



MINERAL INDUSTRY SURVEYS

U. S. DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
WASHINGTON, D.C. 20241



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Explosives, Annual

APPARENT CONSUMPTION OF INDUSTRIAL EXPLOSIVES AND BLASTING AGENTS IN THE UNITED STATES, 1983

Apparent consumption of explosives and blasting agents in the United States decreased 5% to 3.7 billion pounds, according to the Bureau of Mines, U.S. Department of the Interior. Apparent consumption is measured by sales reported by manufacturers.

Permissibles consumption decreased 19% and other high explosives consumption decreased 10% compared with that of 1982.

All principal consuming industries except quarrying and nonmetal mining and construction used fewer quantities of explosives and blasting agents in 1983 than in 1982. About 57% of the total weight was utilized in the mining of coal. Nearly all permissibles and 60% of ammonium nitrate-fuel oil blasting agents and unprocessed ammonium nitrate were consumed in coal mining. Other high explosives were used primarily in quarrying and nonmetal mining (32%) and construction (23%). The major uses of water gels and slurries were in coal mining (34%) and quarrying and nonmetal mining (34%). Most of the new class of blasting agent, Higher Strength Blasting Agents, also was used in coal mining (65%) and quarrying and nonmetal mining (23%).

Seven States collectively consumed 57% of all explosives and blasting agents used in the United States in 1983. These were, in order of consumption, Kentucky, Pennsylvania, Alabama, Ohio, Wyoming, West Virginia, and Virginia.

Classification of Industrial Explosives and Blasting Agents

"Apparent consumption" of explosives and blasting agents, as used in this report, means sales reported to the Institute of Makers of Explosives (IME) by IME members and provided to the Bureau of Mines on a proprietary basis, plus sales by nonmember manufacturers reported directly to the Bureau on Form 6-1439-A. Classification of explosives and blasting agents by type and use appears as reported by the manufacturers. Sales of explosives and blasting agents imported by nonmanufacturers are not included, but may be locally important. Some quantities are published in such a way as to avoid disclosing company proprietary data.

The principal distinction between explosives and blasting agents is related to their sensitivity to initiation. Explosives are cap-sensitive but blasting agents are not, and therefore require a primer. Only "high" explosives are currently reported. "Low" explosives, which burn very rapidly but do not detonate, include principally black powder and propellants. Black powder has not been reported in industrial use since 1971. Both explosives and blasting agents vary widely in composition, although most blasting agents are essentially mixtures of ammonium nitrate plus a fuel.

Water gels and slurries may be either explosives or blasting agents, but for convenience are classified separately in a recognizable category.

The six product classifications used in this report are the same as those adopted by IME. These are as follows:

1. Permissibles.--Grades of high explosives approved by brand name by the U.S. Bureau of Mines or the Mine Safety and Health Administration for use, in a prescribed manner, in underground coal mines, including water gels and slurries approved as permissibles.

2. Other High Explosives.--All high explosives except

(a) permissibles and

(b) any water gels or slurries that would otherwise be classified as high explosives.

Included in the "Other High Explosives" classification are all formulations packaged in metal containers.

3. Packaged and Bulk Water Gels, Slurries, and Emulsions.--All water gels, slurries, and emulsions, packaged or in bulk, made by addition of more than 5% water to high explosives or blasting agents, except those approved as permissibles.

4. Ammonium Nitrate-Fuel Oil Blasting Agents.--Without regard to packaging or container, and having a density less than 1.0 gram per cubic centimeter (cc).

5. Unprocessed Ammonium Nitrate.--Prilled or grained ammonium nitrate for use in blasting agents.

6. Higher Strength Blasting Agents.--All ammonium nitrate-fuel oil mixtures having a density greater than 1.0 gram per cc, or mixtures sensitized by fuels other than fuel oil (e.g., nitro compounds, aluminum, emulsions).

Companies covered by this report, including IME members, are as follows:

American Cyanamid Company--Wayne, New Jersey
Angus Chemical Company--Northbrook, Illinois
Apache Powder Company--Benson, Arizona
Atlas Powder Company--Dallas, Texas
Austin Powder Company--Cleveland, Ohio
C-I-L Inc.--Willowdale, Ontario, Canada
Columbia Nitrogen Corp.--Augusta, Georgia
E. I. du Pont de Nemours & Co., Inc.--Wilmington, Delaware
Goex Inc.--Cleburne, Texas
W.R. Grace & Co. ACG--Memphis, Tennessee
Gulf Oil Chemicals Company--Houston, Texas
Hawkeye Chemical Company--Clinton, Iowa
Hercules, Inc.--Wilmington, Delaware
Independent Explosives Company of Pennsylvania--Scranton, Pennsylvania
Ireco Chemicals--Salt Lake City, Utah
Kaiser Aluminum & Chemical Corp.--Savannah, Georgia
Mining Services International--Salt Lake City, Utah
Nitrochem Energy Corp.--Allentown, Pennsylvania
Sierra Chemical Company--Reno, Nevada
Southern Explosives Corporation--Glasgow, Kentucky
Trojan Corp.--Salt Lake City, Utah
Union Oil Company of California--Los Angeles, California
USS Agri-Chemicals--Atlanta, Georgia

TABLE 1.--Salient statistics of industrial explosives and blasting agents sold for consumption in the United States, 1982-83
(Thousand pounds)

Class	1982	1983
Permissibles-----	45,788	37,198
Other high explosives <u>1</u> /-----	110,005	98,715
Water gels and slurries <u>1</u> /-----	311,694	276,098
Ammonium nitrate-fuel oil blasting agents <u>1</u> /-----	820,942	464,402
Unprocessed ammonium nitrate <u>2</u> /-----	2,622,062	2,786,398
Higher strength blasting agents-----	---	67,441
Total-----	3,910,491	3,730,252

1/ Some quantities of this class of explosive are included with "Unprocessed ammonium nitrate" to avoid disclosing company proprietary data.

2/ Includes some quantities of other high explosives, water gels and slurries, and ammonium nitrate-fuel oil blasting agents.

TABLE 2.—Industrial explosives and blasting agents sold for consumption in the United States, by class and use, 1982-83
(Thousand pounds)

Class	Coal mining 1/		Metal mining 1/		Quarrying and nonmetal mining 1/		Construction work 1/		All other purposes 2/		Total	
	1982	1983	1982	1983	1982	1983	1982	1983	1982	1983	1982	1983
Permissibles-----	43,401	35,181	287	311	1,317	657	731	937	52	112	45,788	37,198
Other high explosives 3/-----	19,360	17,964	13,108	8,861	29,322	31,833	26,802	22,706	21,413	17,351	110,005	98,715
Water gels and slurries 3/-----	104,364	94,578	90,738	49,699	80,503	94,261	30,021	33,292	6,068	4,268	311,694	276,098
Ammonium nitrate-fuel oil blasting agents 3/-----	621,531	308,714	21,770	15,437	112,822	83,402	61,074	54,916	3,745	1,933	820,942	464,402
Unprocessed ammonium nitrate 4/-----	1,480,909	1,625,903	404,481	404,584	199,389	242,061	145,317	176,843	391,966	337,007	2,622,062	2,786,398
Higher strength blasting agents-----	---	43,923	---	2,237	---	15,496	---	5,301	---	484	---	67,441
Total-----	2,269,565	2,126,263	530,384	481,129	423,353	467,710	263,945	293,995	423,244	361,155	3,910,491	3,730,252

1/ Some quantities of this use are included with "All other purposes" to avoid disclosing company proprietary data.

2/ Includes some quantities from coal mining, metal mining, quarrying and nonmetal mining, and construction work.

3/ Some quantities of this class of explosive are included with "Unprocessed ammonium nitrate" to avoid disclosing company proprietary data.

4/ Includes some quantities of other high explosives, water gels and slurries, and ammonium nitrate-fuel oil blasting agents.

TABLE 3. Industrial explosives and blasting agents sold for consumption
in the United States, by State and use, 1983
(Thousand pounds)

State	Use					Total
	Coal mining	Metal mining	Quarrying and nonmetal mining	Construction work	All other purposes	
Alabama	197,289	—	3,590	36,238	381	237,498
Alaska	2,220	16,484	682	7,744	134	27,264
Arizona	28,223	46,865	1,551	533	102	77,274
Arkansas	47	5	11,469	3,871	183	15,575
California	13	128	8,668	5,235	195	14,239
Colorado	18,227	16,262	1,955	5,981	789	43,214
Connecticut	67	—	5,733	1,911	15	7,726
Delaware	—	—	2,144	—	11	2,155
District of Columbia	1/	—	—	—	—	—
Florida	1,801	—	15,690	13,479	109	31,079
Georgia	754	—	14,144	1,449	31	16,378
Hawaii	—	—	891	521	3	1,415
Idaho	—	50,906	5,115	880	68	56,969
Illinois	19,003	28	71,633	4,899	6,298	101,861
Indiana	112,386	—	9,282	3,444	23	125,135
Iowa	8,132	—	18,858	258	13,710	40,958
Kansas	276	—	10,489	2,127	1,421	14,313
Kentucky	629,267	—	47,044	55,297	32,907	764,515
Louisiana	284	—	721	102	2,135	3,242
Maine	—	—	308	1,359	—	1,667
Maryland	19,849	—	6,062	786	—	26,697
Massachusetts	—	—	3,704	1,898	—	5,602
Michigan	175	19,685	6,828	257	7,665	34,610
Minnesota	—	47,367	6,382	400	15,606	69,755
Mississippi	—	—	29	183	1,875	2,087
Missouri	19,930	3,148	18,205	8,243	5,100	54,626
Montana	36,836	86,793	1,303	4,531	4,648	134,111
Nebraska	—	42	—	1,686	406	2,134
Nevada	45	40,391	5,022	330	59	45,847
New Hampshire	—	—	1,581	1,519	—	3,100
New Jersey	—	24	3,870	952	324	5,170
New Mexico	63,810	18,347	747	4,342	270	87,516
New York	15	522	6,770	5,439	207	12,953
North Carolina	5,578	124	40,921	2,004	2	48,629
North Dakota	—	—	161	—	519	680
Ohio	178,338	26	22,577	4,077	24,782	229,800
Oklahoma	1,659	5,682	14,007	18,187	2,039	41,574
Oregon	—	5,163	5,311	3,703	375	14,552
Pennsylvania	280,289	150	31,109	17,915	19,858	349,321
Rhode Island	—	—	80	418	—	498
South Carolina	—	—	944	62	—	1,006
South Dakota	—	2,400	420	—	208	3,028
Tennessee	31,205	2,128	11,247	14,986	380	59,946
Texas	5,510	708	27,813	19,395	4,194	57,620
Utah	1,824	45,689	4,012	6,066	2,283	59,874
Vermont	33	—	1,185	1,207	39	2,464
Virginia	122,607	—	8,527	4,775	152	136,061
Washington	7,939	3,545	794	15,668	20	27,966
West Virginia	179,624	—	770	6,989	5,021	192,404
Wisconsin	—	—	2,706	1,349	1,148	5,203
Wyoming	127,366	68,484	3,209	1,300	3,245	203,604
Unallocated	2/25,642	2/33	2/1,447	2/	202,215	229,337
Total	2,126,263	481,129	467,710	293,995	361,155	3,730,252

1/ Included with Maryland.

2/ Some undistributed quantities are included in "All other purposes" to avoid disclosing company proprietary data.

Table 4.--Industrial explosives and blasting agents sold for consumption in the United States, by State and class, 1983 (Thousand pounds)

State	Class						Total
	Fixed high explosives		Water gels and slurries 1/	Blasting Agents			
	Permissibles	Other high explosives 1/			Ammonium nitrate-fuel oil blasting agents 1/	Unprocessed ammonium nitrate 2/	Higher strength blasting agents
Alabama	2,101	2,142	4,557	1,308	227,364	26	237,498
Alaska	--	823	5,466	--	20,944	31	27,264
Arizona	--	666	5,208	2,971	68,429	--	77,274
Arkansas	--	1,190	2,178	2,103	10,104	--	15,575
California	3	2,328	4,891	3,333	3,679	5	14,239
Colorado	352	1,259	2,941	178	38,322	162	43,214
Connecticut	--	1,084	3,532	1,390	1,719	1	7,726
Delaware	--	--	6	5	2,144	--	2,155
District of Columbia 3/	--	--	--	--	--	--	--
Florida	--	1,715	18,139	25	10,202	998	31,079
Georgia	--	1,675	7,037	2,059	4,786	821	16,378
Hawaii	--	76	681	658	--	--	1,415
Idaho	--	777	1,514	30	54,648	--	56,969
Illinois	172	3,061	9,807	2,644	84,853	1,324	101,861
Indiana	28	1,203	7,230	47,641	65,635	3,398	123,135
Iowa	50	2,234	7,793	843	30,038	--	40,958
Kansas	--	672	1,661	9,032	1,363	1,585	14,313
Kentucky	18,536	6,922	7,325	111,361	612,429	7,942	764,515
Louisiana	--	1,704	1,538	--	--	--	3,242
Maine	--	639	424	604	--	--	1,667
Maryland	3	670	4,438	1,512	18,934	1,140	26,697
Massachusetts	2	1,529	819	3,170	--	82	5,602
Michigan	--	758	11,923	4,022	16,361	1,546	34,610
Minnesota	--	414	13,247	4,068	51,968	58	69,755
Mississippi	--	1,472	455	160	--	--	2,087
Missouri	--	5,978	3,892	8,933	35,214	609	54,626
Montana	1	3,583	7,919	361	122,241	6	134,111
Nebraska	--	157	70	435	1,420	52	2,134
Nevada	1	276	847	4,849	39,874	--	45,847
New Hampshire	--	1,433	262	1,168	--	217	3,100
New Jersey	--	1,089	1,776	2,266	4	35	5,170
New Mexico	--	2,007	19,075	1,141	65,199	94	87,516
New York	1	2,928	2,914	4,227	2,795	88	12,953
North Carolina	--	1,639	14,449	4,046	27,902	593	48,629
North Dakota	--	657	23	--	--	--	680
Ohio	164	2,799	4,388	29,631	190,618	2,200	229,800
Oklahoma	--	1,861	3,539	18,463	16,456	1,255	41,574
Oregon	--	1,771	779	2,257	9,725	20	14,552
Pennsylvania	1,148	7,178	31,454	37,536	265,212	6,793	349,321
Rhode Island	--	232	--	266	--	--	498
South Carolina	--	62	47	681	--	216	1,006
South Dakota	--	4	20	--	3,004	--	3,028
Tennessee	1,035	5,767	3,765	17,398	30,116	1,865	59,946
Texas	--	5,381	3,405	7,715	40,310	809	57,620
Utah	165	5,397	15,203	632	38,477	--	59,874
Vermont	--	545	839	523	--	557	2,464
Virginia	9,081	3,832	3,272	50,682	67,474	1,720	136,061
Washington	--	2,448	1,654	189	23,675	--	27,966
West Virginia	4,279	3,039	1,444	62,104	119,875	1,663	192,404
Wisconsin	2	889	1,068	88	2,950	206	5,203
Wyoming	74	2,730	31,184	9,694	157,720	2,202	203,604
Undistributed	--	--	--	--	202,215	27,122	229,337
Total	37,198	98,715	276,098	464,402	2,786,398	67,441	3,730,252

1/ Some quantities of this class of explosives are included with "Unprocessed ammonium nitrate" to avoid disclosing company proprietary data.

2/ Includes some quantities of other high explosives, water gels and slurries, and ammonium nitrate-fuel oil blasting agents.

3/ Included with Maryland.

TABLE 5.—Permissible explosives sold for consumption in the United States,
by State and use, 1983
(Thousand pounds)

State	Use					Total
	Coal mining	Metal mining	Quarrying and nonmetal mining	Construction work	All other purposes	
Alabama	1,712	—	67	322	—	2,101
Alaska	—	—	—	—	—	—
Arizona	—	—	—	—	—	—
Arkansas	—	—	—	—	—	—
California	—	—	3	—	—	3
Colorado	352	—	—	—	—	352
Connecticut	—	—	—	—	—	—
Delaware	—	—	—	—	—	—
District of Columbia ^{1/}	—	—	—	—	—	—
Florida	—	—	—	—	—	—
Georgia	—	—	—	—	—	—
Hawaii	—	—	—	—	—	—
Idaho	—	—	—	—	—	—
Illinois	105	—	63	4	—	172
Indiana	19	—	9	—	—	28
Iowa	46	—	1	—	3	50
Kansas	—	—	—	—	—	—
Kentucky	18,432	—	98	2	4	18,536
Louisiana	—	—	—	—	—	—
Maine	—	—	—	—	—	—
Maryland	2	—	1	—	—	3
Massachusetts	—	—	2	—	—	2
Michigan	—	—	—	—	—	—
Minnesota	—	—	—	—	—	—
Mississippi	—	—	—	—	—	—
Missouri	—	—	—	—	—	—
Montana	—	—	—	—	1	1
Nebraska	—	—	—	—	—	—
Nevada	—	—	—	1	—	1
New Hampshire	—	—	—	—	—	—
New Jersey	—	—	—	—	—	—
New Mexico	—	—	—	—	—	—
New York	1	—	—	—	—	1
North Carolina	—	—	—	—	—	—
North Dakota	—	—	—	—	—	—
Ohio	59	—	105	—	—	164
Oklahoma	—	—	—	—	—	—
Oregon	—	—	—	—	—	—
Pennsylvania	832	102	104	110	—	1,148
Rhode Island	—	—	—	—	—	—
South Carolina	—	—	—	—	—	—
South Dakota	—	—	—	—	—	—
Tennessee	220	148	204	463	—	1,035
Texas	—	—	—	—	—	—
Utah	—	61	—	—	104	165
Vermont	—	—	—	—	—	—
Virginia	9,081	—	—	—	—	9,081
Washington	—	—	—	—	—	—
West Virginia	4,246	—	—	33	—	4,279
Wisconsin	—	—	—	2	—	2
Wyoming	74	—	—	—	—	74
Total	35,181	311	657	937	112	37,198

^{1/} Included with Maryland.

Table 6.—Other high explosives sold for consumption in the United States,
by State and use, 1983 ^{1/}
(Thousand pounds)

State	Use					Total
	Coal mining	Metal mining	Quarrying and nonmetal mining	Construction work	All other purposes	
Alabama	573	—	384	805	380	2,142
Alaska	—	—	—	689	134	823
Arizona	84	394	154	29	5	666
Arkansas	14	5	487	501	183	1,190
California	13	72	353	1,772	118	2,328
Colorado	112	728	67	9	343	1,259
Connecticut	—	—	828	241	15	1,084
Delaware	—	—	—	—	—	—
District of Columbia ^{2/}	—	—	—	—	—	—
Florida	—	—	765	870	80	1,715
Georgia	16	—	1,605	23	31	1,675
Hawaii	—	—	1	75	—	76
Idaho	—	134	—	575	68	777
Illinois	502	20	2,125	407	7	3,061
Indiana	655	—	417	111	20	1,203
Iowa	8	—	2,033	2	191	2,234
Kansas	90	—	257	—	325	672
Kentucky	5,107	—	828	526	461	6,922
Louisiana	—	—	69	16	1,619	1,704
Maine	—	—	147	492	—	639
Maryland	31	—	631	8	—	670
Massachusetts	—	—	1,246	283	—	1,529
Michigan	81	—	589	43	45	758
Minnesota	—	44	309	21	40	414
Mississippi	—	—	7	37	1,428	1,472
Missouri	19	1,047	4,060	847	5	5,978
Montana	143	209	503	320	2,408	3,583
Nebraska	—	—	—	151	6	157
Nevada	—	222	28	10	16	276
New Hampshire	—	—	903	550	—	1,453
New Jersey	—	—	799	188	102	1,089
New Mexico	266	1,112	30	402	197	2,007
New York	—	522	566	1,638	202	2,928
North Carolina	613	—	679	347	—	1,639
North Dakota	—	—	158	—	499	657
Ohio	742	—	1,754	237	66	2,799
Oklahoma	37	—	109	77	1,638	1,861
Oregon	—	—	1,053	643	75	1,771
Pennsylvania	3,094	10	2,508	1,477	89	7,178
Rhode Island	—	—	31	201	—	232
South Carolina	—	—	22	40	—	62
South Dakota	—	—	—	—	4	4
Tennessee	467	736	2,207	2,357	—	5,767
Texas	8	93	336	1,838	3,106	5,381
Utah	363	3,045	—	397	1,592	5,397
Vermont	8	—	160	377	—	545
Virginia	1,247	—	2,334	250	1	3,832
Washington	158	353	168	1,752	17	2,448
West Virginia	2,788	—	37	213	1	3,039
Wisconsin	—	—	63	826	—	889
Wyoming	725	115	23	33	1,834	2,730
Total	17,964	8,861	31,833	22,706	17,351	98,715

^{1/} Some quantities of other high explosives are included with "Unprocessed ammonium nitrate" to avoid disclosing company proprietary data.

^{2/} Included with Maryland.

Table 7.—Packaged and bulk water gels, slurries, and emulsions sold for consumption in the United States, by State and use, 1983 ^{1/}
(Thousand pounds)

State	Use					Total
	Coal mining	Metal mining	Quarrying and nonmetal mining	Construction work	All other purposes	
Alabama	2,429	--	1,116	1,011	1	4,557
Alaska	--	88	182	5,196	--	5,466
Arizona	320	4,859	7	4	18	5,208
Arkansas	1	--	1,606	571	--	2,178
California	--	3	3,798	1,046	44	4,891
Colorado	1,203	861	499	132	246	2,941
Connecticut	67	--	2,535	930	--	3,532
Delaware	--	--	--	--	6	6
District of Columbia ^{2/}	--	--	--	--	--	--
Florida	--	--	14,766	3,344	29	18,139
Georgia	738	--	4,988	1,311	--	7,037
Hawaii	--	--	537	141	3	681
Idaho	--	1,467	19	28	--	1,514
Illinois	3,969	--	5,204	623	11	9,807
Indiana	4,359	--	2,292	576	3	7,230
Iowa	228	--	7,466	99	--	7,793
Kansas	--	--	1,327	315	19	1,661
Kentucky	5,112	--	1,722	491	--	7,325
Louisiana	284	--	652	86	516	1,538
Maine	--	--	78	346	--	424
Maryland	1,086	--	2,993	359	--	4,438
Massachusetts	--	--	243	576	--	819
Michigan	--	11,154	730	39	--	11,923
Minnesota	--	11,597	1,550	100	--	13,247
Mississippi	--	--	2	6	447	455
Missouri	4	355	2,393	1,122	18	3,892
Montana	4,744	--	--	2,110	1,065	7,919
Nebraska	--	--	--	70	--	70
Nevada	--	431	348	49	19	847
New Hampshire	--	--	26	236	--	262
New Jersey	--	24	1,551	201	--	1,776
New Mexico	16,124	2,787	9	155	--	19,075
New York	14	--	1,400	1,500	--	2,914
North Carolina	--	124	13,760	563	2	14,449
North Dakota	--	--	3	--	20	23
Ohio	694	--	3,288	403	3	4,388
Oklahoma	217	--	2,286	999	37	3,539
Oregon	--	34	109	634	2	779
Pennsylvania	21,371	38	7,746	2,299	--	31,454
Rhode Island	--	--	--	--	--	--
South Carolina	--	--	44	3	--	47
South Dakota	--	--	20	--	--	20
Tennessee	530	841	1,679	715	--	3,765
Texas	--	--	1,425	1,804	176	3,405
Utah	29	13,931	--	656	587	15,203
Vermont	--	--	814	25	--	839
Virginia	998	--	2,037	237	--	3,272
Washington	--	102	102	1,450	--	1,654
West Virginia	895	--	192	345	12	1,444
Wisconsin	--	--	686	382	--	1,068
Wyoming	29,162	1,003	31	4	984	31,184
Total	94,578	49,699	94,261	33,292	4,268	276,098

^{1/} Some quantities of packaged and bulk water gels, slurries, and emulsions are included with "Unprocessed ammonium nitrate" to avoid disclosing company proprietary data.

^{2/} Included with Maryland.

Table 8.—Ammonium nitrate-fuel oil blasting agents sold for consumption
in the United States, by State and use, 1983 ^{1/}
(Thousand pounds)

State	Use					Total
	Coal mining	Metal mining	Quarrying and nonmetal mining	Construction work	All other purposes	
Alabama	1,042	—	150	116	—	1,308
Alaska	—	—	—	—	—	—
Arizona	—	2,523	350	88	10	2,971
Arkansas	32	—	1,269	802	—	2,103
California	—	53	1,497	1,750	33	3,333
Colorado	163	—	—	15	—	178
Connecticut	—	—	965	425	—	1,390
Delaware	—	—	—	—	5	5
District of Columbia ^{2/}	—	—	—	—	—	—
Florida	—	—	3	22	—	25
Georgia	—	—	2,000	59	—	2,059
Hawaii	—	—	353	305	—	658
Idaho	—	30	—	—	—	30
Illinois	820	—	1,824	—	—	2,644
Indiana	39,643	—	5,472	2,526	—	47,641
Iowa	—	—	843	—	—	843
Kansas	—	—	7,229	1,803	—	9,032
Kentucky	86,638	—	8,100	16,623	—	111,361
Louisiana	—	—	—	—	—	—
Maine	—	—	83	521	—	604
Maryland	330	—	1,174	8	—	1,512
Massachusetts	—	—	2,201	969	—	3,170
Michigan	10	—	3,968	44	—	4,022
Minnesota	—	3,653	415	—	—	4,068
Mississippi	—	—	20	140	—	160
Missouri	600	—	6,518	1,737	78	8,933
Montana	360	—	—	1	—	361
Nebraska	—	—	—	435	—	435
Nevada	45	1,702	2,808	270	24	4,849
New Hampshire	—	—	652	516	—	1,168
New Jersey	—	—	1,485	563	218	2,266
New Mexico	239	147	519	224	12	1,141
New York	—	—	2,120	2,102	5	4,227
North Carolina	—	—	3,450	596	—	4,046
North Dakota	—	—	—	—	—	—
Ohio	27,048	10	2,194	379	—	29,631
Oklahoma	1,269	5,682	4,158	7,311	43	18,463
Oregon	—	—	1,549	606	102	2,257
Pennsylvania	26,163	—	8,232	2,075	1,066	37,536
Rhode Island	—	—	49	217	—	266
South Carolina	—	—	662	19	—	681
South Dakota	—	—	—	—	—	—
Tennessee	8,790	—	3,664	4,944	—	17,398
Texas	77	615	4,284	2,411	328	7,715
Utah	—	632	—	—	—	632
Vermont	25	—	197	301	—	523
Virginia	46,843	—	2,120	1,719	—	50,682
Washington	—	—	124	62	3	189
West Virginia	59,747	—	529	1,828	—	62,104
Wisconsin	—	—	88	—	—	88
Wyoming	8,830	390	84	384	6	9,694
Total	308,714	15,437	83,402	54,916	1,933	464,402

^{1/} Some quantities of ammonium nitrate-fuel oil blasting agents are included with "Unprocessed ammonium nitrate" to avoid disclosing company proprietary data.

^{2/} Included with Maryland.

Table 9.—Unprocessed ammonium nitrate sold for consumption
in the United States, by State and use, 1983 ^{1/}
(Thousand pounds)

State	Use					Total
	Coal mining	Metal mining	Quarrying and nonmetal mining	Construction work	All other purposes	
Alabama	191,507	—	1,873	33,984	—	227,364
Alaska	2,220	16,396	500	1,828	—	20,944
Arizona	27,819	39,089	1,040	412	69	68,429
Arkansas	—	—	8,107	1,997	—	10,104
California	—	—	3,017	662	—	3,679
Colorado	16,397	14,561	1,387	5,777	200	38,322
Connecticut	—	—	1,405	314	—	1,719
Delaware	—	—	2,144	—	—	2,144
District of Columbia ^{2/}	—	—	—	—	—	—
Florida	1,801	—	—	8,401	—	10,202
Georgia	—	—	4,785	1	—	4,786
Hawaii	—	—	—	—	—	—
Idaho	—	49,275	5,096	277	—	54,648
Illinois	13,125	8	61,721	3,719	6,280	84,853
Indiana	65,635	—	—	—	—	65,635
Iowa	7,850	—	8,515	157	13,516	30,038
Kansas	186	—	184	—	993	1,363
Kentucky	508,086	—	35,133	36,772	32,438	612,429
Louisiana	—	—	—	—	—	—
Maine	—	—	—	—	—	—
Maryland	18,393	—	151	390	—	18,934
Massachusetts	—	—	—	—	—	—
Michigan	—	8,531	79	131	7,620	16,361
Minnesota	—	32,021	4,102	279	15,566	51,968
Mississippi	—	—	—	—	—	—
Missouri	19,307	1,746	4,691	4,486	4,984	35,214
Montana	31,589	86,584	800	2,100	1,168	122,241
Nebraska	—	—	—	1,020	400	1,420
Nevada	—	38,036	1,838	—	—	39,874
New Hampshire	—	—	—	—	—	—
New Jersey	—	—	—	—	4	4
New Mexico	47,181	14,301	189	3,467	61	65,199
New York	—	—	2,596	199	—	2,795
North Carolina	4,965	—	22,570	367	—	27,902
North Dakota	—	—	—	—	—	—
Ohio	148,270	5	14,587	3,043	24,713	190,618
Oklahoma	—	—	7,171	9,285	—	16,456
Oregon	—	5,129	2,600	1,800	196	9,725
Pennsylvania	224,907	—	9,874	11,743	18,688	265,212
Rhode Island	—	—	—	—	—	—
South Carolina	—	—	—	—	—	—
South Dakota	—	2,400	400	—	204	3,004
Tennessee	20,238	403	3,151	5,944	380	30,116
Texas	5,425	—	21,392	12,909	584	40,310
Utah	1,432	28,020	4,012	5,013	—	38,477
Vermont	—	—	—	—	—	—
Virginia	63,034	—	1,737	2,552	151	67,474
Washington	7,781	3,090	400	12,404	—	23,675
West Virginia	110,326	—	—	4,541	5,008	119,875
Wisconsin	—	—	1,743	59	1,148	2,950
Wyoming	88,429	64,989	3,071	810	421	157,720
Undistributed ^{3/-}	^{4/}	^{4/}	^{4/}	^{4/}	202,215	202,215
Total	1,625,903	404,584	242,061	176,843	337,007	2,786,398

^{1/} Includes some quantities of other high explosives, packaged and bulk water gels, slurries, and emulsions, and ammonium nitrate-fuel oil blasting agents.

^{2/} Included with Maryland.

^{3/} Quantities undistributed to avoid disclosing company proprietary data.

^{4/} Undistributed quantity for this use is included with undistributed "All other purposes."

Table 10.—Higher strength blasting agents sold for consumption
in the United States, by State and use, 1983
(Thousand pounds)

State	Use					Total
	Coal mining	Metal mining	Quarrying and nonmetal mining	Construction work	All other purposes	
Alabama	26	--	--	--	--	26
Alaska	--	--	--	31	--	31
Arizona	--	--	--	--	--	--
Arkansas	--	--	--	--	--	--
California	--	--	--	5	--	5
Colorado	--	112	2	48	--	162
Connecticut	--	--	--	1	--	1
Delaware	--	--	--	--	--	--
District of Columbia ^{1/}	--	--	--	--	--	--
Florida	--	--	156	842	--	998
Georgia	--	--	766	55	--	821
Hawaii	--	--	--	--	--	--
Idaho	--	--	--	--	--	--
Illinois	482	--	696	146	--	1,324
Indiana	2,075	--	1,092	231	--	3,398
Iowa	--	--	--	--	--	--
Kansas	--	--	1,492	9	84	1,585
Kentucky	5,892	--	1,163	883	4	7,942
Louisiana	--	--	--	--	--	--
Maine	--	--	--	--	--	--
Maryland	7	--	1,112	21	--	1,140
Massachusetts	--	--	12	70	--	82
Michigan	84	--	1,462	--	--	1,546
Minnesota	--	52	6	--	--	58
Mississippi	--	--	--	--	--	--
Missouri	--	--	543	51	15	609
Montana	--	--	--	--	6	6
Nebraska	--	42	--	10	--	52
Nevada	--	--	--	--	--	--
New Hampshire	--	--	--	217	--	217
New Jersey	--	--	35	--	--	35
New Mexico	--	--	--	94	--	94
New York	--	--	88	--	--	88
North Carolina	--	--	462	131	--	593
North Dakota	--	--	--	--	--	--
Ohio	1,525	11	649	15	--	2,200
Oklahoma	136	--	263	515	321	1,255
Oregon	--	--	--	20	--	20
Pennsylvania	3,922	--	2,645	211	15	6,793
Rhode Island	--	--	--	--	--	--
South Carolina	--	--	216	--	--	216
South Dakota	--	--	--	--	--	--
Tennessee	960	--	342	563	--	1,865
Texas	--	--	376	433	--	809
Utah	--	--	--	--	--	--
Vermont	--	--	14	504	39	557
Virginia	1,404	--	299	17	--	1,720
Washington	--	--	--	--	--	--
West Virginia	1,622	--	12	29	--	1,663
Wisconsin	--	--	126	80	--	206
Wyoming	146	1,987	--	69	--	2,202
Unallocated ^{2/}	25,642	33	1,447	--	--	27,122
Total	43,923	2,237	15,496	5,301	484	67,441

^{1/} Included with Maryland.

^{2/} Some quantities unallocated to avoid disclosing company proprietary data.