

Description: NITRATES/NITRITES REMOVAL (Selective Catalytic Hydrogenation)

Innovative technology developed at the University of Tarragona (Spain) capable to remove nitrates and nitrites from water, getting drinking water (desired values of nitrates < 50 ppm)

Is a green process, no wastes are generated.

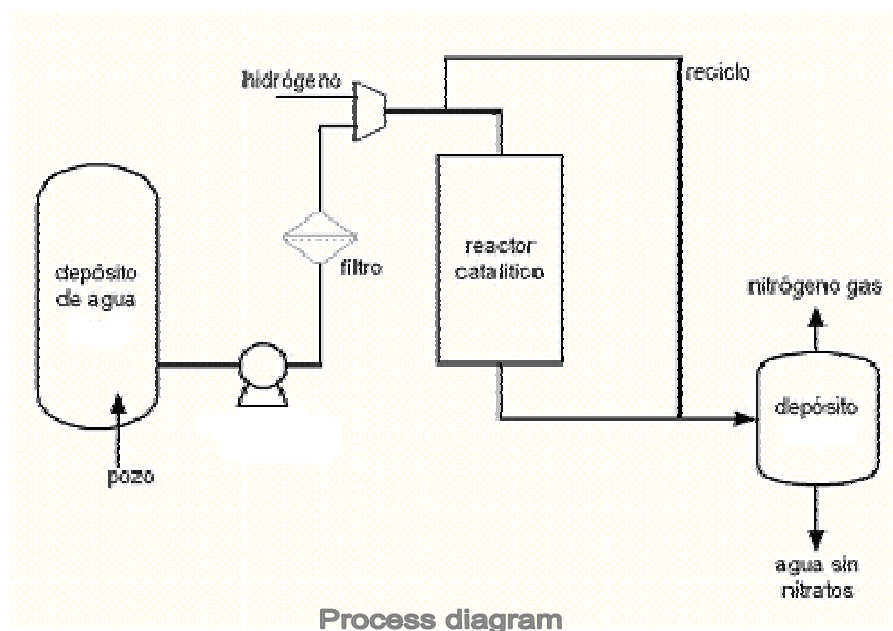
The nitrates removal consists in a catalytic reaction that converts nitrates and nitrites into Nitrogen gas in one step using hydrogen gas as reactant.

The reaction occurs in a catalytic reactor provided by APLICAT that works in a continuous mode.

The products are Nitrogen gas and clean water.

The chemical formula of the catalyst designed by the researchers of the centre AMIC, Rovira i Virgili University, is the key of the process, therefore is protected and commercialized by APLICAT.

The **Selective Catalytic hydrogenation** reaction is:



Technology advantages:

- Simple:
 - o Atmospheric pressure
 - o Room Temperature
 - o Small space required
 - o Reduced cost of installation
- Environmental friendly:
 - o Clean technology, no wastes are generated
 - o Hydrogen gas is the reactant
 - o Catalyst durability > 2 year
- Efficiency:
 - o Conversion > 95%
 - o All-purpose technology, accepts a wide range of nitrates concentration.
 - o Low energy consumes

Application:

- Industrial effluent treatment
- Decontamination of polluted groundwater in order to comply with the drinking water authority requirements

Operation cost: 0,30 €/m³



Plant of 500m³/day (El Morell, Tarragona, Spain)