

# Mineral Industry Surveys

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## SODA ASH IN JANUARY 2023

In January, soda ash production was 884,000 metric tons (t), a 9% decrease compared with the previous month's production and a 10% decrease compared with that of January 2022 (tables 1 and 4). Ending stocks in January were 303,000 t, 17% less than the ending stocks from the preceding month. Wyoming trona production in January 2023 was 1.24 million metric tons (Mt), an 18% decrease compared with the trona production in December 2022 and 23% less than the total in January 2022 (table 1).

Exports of soda ash were unchanged in January 2023 at 577,000 t, compared with those in December 2022 but 20% more than those in January 2022 (tables 2, 4). Imports of soda ash in January 2023 were 603 t compared with 608 t in December 2022. Soda ash import tonnages can differ significantly from month to month, but generally are much smaller than soda ash export tonnages (tables 3, 4).

Apparent consumption for January 2023 was 368,000 t, slightly less than the total for December 2022 and 25% less than the total for January 2022. Apparent consumption can change significantly from month to month mostly owing to variation in the quantity of exports but usually stabilizes over the course of the year (table 4).

Table 5 provides reported U.S. soda ash consumption statistics for the fourth quarter and full year of 2022. Reported consumption for the fourth quarter was 1.16 Mt, slightly less than that reported consumption for the fourth quarter of 2021.

During the fourth quarter, 543,000 t (47%) went to glassmaking and 323,000 t (28%) was consumed in the production of chemicals. For 2022, reported consumption was 4.64 Mt, unchanged from 2021. During 2022, 2.25 Mt (49%) went to glassmaking and 1.28 Mt (28%) was consumed in the production of chemicals.

All percentages in this report were calculated using unrounded data.

**Note:** The annual average value of U.S. soda ash production for 2022 was \$161.95 per short ton (\$178.52 per metric ton), a 34% increase compared with the 2021 average value of \$120.99 per short ton (\$133.37 per metric ton). For 2021, unit value pricing was influenced by the coronavirus disease 2019 (COVID-19) pandemic which negatively affected consumption and supply contracts. The 2022 average value represents a record high amount, surpassing the value of \$156.42 per metric ton in 2012, the previous record high, by 14%, as reported in the U.S. Geological Survey's 2016 Minerals Yearbook.

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TABLE 1  
SALIENT SODA ASH STATISTICS<sup>1</sup>

(Thousand metric tons)

Period	Soda ash		Wyoming trona production
	Production <sup>2</sup>	Stocks, end of period	
2022:			
January	980	286	1,610
February	855	256	1,400
March	983	285	1,570
April	851	236	1,170
May	944	260	1,470
June	895	227	1,500
July	992	308	1,490
August	947	237	1,540
September	805	236	1,260
October	1,030	298	1,530
November	1,010	346	1,440
December	968	364	1,520
January–December	11,300	364	17,500
2023, January	884	303	1,240

<sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>2</sup>Production data include soda ash equivalent from soda liquors only. Soda ash equivalent from mine water is not included. Soda liquors are withheld to avoid disclosing company proprietary data.

TABLE 2  
U.S. EXPORTS OF SODA ASH BY COUNTRY OR LOCALITY, IN 2023<sup>1</sup>

(Metric tons unless otherwise specified)

Country or locality	Quantity	January		Percent of total quantity
		Value <sup>2</sup> (thousand dollars)	Unit value	
Argentina	17,000	4,650	\$273	3
Australia	28,000	10,600	380	5
Brazil	122,000	41,200	338	21
Canada	15,500	3,800	245	3
Chile	38,100	8,930	234	7
Colombia	18,300	5,150	281	3
India	31,100	9,010	290	5
Indonesia	22,500	8,070	359	4
Japan	15,500	6,280	405	3
Korea, Republic of	15,000	5,330	355	3
Malaysia	19,800	6,110	308	3
Mexico	133,000	33,800	255	23
Taiwan	13,000	5,180	399	2
Thailand	28,500	9,600	337	5
United Arab Emirates	12,000	2,690	225	2
Vietnam	14,800	5,530	375	3
Others	33,100	9,370	283	6
Total	577,000	175,000	304	100

<sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>2</sup>Free alongside ship values at U.S. ports.

Source: U.S. Census Bureau.

TABLE 3  
U.S. IMPORTS OF SODA ASH BY COUNTRY OR LOCALITY, IN 2023<sup>1</sup>

(Metric tons unless otherwise specified)

Country or locality	January			Percent of total quantity
	Quantity	Value <sup>2</sup> (thousand dollars)	Unit value	
Canada	173	61	\$351	29
France	20	39	1,960	3
Germany	80	72	897	13
India	56	64	1,140	9
Italy	72	63	873	12
Mexico	98	60	611	16
United Kingdom	89	88	988	15
Other	15	43	2,970	2
Total	603	490	812	100

<sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>2</sup>Cost, insurance, and freight values at U.S. ports.

Source: U.S. Census Bureau as adjusted by the U.S. Geological Survey.

TABLE 4  
U.S. APPARENT CONSUMPTION OF SODA ASH<sup>1</sup>

(Metric tons)

Period	Production	Exports	Imports	Net stock		Apparent consumption <sup>2</sup>
				Increase	Decrease	
2022:						
January–December	11,300,000	6,490,000	61,500 <sup>e</sup>	85,900	--	4,740,000 <sup>e</sup>
January	980,000	482,000	388	8,110	--	491,000
February	855,000	536,000	26,900 <sup>e</sup>	--	29,300	376,000 <sup>e</sup>
March	983,000	517,000	272	28,900	--	438,000
April	851,000	615,000	491	--	49,800	286,000
May	944,000	569,000	397	24,400	--	352,000
June	895,000	560,000	10,300 <sup>e</sup>	--	32,800	378,000 <sup>e</sup>
July	992,000	480,000	283	80,900	--	431,000
August	947,000	547,000	20,100 <sup>e</sup>	--	70,900	490,000 <sup>e</sup>
September	805,000	496,000	458	--	1,200	311,000
October	1,030,000	569,000	686	62,200	--	402,000
November	1,010,000	541,000	624	48,300	--	416,000
December	968,000	577,000	608	17,100	--	374,000
2023, January	884,000	577,000	603	--	60,200	368,000

<sup>e</sup>Estimated. -- Zero.

<sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>2</sup>Production plus imports minus exports plus or minus stock changes.

TABLE 5  
REPORTED CONSUMPTION OF SODA ASH IN THE UNITED STATES, BY END USE, BY QUARTER<sup>1</sup>

(Thousand metric tons)

NAICS <sup>2</sup> code	End use	2021					2022				
		1st quarter	2d quarter	3d quarter	4th quarter	1st quarter– 4th quarter	1st quarter	2d quarter	3d quarter	4th quarter	1st quarter– 4th quarter
3272	Glass:										
327213	Container	254	268	262	254	1,040	267 <sup>r</sup>	263 <sup>r</sup>	251 <sup>r</sup>	239	1,020
327211	Flat	239	242	257	252	990	246	249	253	251	999
327993	Fiber	42	47	40	43	172	44	39	43	43	169
327212	Other	21	20	18	19	78	17	18	16	11	62
	Total	556	578	577	568	2,280	574 <sup>r</sup>	569 <sup>r</sup>	564 <sup>r</sup>	543	2,250
32518	Chemicals	318	311	298	331	1,260	306	335	312 <sup>r</sup>	323	1,280
325611	Soaps and detergents	59	57	55	59	230	56	59	51	55	221
322	Pulp and paper	10	7	9	10	36	8	8	8	6	31
221310	Water treatment <sup>3</sup>	9	10	10	9	38	10	10	11	9	40
56221	Flue gas desulfurization	38	37	47	36	158	42	38	44	39	163
4246	Distributors	64	60	65	65	254	61	62	62 <sup>r</sup>	65	250
	Other	84	94	112	98	388	116	86	89	115	406
	Total domestic consumption <sup>4</sup>	1,140	1,160	1,170	1,180	4,640	1,170 <sup>r</sup>	1,170 <sup>r</sup>	1,140	1,160	4,640
	Exports <sup>5</sup>	1,730	1,650	1,600	1,630	6,610	1,620	1,550	1,610 <sup>r</sup>	1,620	6,410
	Canada	38	37	40	46	161	49	44	44	44	181
	Total industry sales <sup>6</sup>	2,870	2,800	2,770	2,810	11,200	2,790 <sup>r</sup>	2,720 <sup>r</sup>	2,760 <sup>r</sup>	2,780	11,000
	Total sales from plants	2,820	2,770	2,800	2,760	11,200	2,840 <sup>r</sup>	2,530	2,740 <sup>r</sup>	2,870	11,000
	Total production	2,750	2,840	2,800	2,860	11,300	2,820	2,690	2,740	3,010	11,300

<sup>r</sup>Revised.

<sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>2</sup>North American Industry Classification System.

<sup>3</sup>Includes soda ash equivalent from soda liquors and purge liquors sold to power plants for water treatment. Sales of mine water are excluded.

<sup>4</sup>Imports reported by the producer/importer have been distributed into appropriate end-use categories listed above.

<sup>5</sup>As reported by producers; includes Canada. Data may not necessarily agree with those reported by the U.S. Census Bureau for the same periods.

<sup>6</sup>Represents soda ash from domestic origin (production and inventory changes) and imports and exports. Includes soda ash sold by coproducers and distributed by purchasers into appropriate end-use categories.