Mineral Industry Surveys



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



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APPARENT CONSUMPTION OF INDUSTRIAL EXPLOSIVES AND BLASTING AGENTS IN THE UNITED STATES, 1985

Apparent consumption of explosives and blasting agents in the United States decreased 13% to 3.8 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 8% and other high explosives consumption increased 38% compared with that of 1984.

All principal consuming industries except quarry and nonmetal mining and all other purposes used less quantities of explosives and blasting agents in 1985 than in 1984. About 59% of the total weight was utilized in the mining of coal. Nearly all permissibles and 62% 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 (41%) and construction (26%). The major uses of water gels and slurries were in coal mining (41%) and quarrying and nonmetal mining (25%). The Higher Strength Blasting Agents class established in 1983 was discontinued in 1985. The specific gravity of these blasting agents is greater than 1 gram per cubic centimeter, but since they were usually admixtures of water gels, slurries, emulsions, or aluminum, they are now included in the Water Gels, Slurries, and Emulsions class.

Seven States collectively consumed 58% of all explosives and blasting agents used in the United States in 1985. These were, in decreasing order of consumption, Kentucky, Pennsylvania, West Virginia, Wyoming, Alabama, Ohio, and Illinois.

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 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 in a separate category.

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

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

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

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

6. <u>Higher Strength Blasting Agents</u>.--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--New Castle, Pennsylvania 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 Ensign Bickford Company--Simsbury, Connecticut Goex Inc.--Cleburne, Texas W.R. Grace & Co. ACG--Memphis, Tennessee Hawkeye Chemical Company--Clinton, Iowa Independent Explosives Company of Pennsylvania--Scranton, Pennsylvania Ireco Incorporated--Salt Lake City, Utah Kaichem Internal Corp.--Garden City, Georgia Mining Services International--Salt Lake City, Utah Nitrochem Energy Corp.--Allentown, Pennsylvania Sierra Chemical Company--Reno, Nevada Southern Explosives Corporation--Glasgow, Kentucky Thermex Energy Corporation--Dallas, Texas Trojan Corp.--Salt Lake City, Utah UNOCAL Corporation--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, 1984-85 (Thousand pounds)

Class	1984	1985
Permissibles	39,238	36,068
Other high explosives 1/	98,246	135,876
Water gels, slurries, and emulsions 1/	334,758	324,526
Ammonium nitrate-fuel oil blasting agents 1/	543,654	556,859
Unprocessed ammonium nitrate 2/	3,277,681	2,747,025
Higher strength blasting agents $1/3/$	63,281	
Total	4,356,858	3,800,354

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, slurries, and emulsions, ammonium nitrate-fuel oil blasting agents, and higher strength blasting agents (1984).

3/Higher strength blasting agents classification was discontinued in 1985. Blasting agents formerly in that classification are now included in "Water gels, slurries, and emulsions."

Class	Coal	mining 1/	Metal	mining 1/	• •	ying and 1 mining 1/		truction work 1/		other poses 2/	T	otal
	1984	1985	1984	1985	1984	1985	1984	1985	1984	1985	1984	1985
Permissibles Other high	37,721	34,563	195	117	345	481	902	836	75	71	39,238	36,068
explosives 3/	20,357	21,705	7,771	9,466	29,658	55,470	23,189	35,460	17,271	13,775	98,246	135,876
Water gels and slurries 3/ Ammonium nitrate-	99,340	133,858	78,959	66,653	102,849	80,283	42,464	27,487	11,146	16,245	334,758	324,526
fuel oil blasting agents <u>3</u> / Unprocessed	362,675	369,139	24,860	29,534	93,295	106,727	59,729	47,292	3,095	4,167	543,654	556,859
ammonium nitrate 4/2 Higher strength	,195,216	1,682,038	323,817	276,640	241,403	267,539	170,115	136,376	347,130	384,432	3,277,681	2,747,025
blasting agents <u>3/5</u> /	43,350		1,615		12,323		5,874		119		63,281	
2	,758,659	2,241,303	437,217	382,410	479,873	510,500	302,273	247,451	378,836	418,690	4,356,858	3,800,354

TABLE 2.--Industrial explosives and blasting agents sold for consumption in the United States, by class and use, 1984-85 (Thousand pounds)

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.

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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, ammonium nitrate-fuel oil blasting agents, and higher strength blasting agents (1984).

5/Higher strength blasting agents classification was discontinued in 1985. Blasting agents formerly in that classification are now included in "Water gels, slurries, and emulsions."

-	Coal	Metal	Use Quarrying and	Construction	All other	
State	mining	mining	nonmetal mining	work	purposes	Total
Alabama	189,218		6,941	30,883	515	227,557
Alaska	18,585	19	28	4,925	580	24,13
rizona	19,122	82,379	298	111	8,606	110,51
rkansas	14	5	7,246	2,234	114	9,61
alifornia	43	2,073	13,011	6,482	972	22,58
olorado	35,323	10,854	2,526	2,043	1,296	52,04
onnecticut			6,007	1,716	519	8,24
elaware				23	6	29
istrict of Columb	1a 1/					
lorida	 		27,299	6,473	42	33,900
eorgia	28		18,058	995		19,08
awaii			335	45	15	39
daho	32,576	16,317	1,952	125	21	50,99
llinois	24,606	5	123,581	4,283	8,742	161,217
ndiana	76,088		8,956	24,377	1,042	110,463
0Wa	2,216		11,642	216	9,797	23,87
ansas	844		8,746	701	491	10,782
entucky	617,040		29,936	35,875	37,297	720,148
ouisiana			337	44	1,548	1,929
aine			281	1,452		1,733
aryland	888		2,895	568	297	4,648
assachusetts			7,968	2,083	611	10,66
ichigan	1,543	22,441	6,334	589	5,648	36,55
innesota		65,338	4,370	309	6,208	76,22
ississippi			21	29	913	963
issouri	17,303	3,365	29,097	8,737	3,284	61,780
ontana	48,382	84,760	73	2,221	2,361	137,79
ebraska	40,502			2,629	2,501	2,63
evada	30	49,111	1,853	502	160	51,650
ew Hampshire			1,429	2,689	14	4,13
ew Jersey	3		4,750	238	18	5,009
ew Mexico	52,433	35,879	644	3,989	706	93,651
ew York	52,455	586	10,732	4,374	61	15,75
orth Carolina	12,770		41,937	1,942	5	56,654
orth Dakota	12,770		30	34	561	62
h10	157,582	62	22,472	4,639	5,620	190,37
klahoma	15,665	3,860	20,295	9,002	816	49,638
regon	15,005	5,000	3,796	7,062	1,425	12,283
ennsylvania	276,796		20,776	8,433	107,686	413,691
hode Island	270,790		3	408	107,000	413,091
outh Carolina	18	12	562	408		652
			76	67	604	747
outh Dakota	45,309	945	12,182	6,219	115	64,770
ennessee	2,185	33	14,340	20,699	5,864	43,12
exas	2,185	3,752	5,966	1,130	1,166	12,53
	126		332	1,210	481	2,14
Irginia	112,567		6,029	2,913	242	121,75
ashington	5,301	362	17,903	10,997	1,876	36,43
est Virginia	236,757		810	18,005	4,691	260,263
isconsin	230,757		3,649	1,422	4, 091 991	6,06
yoming	239,328	252	1,996	1,249	2,804	245,629
ndistributed		<u>2</u> /	<u>2</u> /	$\frac{2}{2}$	191,857	191,85
	2,241,303	382,410	510,500	247,451	418,690	3,800,354

TABLE 3. Industrial explosives and blasting agents sold for consumption in the United States, by State and use, 1985 (Thousand pounds)

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

P4	d high avalant	VA 8	Class			
State	d high explosive Permissibles	Other high explosives 1/	Water gels, slurries, and emulsions 1/	Ammonium nitrate-fuel oil blasting	sting Agents Unprocessed ammonium nitrate 2/	Total
labama	1,465	2,566	1,658	886	220,982	227,557
1aska		4,875	590	572	18,100	24,137
rizona		1,697	31,012	2,543	75,264	110,516
rkansas		1,292	2,169	1,951	4,201	9,61
alifornia		3,411	6,063	8,098	5,009	22,58
olorado	117	2,929	9,900	4,719	34,377	52,042
onnecticut		3,555	1,941	1,640	1,106	8,242
elaware		4	·		25	29
istrict of Columbia 3/						
lorida		2,059	20,804	1,521	9,516	33,900
eorgia		1,609	8,525	2,271	6,676	19,081
awa11		75	120	200		395
daho		1,156	193	6	49,636	
11inois	315	5,219	13,944	14,970		50,991
ndiana	12	2,400			126,769	161,217
			12,375	34,255	61,421	110,463
BW0	238	4,599	2,117	1,056	15,861	23,871
	10 701	1,531	1,271	7,744	236	10,782
entucky	19,721	7,916	18,982	162,709	510,820	720,148
ouisiana		1,760	169			1,929
sine		688	148	897		1,733
aryland	5	1,547	2,106	52	938	4,648
assachusetts	1	3,578	1,380	5,702	1	10,662
ichigan	6	1,392	12,511	5,407	17,239	36,55
Innesota		811	16,346	11,384	47,684	76,22
lssissippi		963				963
issouri		9,501	3,251	9,804	39,230	61,78
ontana	56	2,737	7,068	160	127,776	137,797
ebraska		171	6	906	1,548	2,63
evada		360	217	4,380	46,699	51,650
ew Hampshire		1,968	220	1,930	14	
ew Jersey	3	1,666	1,313	2,009	14	4,132
ew Mexico	23					5,009
		1,367	23,366	4,037	64,858	93,651
ew York	19	3,722	3,735	6,102	2,179	15,757
orth Carolina		7,744	10,998	3,809	34,103	56,654
orth Dakota	2	171			452	625
hio	92	3,325	4,951	40,584	141,423	190,37
klahoma		1,795	7,582	23,083	17,178	49,638
regon		1,493	139	2,933	7,718	12,283
ennsylvania	1,094	7,519	18,527	49,307	337,244	413,691
hode Island		200	18	193		411
outh Carolina		360	174	8	110	652
outh Dakota		10	76	63	598	747
ennessee	961	8,300	5,248	25,976	24,285	64,770
exas		5,948	3,551	10,916	22,706	43,12
ah	121	3,635	930		7,852	12,53
ermont		844	246	1,059		2,14
Irginia	7,413	3,367	4,028	34,743	72,200	121,75
ashington	1	3,496	353	123	32,466	36,439
est Virginia	4,400	3,588	3,004	56,114	193,157	260,263
isconsin		1,619	682	50,114	3,755	•
yoming	3	3,338	60,519	10,031		6,062
ndistributed		5,550		10,051	171,738	245,629
and at the form					191,857	191,857
Total	36,068	135,876	324,526	556,859	2,747,025	3,800,354

TABLE 4.—Industrial explosives and blasting agents sold for consumption in the United States, by State and class, 1985 (Thousand pounds)

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, slurries, and emulsions, 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, 1985 (Thousand pounds)

Use									
	Coal	Metal	Quarrying and	Construction	All other				
State	mining	mining	nonmetal mining	work	purposes	<u>Total</u>			
Alabama	1,215			250		1,465			
Alaska			·						
rizona									
rkansas									
alifornia			——						
Colorado	101	· 8	-		8	117			
Connecticut			—						
elaware									
istrict of Columbia 1,	/								
lorida	·								
eorgia									
awa11									
daho									
111no1s	312			3		315			
ndiana	10		2			12			
owa	238					238			
ansas									
entucky	19,707		14			19,721			
ouisiana									
aine									
aryland	5					5			
assachusetts			1			1			
ichigan	6					. 6			
innesota									
ississippi									
1880ur1									
lontana	14	17			25	56			
ebraska									
evada									
ew Hampshire									
lew Jersey	3					3			
lew Mexico	13			10		23			
lew York	4			15	·	19			
orth Carolina									
				2		2			
lorth Dakota Dhio	53		35	4		92			
						92 			
)klahoma									
	732		107	255		1,094			
Pennsylvania	132		107	255		1,094			
Khode Island					·				
South Carolina									
South Dakota	 5 2 0			231		961			
ennessee	528	5	197	231					
exas						121			
	2	87			32	121			
	7,398			15		7,413			
/irginia	1,390				1	7,413			
Ashington	4,219		125	51	5	4,400			
Vest Virginia			125			4,400			
Visconsin						3			
yoming	3								

1/Included with Maryland.

TABLE 6.--Other high explosives sold for consumption in the United States, by State and use, 1985 1/

(Thousand pounds)

Coal Metal Quarrying and Construction All other										
State	mining	mining	nonmetal mining	work	purposes	Total				
labama	957		196	1,074	339	2,566				
laska	470	5	16	3,999	385					
rizona	176	1,439	9	51	22	4,875 1,697				
rkansas	10	-	575	619	83					
	43	5				1,292				
alifornia		37	520	2,684	127	3,41				
olorado	497	1,507	103	55	767	2,929				
onnecticut			2,852	693	10	3,55				
elaware	,			4						
istrict of Columbia 2/										
lorida	86		1,261	670	42	2,059				
eorgia	11		1,405	193		1,609				
awa11			19	41	15	7				
daho		1,071	19	53	13	1,150				
llinois	816	5	3,072	1,301	25	5,219				
ndiana	1,040		1,305	55		2,400				
owa	159		4,382	58		4,599				
ansas	150		935	163	283	1,53				
entucky	5,753		1,194	926	43	7,910				
ouisiana			292	44	1,424	1,760				
aine			103	585		68				
aryland	84		1,357	106		1,54				
assachusetts			2,871	707		3,570				
ichigan	22	119	823	249	179	1,392				
innesota		105	654	52		81)				
ississippi			21	29	913	96:				
issouri	45	852	6,443	2,141	20	9,50				
ontana	185	95	73	133	2,251	2,73				
ebraska				169	2	17				
evada	30	193	41	22	74	360				
ew Hampshire			718	1,250		1,968				
ew Jersey			1,473	193		1,660				
ew Mexico	212	374	2	687	92	1,367				
ew York		249	2,721	752		3,72				
orth Carolina	636		6,016	1,092		7,74				
orth Dakota			30	32	109	17				
hio	1,249	62	1,575	393	46	3,32				
klahoma	121	12	652	257	753	1,79				
regon			619	869	5	1,49				
ennsylvania	2,624		3,531	1,236	128	7,51				
hode Island				200		20				
outh Carolina		1	306	53		36				
outh Dakota				4	6	10				
ennessee	468	839	3,602	3,391		8,30				
exas	14		1,003	2,238	2,693	5,94				
tah	522	2,203		51	859	3,63				
ermont	126		187	396	135	844				
irginia	1,256		1,418	693		3,36				
ashington	104	253	263	2,813	63	3,49				
est Virginia	2,516		241	815	16	3,58				
isconsin			517	1,101	10	1,619				
yoming	1,323	40	55	68	1,852	3,33				
,										
Total	21,705	9,466	55,470	35,460	13,775	135,87				

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

2/Included with Maryland.

TABLE	7Packaged	and	bull	wate:	c gels,	slu	rries,	and	emula	sions	sold	for
	consumption	in	the l	inited	States,	, by	State	and	use,	1985	1/	
	-			(Tho	isand oc	und	R)				-	

StatemiAlabamaAlaskaAlaskaArkansasArizonaArkansasArkansasColoradoCaliforniaConnecticutConnecticutDelawareDelawareDistrict of Columbia 2/FloridaFloridaGeorgiaHawaiiIdahoFloridaIdahoFloridaIdahoFloridaIdaho	081 1010g 84 15 		Quarrying and nonmetal mining 1,340	Construction work 99	All other purposes	Total
Alabama Alaska Alaska Arizona Colorado Sconnecticut Delaware District of Columbia 2/ Florida Beorgia Beorgia Hawaii Georgia Hawaii Idaho Illinois Tillinois Tillinois <t< th=""><th>84 15 </th><th></th><th>1,340</th><th></th><th></th><th></th></t<>	84 15 		1,340			
laska Arizona Arizona Ariansas California Sconnecticut Delaware District of Columbia 2/ Clorida California Gasa Cansas Cansas <th>15</th> <th></th> <th>-</th> <th>99</th> <th>125</th> <th></th>	15		-	99	125	
rizona 5, rkansas 5, california 5, connecticut 5, connecticut 5, connecticut 2/ lorida 2/ lorida 2/ lorida 7, daho					135	1,658
rkansas 5, alifornia 5, olorado 5, onnecticut 5, onnecticut 5, elaware 2/ lorida 2/ lorida 2/ lorida 2/ lorida 2/ lorida 2/ lorida 2/ lorida 7, eargia 7, awaii 7, ndiana 7, owa 7, owa 7, owa 15, ouisiana 15, ouisi				380	195	590
california 5, colorado 5, connecticut 5, connecticut 2/ connecticut 7, corgia 7, connecticut 7, connecticut 7, connecticut 7, connecticut 7, connecticut 15, consas 15, consistana 15, consistana 15, consistana 15, consistana 15, consistana 15, constana 15, <		24,779		17	6,216	31,012
colorado 5, connecticut			1,488	679	2	2,169
colorado 5, connecticut 5, connecticut 2/ conda 7, daho 7, daho 7, consas 7, consas 15, couisiana 16, couisiana 16, couisiana 16, couisiana		145	4,833	944	141	6,063
elaware district of Columbia 2/ lorida eorgia awaii daho jilinois ndiana 7, indiana 7, owa ansas ientucky lisiana iaryland iassachusetts lichigan lississippi lississippi lississippi	,654	3,208	356	161	521	9,900
istrict of Columbia 2/ lorida			816	616	509	1,941
lorida - eorgia - awaii - awaii - aho - llinois 7, ndiana 7, owa 7, owa 15, entucky 15, ouisiana - ansas - entucky 15, ouisiana - aine - airyland - assachusetts - linnesota - lississippi - lissouri -						
eorgia awaii daho daho llinois ndiana 7, owa ansas entucky lowisiana aine aire aire ichigan ississippi ississippi						
awaii		·	17,136	3,668		20,804
daho 7, llinois 7, ndiana 7, owa 7, ansas 7, entucky 15, ouisiana 15, ouisiana 15, aine 15, aryland 15, ichigan 16, ississippi 11, ississippi 11, issouri 11,	17		7,936	572		8,525
111nois 7, ndiana 7, owa 7, ansas 7, entucky 15, ouisiana 15, aine 15, aryland 15, ichigan 16, ississippi 15, ississippi 15,			116	4		120
ndiana 7, owa		22	97	66	8	193
ndiana 7, owa 7, ansas 7, ansas 15, ouisiana 15, aine 15, aryland 15, assachusetts 15, ichigan 15, innesota 15, ississippi 15,	292		3,548	1,784	1,320	13,944
owa 15, ansas 15, ouisiana	951		3,342	40	1,042	12,375
entucky 15, ouisiana aine	57		1,879	26	155	2,117
ouisiana aine aryland assachusetts ichigan innesota ississippi issouri	694		546	20	11	1,271
ouisiana aine aryland assachusetts ichigan innesota ississippi issouri	,881		2,263	433	405	18,982
aryland assachusetts ichigan innesota ississippi issouri			45		124	169
assachusetts ichigan innesota ississippi issouri			7	141		148
assachusetts ichigan innesota ississippi issouri	174		1,538	97	297	2,106
ichigan innesota ississippi issouri			550	220	610	1,380
innesota ississippi issouri		9,931	2,325	160	95	12,511
issouri		15,075	1,202	69		16,346
issouri						
		3	1,654	707	887	3,251
ontana	691	4,204		2,088	85	7,068
ebraska				6		6
evada		15	83	80	39	217
ew Hampshire			53	167		220
ew Jersey			1,272	41		1,313
	654	8,373		1,138	201	23,366
ew York			2,275	1,399	61	3,735
orth Carolina	274		10,331	388	-5	10,998
orth Dakota						
hio	736		1,870	2,035	310	4,951
	464		962	3,093	63	7,582
regon			93	46		139
	587		5,142	1,212	1,586	18,527
hode Island			3	15		18
outh Carolina	18	11	138	-5		174
outh Dakota			76			76
	085	101	1,709	238	115	5,248
exas			1,060	2,215	276	3,551
tah		640		15	275	930
ermont			103	111	32	246
	,798		1,316	672	242	4,028
ashington	1	109	104	138	1	353
	,851		250	625	278	3,004
isconsin			367	315		682
	,880	37	59	540	3	60,519
,						
Totol 122	,	57		210	2	
Total 133,	,858	66,653	80,283	27,487	16,245	324,526

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.

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State mining mining nonmetal mining vork purposes Alabama			_	Üse			
Alabama 376 281 227 Alaka 14 12 546 Arizona 2,141 289 43 70 Arizona 1,428 519 California 1,461 4,761 1,788 88 Colorado 984 3,735 Delavra Delavra Delavra		Coal	Metal	Quarrying and	Construction	All other	
Alaska	State	mining	mining	nonmetal mining	work	purposes	Total
Niska	1 eboma	378		281	227		886
Arizons							572
Arkanasa							2,543
Zalifornia							1,951
Dolorado 984 3,735 Donnecticut		•		-			8,098
bornecticut					•		
belaware			•				4,719
<pre>district of Columbia 2/</pre>				-			1,640
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largin 2,041 230 largin 200 late lininois 11,215 2,560 1,195 40 1 indiana 29,932 4,306 17 3 cova 988 68 3 covas 7,225 518 1 couisiana 7,225 16 couisiana 16 couisiana 150,206 9,358 3,145 16 couisiana 27 <td></td> <td>-</td> <td></td> <td></td> <td></td> <td></td> <td>1 5 2 1</td>		-					1 5 2 1
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iowa 988 68 ianass 7,225 518 1 ientucky 150,206 9,358 3,145 16 ouisiana				•	-		14,970
cansas		-					34,255
ientucky 150,206 9,358 3,145 16 ooisiana 16 15 75 3,093 42 11 16 16 16							1,056
couisiana 1 1 <td< td=""><td></td><td></td><td></td><td></td><td></td><td>1</td><td>7,744</td></td<>						1	7,744
aine 171 726 aryland 25 27 assachusetts 4,546 1,156 tichigan 1,515 757 3,093 42 timesota 11,374 10 1 tissouri 1 tissouri 1 tissouri 1 tissouri 1 tissouri 1 tissouri tewata 2,005 4 tew Marco 2,005 4 tew Marco 3,347 462 tew Marco <td< td=""><td>entucky</td><td>150,206</td><td></td><td>9,358</td><td>3,145</td><td></td><td>162,709</td></td<>	entucky	150,206		9,358	3,145		162,709
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dichigan	aryland	25			27		52
ichigan	assachusetts			4,546	1,156		5,702
immesota 11,374 10 1 iississippi 1 iississippi 1 ississippi 1 ississippi 1 10 10 11 10 10 10 10 11 10 10 10 10 10		1,515	757	-			5,407
Hississippi	•	•		-			11,384
Hissouri 6,691 3,113 Hontana 160 Hevada 906 Hevada 906 Hevada 2,205 1,728 400 47 Hew Mashire 658 1,272 Hew Mexico 3,629 48 1 359 Hew York 3,347 4661 1,104 Horth Carolina 3,347 462 Orth Carolina 3,347 462 Whio Whio 27,356 12,773 455 4 Walahoma 11,057 3,848 2,858 5,320 2 Ortensylvania 11,849 2,539 343 4 Hode Island -			-				
Inotana 160 </td <td>••</td> <td></td> <td></td> <td>6,691</td> <td>3,113</td> <td></td> <td>9,804</td>	••			6,691	3,113		9,804
iebraska 906 ievada 2,205 1,728 400 47 iew Hampshire 658 1,272 iew Jersey 2,005 4 iew Mexico 3,629 48 1 359 iew York 3,347 462 iorth Carolina iorth Dakota 27,356 12,773 455 40 Walahoma 11,057 3,848 2,858 5,320 40 Yregon 11,849 2,539 343 44 ichode Island 63 icouth Dakota 63 icouth Carolina 63 <td></td> <td>160</td> <td></td> <td>•</td> <td>-</td> <td></td> <td>160</td>		160		•	-		160
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North Carolina 3,347 462 North Dakota White Dakota 27,356 12,773 455 462 Oklahoma 11,057 3,848 2,858 5,320 27 Oregon 2,358 445 130 Pregon 2,358 445 130 Pregon 11,849 2,539 343 445 Node Island 193 South Carolina 63 South Dakota 63 South Dakota 63					_		-
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Dregon 2,358 445 130 Pennsylvania 34,576 11,849 2,539 343 4 Rhode Island 193							40,584
Pennsylvania 34,576 11,849 2,539 343 4 Rhode Island 193 193 South Carolina 8 63 South Dakota 63 63 Cennessee 17,089 6,674 2,213 2 Texas 33 5,397 2,809 2,677 1 Utah 42 703 314 Virginia 32,272 2,222 249 32 Washington 32 46 45 45 West Virginia 5 Visconsin 6		11,057	3,848				23,083
Rhode Island 193 South Carolina 8 South Dakota 63 Tennessee 17,089 6,674 2,213 2 Texas 33 5,397 2,809 2,677 1 Jtah 42 703 314 Virginia 32,272 2,222 249 3 Vashington 32 46 45 5 Virginia 43,083 194 12,837 5 Visconsin 6 5	•						2,933
South Carolina 8 South Dakota 63 South Dakota 17,089 6,674 2,213 2 Texas 33 5,397 2,809 2,677 1 Texas 2 Vatah 2 Varginia 32,272 2,222 249 3 3 Virginia 32 46 45 5 4 5 Vest Virginia 6 5		34,576		11,849		343	49,307
South Dakota 63 Tennessee 17,089 6,674 2,213 2 Texas 33 5,397 2,809 2,677 1 Jtah 2 Vermont 42 703 314 Virginia 32,272 2,222 249 32 Vashington 32 46 45 45 Virginia 43,083 194 12,837 5 Visconsin 6 5					193		193
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Texas 33 5,397 2,809 2,677 1 Jtah 1 Vermont 42 703 314	Tennessee	17,089			2,213		25,970
Jtah Vermont 42 703 314 Virginia 32,272 2,222 249 Vashington 32 46 45 Virginia 194 12,837 Visconsin 6	exas		33	5,397	2,809	2,677	10,910
Virginia 32,272 2,222 249 33 Vashington 32 46 45 Vest Virginia 43,083 194 12,837 5 Visconsin 6 5	Itah						
Virginia 32,272 2,222 249 33 Vashington 32 46 45 Vest Virginia 43,083 194 12,837 5 Visconsin 6 5	ermont			42	703	314	1,059
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Vest Virginia 43,083 194 12,837 5 Visconsin 6						45	12
disconsin 6		43.083					56,114
							,
		9,287					10,03
Total 369,139 29,534 106,727 47,292 4,167 55		360 120	29.534	106 727	<u> </u>		556,859

TABLE 8.--Ammonium nitrate-fuel oil blasting agents sold for consumption in the United States, by State and use, 1985 <u>1</u>/ (Thousand pounds)

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.

	Coal	Metal	Use Quarrying and	Construction	All other	_
State	mining	mining	nonmetal mining	work	purposes	Total
Alabama	186,584		5,124	29,233	41	220,982
Alaska	18,100		J,124	29,235	41	18,100
rizona	18,946	54,020			2,298	75,264
rkansas		54,020	3,755	417	29	4,201
California		430	2,897	1,066	616	5,009
Colorado	28,087	2,396	2,067	1,827		34,377
Connecticut	20,007	2,000	947	159		1,106
elaware				19	6	25
istrict of Columbia						
lorida	=		8,421	1,095		9,516
eorgia			6,676			6,676
awa11						
daho	32,576	15,224	1,836			49,636
111nois	4,971		114,401		7,397	126,769
ndiana	37,155		114,401	24,265	/,39/ 	61,421
	1,762		4,393	64	9.642	15,861
ansas	1,702		4,393		196	236
entucky	425,493		17,107	31,371	36,849	510,820
ouisiana	425,495			51,571	50,045	510,020
aine						
aryland	600			338		938
assachusetts					1	1
ichigan		11,634	93	138	5,374	17,239
innesota		38,784	2,504	188	6,208	47,684
ississippi		50,704	2,504			47,004
issouri	17,258	2,510	14,309	2,776	2,377	39,230
ontana	47,332	80,444	14,509	2,770		127,776
ebraska	47,552			1,548		1,548
evada		46,698	1			46,699
ew Hampshire		40,090			14	14
ew Jersey					18	18
ew Mexico	38,554	23,503	594	2,153	54	54,858
lew York	30,334	23,505	1,075	1,104		2,179
orth Carolina	11,860		22,243			34,103
	11,000				452	452
orth Dakota hio	128,188		6,219	1,752	5,264	141,423
klahoma	1,023		15,823	332	5,204	17,178
regon	1,023		726	5,702	1,290	7,718
ennsylvania	228,277		147	3,191	105,629	337,244
hode Island	220,277		147	5,191	105,829	
outh Carolina			110			110
outh Dakota					598	598
	26 120			146		24,28
ennessee exas	24,139 2,171		6,880	13,437	218	22,700
	-	822		1,064		7,852
tah			5,966	-		/,054
ermont	60 842		1,073	1,284		72,200
irginia	69,843 5 196			8,000	1,766	32,460
ashington	5,196		17,504	3,677	4,392	193,15
est Virginia	185,088		2 765	-	4,392	3,75
isconsin	169 835	175	2,765	30	856	171,73
yoming	168,835		1,842	-	191,857	191,85
Indistributed 3/-	<u>4</u> /	<u>4</u> /	<u>4</u> /	<u>4</u> /	.,.,.,	
Total	1,682,038	276,640	267,539	136,376	384,432	2,747,02

TABLE 9.--- Unprocessed ammonium nitrate sold for consumption in the United States, by State and use, 1985 1/ (Thousand pounds)

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."