



## Company

Vestolit

## Sector:

PVC resin

## Location:

Altamira, Tamaulipas, México

**Date:** September, 29<sup>th</sup>, 2020

## ABOUT VESTOLIT



Mexichem Resinas Vinílicas, known as Vestolit, is a worldwide company that belongs to Orbia business group. It has production plants in Germany, USA, Colombia and Mexico. Produces and markets PVC resins (Polyvinyl Chloride). One of its plants in Mexico is located in Tamaulipas and is called Planta Altamira II. This plant manufactures PVC resin through the polymerization of VCM by suspension. Its annual production is approximately 171 000 tons (2019 data).



## MAIN PRODUCTS

PVC comes from the polymerization of Vinyl Monochloride (VCM). It is classified as one of the most versatile plastics, when mixed with additives can be transformed into rigid, flexible and thermoplastic products. Its properties include a high capacity for thermal, electrical and acoustic insulation, low flammability, non-toxicity, impermeability to liquids and gases, excellent mechanical resistance and asepsis. It is 100% recyclable. The micro suspension type PVC resin is mainly used for the manufacture of low viscosity pastes such as plastisols or other flexible materials.

It is used mainly for the manufacture of plumbing pipes, construction applications such as window frames, floors, roofs, and even complete houses. Likewise, in the automotive industry, in clothing, food packaging, infusion elements, oxygen masks, blood bags and medicine packaging, among others.



## CONTEXT

The polymerization process is carried out in a liquid medium consisting mainly of water. For this purpose, Altamira I plant is supplied from Tamesí river (it is part of Panuco hydrological basin), which has medium water stress. The final discharge takes place in Garrapatas estuary (which flows into the sea).



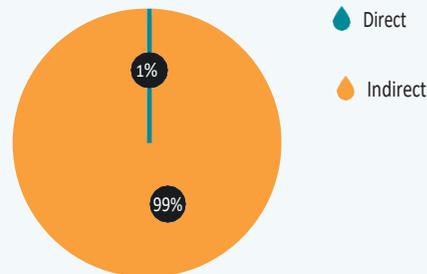
## GOAL AND SCOPE

Quantify the water footprint of suspension PVC resin produced at Vestolit Altamira II plant, in 2019.

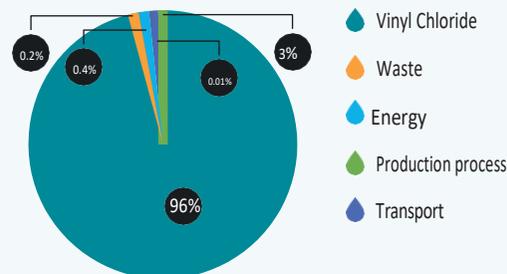


## WATER CONSUMPTION

Total water consumption includes both: indirect consumption during the manufacture of raw materials and their transport to Mexico, as well as direct consumption in the plant associated with the production process.



Detail of both direct and indirect consumption



## SYSTEM BOUNDARY

From raw material supply to manufacture stage (cradle to gate).



## FUNCTIONAL UNIT

**Production of 1 ton of suspension PVC resin.**



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**WATER FOOTPRINT PROFILE**

The main impact on water scarcity is due to Vinyl Chloride production in Texas-USA, which has a medium water stress. The impact of Vestolit plant is mainly related to electricity and natural gas consumption for the operation of machinery and equipment, steam generation, resin drying and the use of wooden pallets as auxiliary material for the packaging of the product.



**AREAS OF OPPORTUNITY**

Increase water reuse within the plant or in synergy with third parties, since the final discharge does not return to the Pánuco basin.

Optimize the treatment and use of waste, especially the sludge from the WWTP, since these have a considerable impact on water management



**MAIN MITIGATION ACTIONS**

Establishment of objectives for corporate water management, which reduce the consumption of fresh water from underground wells and decrease the discharge to the estuary.

