	1,942.8	1,961.1	1,732.6	1,927.8
	Stocks on hand, end of quarter (gross weight).....	1998.....	(NA)	395.3	323.7	429.2	329.2
		1997.....	(NA)	298.3	287.9	288.2	470.6
3253144221, 231	Other ammonium phosphates and other phosphatic fertilizer materials: 2/						
	Production (100 percent P2O5).....	1998.....	360.4	114.7	111.3	59.7	74.7
		1997.....	261.1	59.5	87.5	47.8	66.3
	Shipments, including interplant transfers (100 percent P2O5).....	1998.....	352.7	102.9	128.5	55.2	66.2
		1997.....	276.6	60.4	105.2	61.4	49.7
	Stocks on hand, end of quarter (gross weight).....	1998.....	(NA)	74.1	45.1	50.4	61.6
		1997.....	(NA)	87.6	67.0	82.5	56.1

D Withheld to avoid disclosing data for individual companies. NA Not available.

1/"Normal and enriched superphosphates" (3253144111) is combined with "Concentrated superphosphates" (3253144121) to avoid disclosure of data for individual companies.

2/"Other ammonium phosphates" (3253144221) is combined with "Other phosphatic fertilizer materials" (3253144231) to avoid disclosure of data for individual companies.

Note: The 1998 and 1997 stocks on hand, end of quarter, were originally published in the Current Industrial Report Series, MQ28B, "Fertilizer Materials." Detail may not add to total due to independent rounding.

**Table 9. Production and Stocks of Sulfuric Acid by Process and by Quarter: 1998 and 1997**  
 [Thousands of short tons of 100 percent H<sub>2</sub>SO<sub>4</sub>]

Quarter and year	Production				Sulfuric acid produced through decomposition of alkylation and other spent acid 2/	Stocks (gross) at producing plants at end of period
	Sulfuric acid, gross, new and fortified					
	Total	Oleum grades	Other than oleum grades	New acid 1/		
1998						
Total.....	48,512.5	1,828.1	46,684.5	43,660.1	4,852.4	(NA)
First quarter.....	12,227.0	463.8	11,763.2	11,042.2	1,184.8	1,143.6
Second quarter.....	12,458.7	462.3	11,996.4	11,129.3	1,329.5	990.1
Third quarter.....	11,750.9	447.7	11,303.2	10,486.8	1,264.1	1,084.3
Fourth quarter.....	12,075.9	454.2	11,621.7	11,001.8	1,074.0	1,093.7
1997						
Total.....	47,929.2	r/ 1,763.1	46,166.1	43,154.8	4,774.5	(NA)
First quarter.....	11,611.1	r/ 416.9	11,194.2	10,320.6	1,290.6	777.3
Second quarter.....	11,956.7	r/ 454.4	11,502.2	10,737.9	1,218.7	679.5
Third quarter.....	12,229.5	r/ 464.2	11,765.3	10,944.6	1,285.0	723.9
Fourth quarter.....	12,131.9	r/ 427.6	11,704.3	11,151.7	980.1	893.0

NA Not available. r/Revised by 5 percent or more from previously published data.

1/Represents gross production of sulfuric acid less acid produced through decomposition and spent acid used in fortification.

2/Spent acid fortified by the addition of sulfur trioxide.

Note: Detail may not add to total because of independent rounding.

Table 10. Production, Exports, Imports, and Apparent Consumption of Fertilizer Materials: 1998 and 1997  
 [Quantity in thousands of metric tons]

Product code	Product description	Production (quantity)	Exports of domestic merchandise 1/		Percent exports to production (quantity)	Imports for consumption 2/		Apparent consumption 3/ (quantity)	Percent imports to apparent consumption (quantity)
			Quantity	Value		Quantity	Value		
1998									
3253111120	Ammonia, synthetic anhydrous.....	16,760.3	(D)	(NA)	(D)	(D)	(NA)	(D)	(D)
3253111201	Ammonium nitrate, original solution.....	8,236.1	54.8	(NA)	0.7	759.2	(NA)	8,940.5	8.5
3253111250	Nitrogen solutions, ammonium nitrate/urea solutions.....	3,527.3	52.6	(NA)	1.5	633.5	(NA)	4,108.2	15.4
3253111240	Ammonium sulfate.....	2,528.7	1,050.3	(NA)	41.5	318.5	(NA)	1,796.9	17.7
3253114000	Urea.....	8,042.3	840.6	(NA)	10.5	3,323.9	(NA)	10,525.7	31.6
3253121000	Phosphoric acid.....	12,602.0	(D)	(NA)	(D)	84.5	(NA)	(D)	(D)
3253144111	Normal and enriched superphosphate 4/.....	(D)	(D)	(NA)	(D)	(D)	(NA)	(D)	(D)
3253144121	Concentrated superphosphate 4/.....	1,333.2	622.5	(NA)	46.7	-	(NA)	710.7	-
3253144211	Diammonium phosphates.....	12,510.8	9,869.7	(NA)	78.9	43.9	(NA)	2,684.9	1.6
3251881000	Sulfuric acid, gross.....	44,010.3	155.5	(NA)	0.4	2,043.1	(NA)	45,897.9	4.5
1997									
3253111120	Ammonia, synthetic anhydrous.....	16,230.3	(D)	(NA)	(D)	(D)	(NA)	(D)	(D)
3253111201	Ammonium nitrate, original solution.....	7,805.9	47.5	(NA)	0.6	708.1	(NA)	8,466.6	8.4
3253111250	Nitrogen solutions, ammonium nitrate/urea solutions.....	3,290.4	57.5	(NA)	1.7	780.4	(NA)	4,013.3	19.4
3253111240	Ammonium sulfate.....	2,459.2	868.3	(NA)	35.3	478.4	(NA)	2,069.4	23.1
3253114000	Urea.....	7,429.8	932.7	(NA)	12.6	2,533.1	(NA)	9,030.2	28.1
3253121000	Phosphoric acid.....	11,937.5	(D)	(NA)	(D)	24.6	(NA)	(D)	(D)
3253144111	Normal and enriched superphosphate 4/.....	(D)	(D)	(NA)	(D)	(D)	(NA)	(D)	(D)
3253144121	Concentrated superphosphate 4/.....	1,469.3	592.2	(NA)	40.3	-	(NA)	877.1	-
3253144211	Diammonium phosphates.....	14,097.0	9,439.2	(NA)	67.0	56.6	(NA)	4,714.4	1.2
3251881000	Sulfuric acid, gross.....	43,481.1	117.8	(NA)	0.3	2,014.6	(NA)	45,377.9	4.4

- Represents zero. D Withheld to avoid disclosing data for individual companies. NA Not available.

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.

4/Product code (325314 4111) "Normal and enriched superphosphates" is combined with product code (325314 4211) "Concentrated sperphosphates" to avoid disclosing data for individual companies.

Note: For comparison of North American Industry Classification System-based codes (NAICS), HTSUSA import numbers, and Schedule B export numbers, see Table 11.

**Table 11. Comparison of North American Industry Classification-Based Product Codes with Schedule B Export Numbers, and HTSUSA Import Numbers: 1998**

Product code	Product description	Export number 1/	Import number 2/
3253111111	Nitric acid.....	(NA)	2808.00.0010
3253111120	Anhydrous ammonia, synthetic.....	2814.10.0000 2814.20.0000	2814.10.0000 2814.20.0000
3253111201	Ammonium nitrate, original solution.....	3102.30.0000	3102.30.0000
3253111240	Ammonium sulfate.....	3102.21.0000	3102.21.0000
3253111250	Nitrogen solutions, ammonium nitrate/ urea solutions.....	3102.80.0000	3102.80.0000
3253114000	Urea.....	3102.10.0000	3102.10.0000
3253144111	Normal and enriched superphosphates.....	3103.10.0010	3103.10.0010
3253144121	Concentrated superphosphates.....	3103.10.0020	3103.10.0020
3253144131	Monoammonium phosphates.....	(NA)	3105.40.0010
3253144211	Diammonium phosphates.....	3105.30.0000	3105.30.0000
3253121000	Phosphoric acid.....	2809.20.0010 2809.20.0020 2809.20.0030	2809.20.0010 2809.20.0020 2809.20.0030
3251881000	Sulfuric acid, gross.....	2807.00.0000	2807.00.0000

NA Not available.

1/Source: 1998 edition, Harmonized System-Based Schedule B, Statistical Classification of Domestic and Foreign Commodities Exported from the United States.

2/Source: Harmonized Tariff Schedule of the United States, Annotated (1998).