



**NATURAL
ALKALI
PRODUCTS**
— FROM THE —
**WORLD'S
LARGEST
TRONA MINE**

ALKALI.GENESISENERGY.COM

SODA ASH

**SODIUM
BICARBONATE**

S-CARB®





SESQUI™

**CAUSTIC
SODA**

THE WORLD'S MOST RELIABLE SOURCE OF HIGH QUALITY, NATURAL ALKALI PRODUCTS

Genesis Alkali is the world's leading producer of natural alkali products. We provide a secure and reliable supply of a diverse range of high quality product grades to customers in every corner of the globe, backed by technical expertise and superior customer service.

Green River is home to the world's largest deposit of trona ore which provides a dependable supply of soda ash, sodium bicarbonate, S-Carb®, Sesqui™, and caustic soda to the U.S. and to strategic export markets around the world.

We have built a solid track record of meeting the needs of customers in a wide range of industries.



The origin of trona dates back 50 million years, when the area was covered by the 600 square mile landlocked inland sea, Lake Goshute. As the Earth's climate changed and water evaporated, trona was deposited. This process left behind more than 130 billion tons of trona wedged between layers of clay and shale. Our reserves of trona are large enough to meet the alkali demands of global customers for many decades to come.

At Genesis Alkali, we continue to lead the industry with innovations in mining techniques and proprietary process technologies that ensure reliability, cost-effectiveness, and sustainability. Genesis Alkali technology teams pioneered the use of longwall mining and high-efficiency solution mining at our Green River facility.

HISTORY

Fifty million years ago, southwestern Wyoming – including the land now occupied by our Green River facility – was covered by a landlocked lake. As the Earth changed through the ages, the lake evaporated and left behind 130 billion tons of pure trona wedged between layers of clay and shale – the world's largest known deposits. The chemical name for trona is sodium sesquicarbonate and is the source of both the sodium and the carbonate used to manufacture soda ash, sodium bicarbonate, S-Carb®, Sesqui™, and caustic soda.

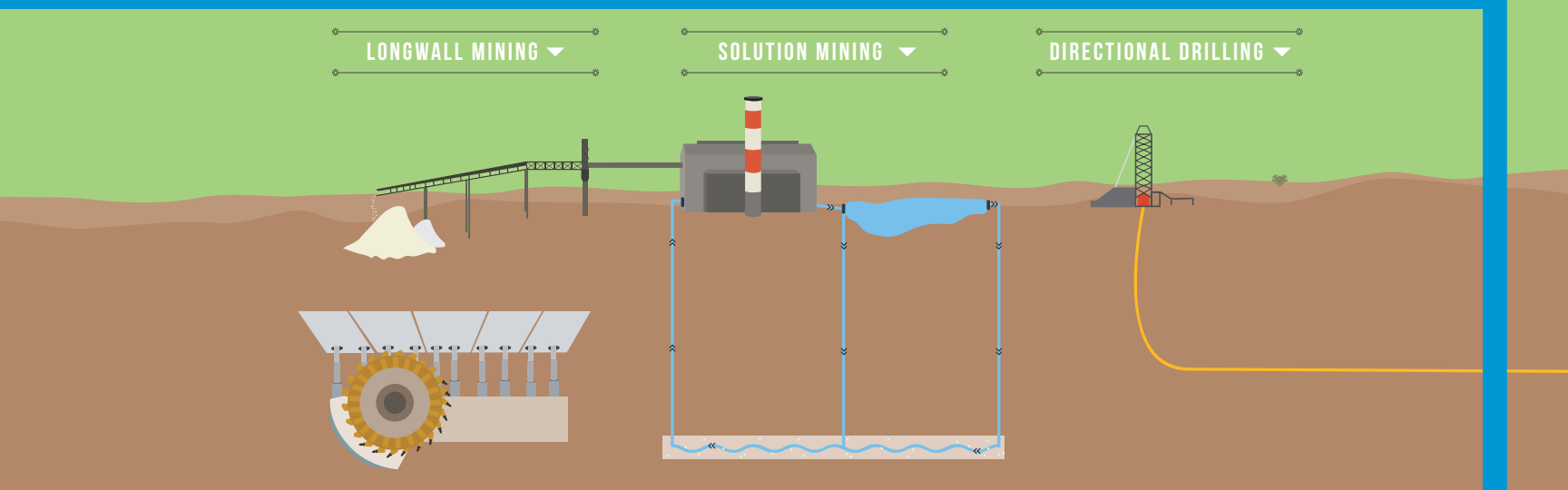
This monumental deposit was first mined in 1948. Today this same mine, located 1,600 feet below the surface, contains nearly 2,500 miles of tunnels and covers 36 square miles.

SUSTAINABILITY & SAFETY

At Genesis Alkali, safety is our main focus. We have a primary responsibility to protect our most precious resource, our employees, as well as our business partners, community neighbors and customers. We have an active focus on safety and routinely conduct training at all levels of our business.

We have a responsibility to the environment, too. We engage in sustainable innovation by maximizing the use of less toxic and safer materials in the design and development of new products and, where possible, work to replace existing products and chemistries with ones that are more benign or beneficial. Genesis Alkali's production process is also substantially less energy intensive and produces less harmful pollutants than synthetic methods.

Genesis Alkali subscribes to important core values around pollution prevention, employee health and safety, community engagement, emergency response, security and product stewardship.



PRODUCTION

Mining

As you walk across the ground at our Green River facility, it is hard to imagine the tremendous activity taking place beneath your feet. Sixteen hundred feet below the ground and accessed through one of several mine shafts, is an around-the-clock mining operation.

Our Green River facility pioneered longwall mining by adapting this efficient coal mining technique to trona mining. A powerful longwall shearing machine moves along a 750 foot wide face of the trona seam, removing trona with cutting drums. The recovered trona is then dropped onto a continuous conveyor system and moved to the surface. The longwall method extracts 50 percent more of the trona deposit than traditional mining methods.

In addition to mechanical mining, we developed and patented solution mining technology here. In our current implementation of this technology, water and insoluble tailings are injected into “mined out” areas that still hold unrecovered trona. Water dissolves the residual trona, forming an alkali-rich solution which is then pumped back to the surface for processing. The result is a high-purity, low-cost product that dramatically increases our ability to deliver value and volume to world markets.

Advanced mining techniques have been one cornerstone of our success. Over the years these methods have enabled us to stay a step ahead of the competition and economically expand our capacity to meet growing market demands.

Manufacturing

Genesis Alkali's Green River surface operation is the world's largest natural soda ash facility. We have five surface plants capable of producing nearly 5 million tons per year, using multiple manufacturing processes.

Our patented monohydrate “mono” production method begins as trona ore is heated and then it is dissolved. The insoluble materials are separated and removed, and the purified solution is sent to large evaporators where sodium carbonate monohydrate crystallizes out. Finally, the water is driven off to leave behind pure anhydrous sodium carbonate crystals – soda ash.

Our proprietary sesquicarbonate “sesqui” processing method has been utilized by this facility since 1953. The sesqui process begins as trona ore is crushed and dissolved. The insoluble materials are separated and removed, and the trona is crystallized as pure sodium sesquicarbonate.

The pure sodium sesquicarbonate crystals manufactured in the sesqui process are pumped to the sodium bicarbonate plant where the crystals are a key raw material to manufacture sodium bicarbonate. This process is unique to Genesis Alkali. The sodium sesquicarbonate crystals are dissolved, the solution is filtered, reacted with CO_2 , and flash dried to form pure sodium bicarbonate crystals.

Genesis Alkali's newest production method utilizes patented technology from solution mined liquors. In this process the solution from the mine is first concentrated through evaporation. It is then reacted with lime to convert residual sodium bicarbonate to sodium carbonate. The carbonate goes through a two-step crystallization process to form first decahydrate crystals, and then monohydrate crystals. These are then calcined.

PRODUCT APPLICATIONS

Soda ash has been used in manufacturing for more than 5,000 years. Ancient Egyptians recovered the product from dry lake-bed deposits or manufactured it into glass ornaments and vessels by burning seaweed and other marine plants. The Romans used natural alkali products for baking bread, making glass, and for medicinal purposes. Today, Genesis Alkali supplies soda ash, sodium bicarbonate, S-Carb®, Sesqui™, and caustic soda to a wide variety of industries throughout the world.

Glass

About half of all soda ash is consumed by the glass industry. Flat glass for autos, homes and office buildings, and container glass for consumer products, are the two largest segments. Soda ash reduces the melting temperature of sand used in glass formulations, and alkali helps aid in the “workability” or forming of the glass product. Our Grade 260 dense soda ash particles are similar in size to silica sand, enabling the homogeneity of raw materials that is so important in producing high-quality glass products.

Chemical Manufacturing

Soda ash provides the sodium source for the manufacture of many materials including sodium percarbonate, sodium phosphates, sodium sulfate, sodium sulfite, sodium acetate, sodium nitrite, sodium silicate and sodium citrate. Soda ash can also be used as a functional substitute for caustic soda in applications such as pH adjustment, acid neutralization, and sodium chemical production.

Caustic soda is used as the primary strong base in the chemical industry. Applications include detergent production, water treatment, oil drilling, fuel processing, biodiesel production, and more.

Genesis Alkali's customers span diverse end uses: manufacturing glass, chemicals, detergents, and cleaning products. Other applications include effervescent tablets, animal feed, and baking.

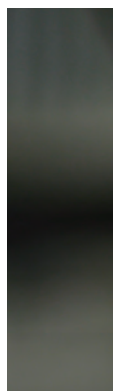
Cleaning & Sanitation

Soda ash and sodium bicarbonate are widely used in soaps, detergents and other cleaning products as a good source of alkalinity and a carrier of surfactants and dyes. Soda ash is an effective precipitating builder for removing hardness ions from water. In the detergent manufacturing process, soda ash and sodium bicarbonate aid agglomeration and may be used to neutralize the acid form of anionic surfactants. These carbonates can also be hydrated to carry water as an inexpensive filler, and to enhance the storage and dissolution properties of the detergent.

All of the carbonates can be used as an economical source of alkalinity, buffering, or water conditioning in mildly concentrated liquid formulations.

Animal Nutrition

S-Carb®-purified sodium sesquicarbonate and feed grade sodium bicarbonate are used in the animal nutrition market. In dairy applications, these products provide a natural buffering agent for the digestive systems of cows. By neutralizing and buffering the digestive system, dairy production is maximized. For poultry applications, these products are used as a sodium source to maintain electrolyte balance, improve heat stress tolerance, enhance eggshell quality, and reduce the moisture content of litter.





Food Industry

Sodium bicarbonate, also known as baking soda, is used in virtually all leavening systems for the preparation of baked goods. Genesis Alkali USP grades meet the United States Pharmacopeia and Food Chemical Codex Specifications, and are typically used in baked products. Our sodium bicarbonate is listed with the Organic Materials Review Institute (OMRI) for organic production in food processing and handling. With this listing, we help our customers by contributing to their organic ingredients list.



Pharma & Hemodialysis

Genesis Alkali pharmaceutical grade sodium bicarbonate is manufactured in compliance with Q7A for use as an Active Pharmaceutical Ingredient (API). USP grade may be used as an excipient in pharmaceutical applications. Effervescent tablets designed for oral delivery systems in the pharmaceutical and dietary industries are growing in popularity in the U.S. and often contain sodium bicarbonate. Hemodialysis grade sodium bicarbonate is a component in life saving dialysis for millions of patients whose kidney function is compromised.



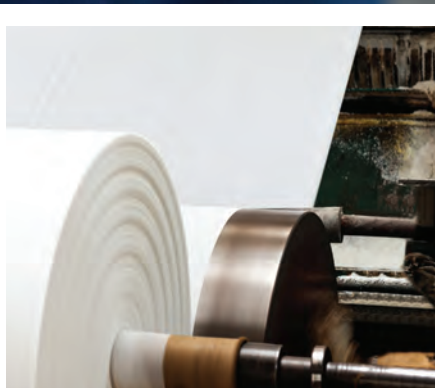
Industrial

A wide variety of industrial applications use sodium bicarbonate – as an abrasive agent in soda blasting for removal of surface coatings, as the buffer against large pH swings in industrial and swimming pool treatments, and as a source of CO₂ in chemical manufacturing. The odor absorption characteristics of sodium bicarbonate are important for kitty litter and carpet deodorizer formulations. Sodium bicarbonate is environmentally friendly, making it the preferred choice in many of these applications.



Cosmetics & Personal Care

Sodium sesquicarbonate and sodium bicarbonate are used in formulating bath, skin, and hair preparations. They are also used to control the acid balance of cosmetics. In some personal care products, sodium bicarbonate may be used as a deodorant. Genesis Alkali's natural and OMRI (Organic Materials Review Institute) listed ingredients are very important to this industry and help to fuel its growth.



Certifications*



FSSC 22000, Halal, ISO 9001, Kosher, NSF, OMRI Products Listed

*See product sheets for specific product associations



Genesis Alkali is a member of the American Natural Soda Ash Corporation (ANSAC) which handles our soda ash exports and logistics to many parts of the globe. International transportation services are available for sodium bicarbonate, S-Carb® and Sesqui™ to destinations around the world.

CUSTOMER SUPPORT

At Genesis Alkali, we are here to assist with all your transportation and storage needs. Whether you are using soda ash, sodium bicarbonate, S-Carb®, Sesqui™, or caustic soda, we provide technical, engineering, and logistical support to ensure a long-term partnership for decades to come.

Our dedicated customer support team is ready to provide information and answers about our products, backed by a technical services group with experts in all aspects of product applications. They evaluate product performance in new and specialized applications, conduct research on appropriate grades for various end uses, and provide technical troubleshooting services. In addition, our engineering services group provides design and start-up support for a variety of sodium alkali product storage and handling systems.

Genesis Alkali operates one of the largest railcar fleets dedicated to soda ash service and offers a customized supply chain for each customer.



Packaging

Genesis Alkali products are available in bulk railcars and bulk hopper trucks, as well as 50-pound bags and various sized IBCs. We also offer customers the convenience and flexibility of mixed product truckloads.

Order Center

Our eOrder Center (alkali.genesisenergy.com) allows us to process and track orders with peak efficiency. The eOrder Center is available to our customers around the clock. After receiving secure access, you will have the ability to place, change, and confirm orders online; view order status and history; obtain order-related documents; request a sample; and track the movement of railroad shipments.

Vendor Managed Inventory

For rail-direct customers, Genesis Alkali can also manage your inventory. We offer a Vendor Managed Inventory (VMI) process whereby we actively monitor and manage customer inventory and supply chain through the use of a Web-enabled system that integrates order information and real-time railcar tracking. Our customers benefit through reduced order planning, tracking, working capital and costs, while assuring supply reliability.

Logistics/Transportation

Once you have placed your order, Genesis Alkali works to ensure you receive it on time. Our North American distribution system consists of a flexible network of transloaders and approved distributors across the country. The majority of our products move directly from our plant to customer by rail. Our transportation department knows the shortest distance between two points and prides itself on the ability to find the least expensive and most reliable transportation mode and delivery route. We can also provide a host of other services:

- Freight rates and route analysis to help lower costs or improve service
- Access to on-line railcar location tracking to allow you to follow your rail shipments en route
- Consultation on truck delivery options and methods
- International transportation, cost and service analysis
- Ocean carrier selection for on-time, economical delivery overseas

Genesis Alkali maintains its own fleet of dedicated railcars to ensure product quality and reliable service. Our impressive 5,100 cubic feet capacity cars have newly fitted gates to safely speed unloading, resist leakage and ensure responsible product stewardship. You save both time and money with our easy-to-unload railcars.



A GLOBAL LEADER

Genesis Alkali is the world's premier producer of natural alkali products, mined and processed in Green River, Wyoming, home of the world's largest deposit of trona ore.

Genesis Energy, L.P. (NYSE: GEL) is a publicly traded diversified midstream energy master limited partnership headquartered in Houston, Texas.



POCKET AREA



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