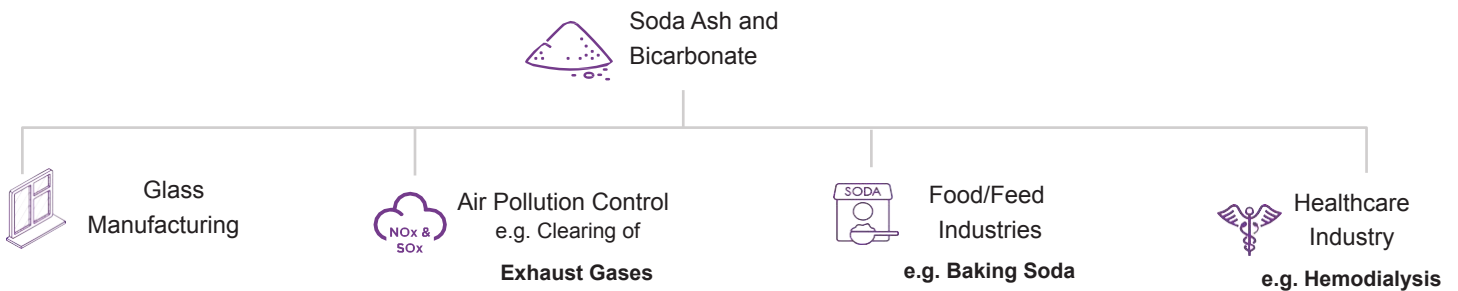


Solvay's Soda Ash Production in Rosignano



Soda ash is mainly used for the production of glass




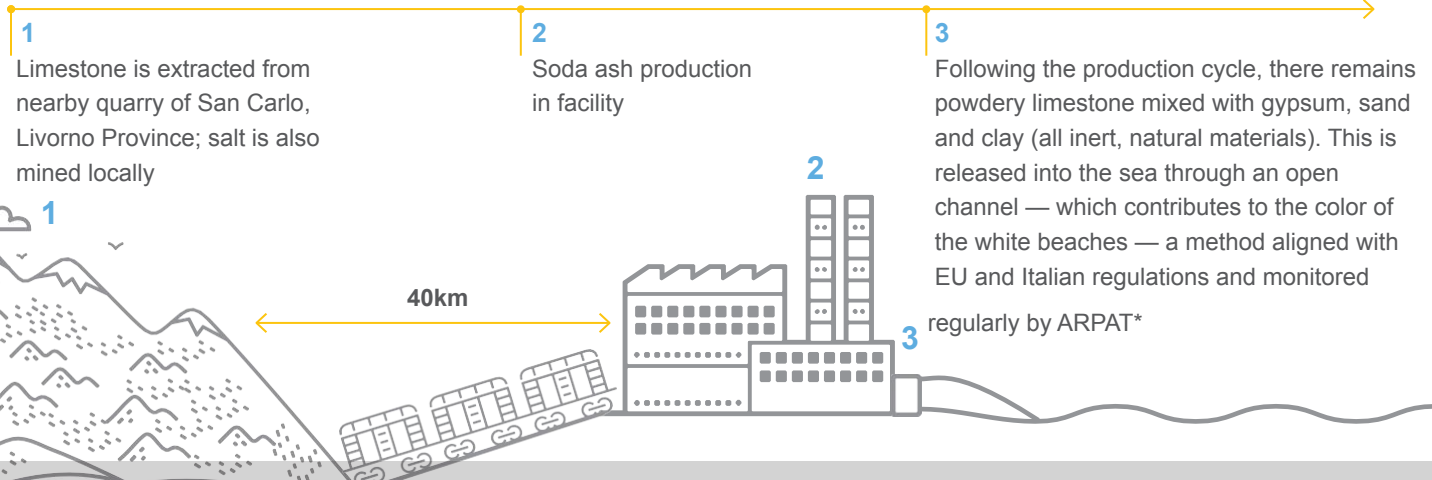
A safe and controlled production process using natural materials

Our soda ash process in Rosignano is undertaken in full compliance with EU and Italian regulations, as well as our own high standards for health, safety and environmental protection.

To produce soda ash you need...



 No heavy metals are used as part of the process.



Solvay does not use or add heavy metals in its soda ash process in Rosignano. Limestone, like many types of rock or stone, naturally contains traces of heavy metals, but those remain imprisoned in a solid state in the limestone and are not harmful for living organisms, including people and fish.

*The Regional Agency for Environmental Protection in Tuscany



Preferred Method by Regulators Given Stabilization of Coastline Against Erosion

There are several acceptable techniques to dispose of inert materials from soda ash operations, based on the EU framework for Best Available Techniques (BAT), which takes into account the unique geographic characteristics of each location.

Following discussions with authorities and independent scientific experts, a release to the sea through an open channel was confirmed to be the **best solution for Rosignano**, given that underwater currents ensure that the limestone does not accumulate (as required by BAT) but rather spreads evenly on the seabed, and the limestone

that flows back onto the shore and the beach plays an **important role in stabilizing the coastline against erosion**.

These facts were confirmed in an independent studies acknowledged in Solvay's renewed permit in January 2022.

Erosion is a significant problem along the Tuscan coast, and in fact, many municipalities have a recent history of using sand dredged from the sea bottom or from quarries to maintain their beaches and protect from erosion.



Stringent Regulatory and Scientific Monitoring

Both Solvay and regulators monitor every step of the process, as do independent academic institutions. All of this scientific research demonstrates that the water and environmental conditions near our operations are safe, in compliance with European quality standards, and the water quality is consistent with the rest of the Tuscan coast.



ARPAT monitors discharge six times per year and reviews bathing conditions monthly from April to September. The other controls carried out by ARPAT for sand cleanliness and microbiology are done one or two times per year — depending on the nature of the analysis. ARPAT also checks the ecological status of the water annually.



Solvay's IPPC permit (renewed in January 2022) for the Rosignano facility requires an independent and in-depth study every two years, of any impact on marine water near the facility.



The ARPAT report on the quality of bathing waters in Tuscany in 2020 rates **all 17 testing points as "excellent"** in the municipality of Rosignano Marittimo, including two in front of the Solvay facility¹.



The most recent study was concluded in November 2020, confirming **the quality of the water and biological information are in line with the Tuscan coast and showing no impact on water quality resulting from the facility**².



These studies, as well as additional independent scientific research, demonstrate that the water and environmental conditions near Solvay's operations are: (a) safe³, (b) consistent⁴ with those along the entire Tuscan coast, and (c) in compliance with European Quality standards⁵.



Investments to Enhance Sustainability

In line with its sustainability commitments, Solvay has made significant investments in Rosignano over the past 20 years with a focus on decreasing freshwater consumption, lowering energy use, reducing emissions, and increasing recycling. Through these investments, Solvay has:

Converted power

generation from oil to gas, ahead of any climate regulation, making Solvay at the time among the first to use efficient gas-cogeneration to produce steam

€40 million

Spent in 2018 on a high-efficiency cogeneration power plant that allowed Solvay to cut emissions by 40% in the past two years while producing the same amount of steam

20%

Reduction freshwater intake in the past decade

Built a new plant

in 2019 for the capture, purification and liquefaction of CO₂ by 40 kilotons per year to reuse in bicarbonate production.

2.4 million cubic meters

Well water replaced with water recycled from the local municipal wastewater treatment plant since 2006

Optimizing efficiency

Solvay's renewed IPPC permit confirms a maximum amount of suspended solids released per year⁶. In an effort to continually optimize efficiency and sustainability, Solvay has committed to further study possible new technical solutions to reduce the quantity of suspended solids produced or released into the sea and to report its finding to authorities.

¹ <http://www.arpat.toscana.it/documentazione/catalogo-pubblicazioni-arpat/rapporti-balneazione/il-controllo-delle-acque-di-balneazione-stagione-2020>
² IAS — "Monitoraggio dello stato di salute dell'ambiente marino nell'area antistante lo stabilimento solvay di rosignano m.mo (li)".

³ Source: <https://issuu.com/arpatoscana/docs/arpat-report-scarichi-solvay> pages 57 and 58

⁴ Source: <http://www.arpat.toscana.it/annuario> pages 43 – 44 — note that the text is in Italian

⁵ Source: <https://issuu.com/arpatoscana/docs/report-monitoraggio-marino-costiero-2019/17> page 54 and following

⁶ 250.000 tons