



Comparing Sodium Sesquicarbonate Products

Currently there are two sodium sesquicarbonate sources available to the feed industry. Comparing sources can be confusion as the purity of the products are not the same. The current AAFCO definition of sesquicarbonate allows for up to 10% impurities. In order to compare these products, it is useful to understand where these products originate.

The Green River Basin in Wyoming contains the largest trona deposit in the United States and is the source of the sesquicarbonate buffers available to the Animal Nutrition market. Trona is naturally occurring sodium sesquicarbonate and will vary within the deposit from thin layers of very pure material to the average mined of 80-90% purity. The Green River trona basin is bounded on the south by the Uinta Mountains (the only east/west mountain range in the US), on the west by the Wasatch Range and the east by the Wind River Uplift. This deposit is an ancient lakebed known as Lake Gosiute that evaporated thousands of years ago. The lake evaporated and reformed several times, leaving more than 130 billion of trona between layers of sandstone and low-grade oil shale. Deposits range in depth from 500 to 3,000 feet, and contain enough reserves to last thousands of years into the future.

Genesis mines trona in a bed that is 1,600 feet below the surface. Our mine contains more than 4,000 miles of roadway. The ore is processed above ground and is made into soda ash (sodium carbonate), sodium bicarbonate or S-Carb® (purified sodium sesquicarbonate). As you drive by on Interstate 80, you can see a small part of our above ground operation.

There are four other trona mines on the basin. All of the producers mine trona out of the basin, although from different layers. The vast majority of the trona is processed into soda ash for sale into the world market.

To compare sodium sesquicarbonate sources, it is important to evaluate the purity of the product, as well as impurities. The following table shows the comparison between Genesis's S-Carb and ground trona that meets the AAFCO definition for sodium sesquicarbonate.

	S-Carb®	Ground Trona
Typical Purity	99.8%	90.0% - 92.5%
Insolubles	0	7.0% - 7.5%
Typical Sodium	30.4%	28.3 %
Physical Characteristics	White, free flowing, crystal Bulk density 60 lbs/cu ft	Grey to brown sand like Bulk density 60-62 lbs/cu ft.



Genesis is the only producer of purified sodium sesquicarbonate in the United States, and the only producer to have purified sesquicarbonate available to the feed industry. There are several advantages of S-Carb over ground trona:

- S-Carb is pure sodium sesquicarbonate, containing no insolubles or impurities
- S-Carb is easier to handle with free flowing white crystals and less dusty
- S-Carb is nonhygroscopic and doesn't pick up moisture from the air.

Genesis is the industry leader when it comes to buffers. We are committed to providing only *Pure & Proven Products* that provide the highest quality, consistency and the reliability of a proven supplier.