Cooling Systems

>> Finding New Routes on Sustainable Operation <<

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https:// ecce-ecab2021.eu

Almost every chemical process involves at least one cooling step. Engineers have developed a wide range of cooling techniques for increasing the efficiency of the production process. Economic aspects together with SDGs are currently the driving force to make these systems more efficient.

MOL®LIK-effect:

- Improved MTBF
  (Mean Time Between Failure)
- Fulfilling SDGs
  (Sustainable Development Goals)
- Optimal QHSE performance
  (Quality, Health, Safety & Environment)

Results achieved:

- Theory
  Calculation of the catalytic effect
- Laboratory
  Validation of catalytic improvement on effectiveness in solubility
- Field
  Has been proven to ensure safe operational mode on power plants, refineries, RO, domestic and many others within the last 10 years

Your Contact

Get experts advice anytime

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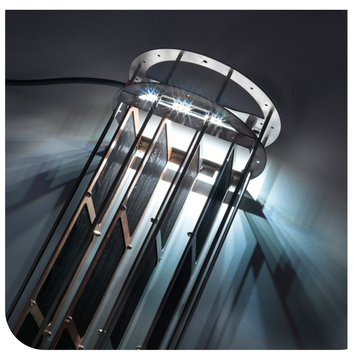
Cooling Process

In cooling circuits, the energy transfer is a result of the partial evaporation of water. This is accompanied by changes on hydrate shells, which influences the entire system combined with precipitation reactions and scaling effects. In technical applications, the agglomeration and deposition of organic as well as inorganic substances is highly undesirable, both from a technical and an hygienical point of view. The conventional biocidal treatment methods are mostly not able in fulfilling applicable regulations and managing deposits troubles at the same time.

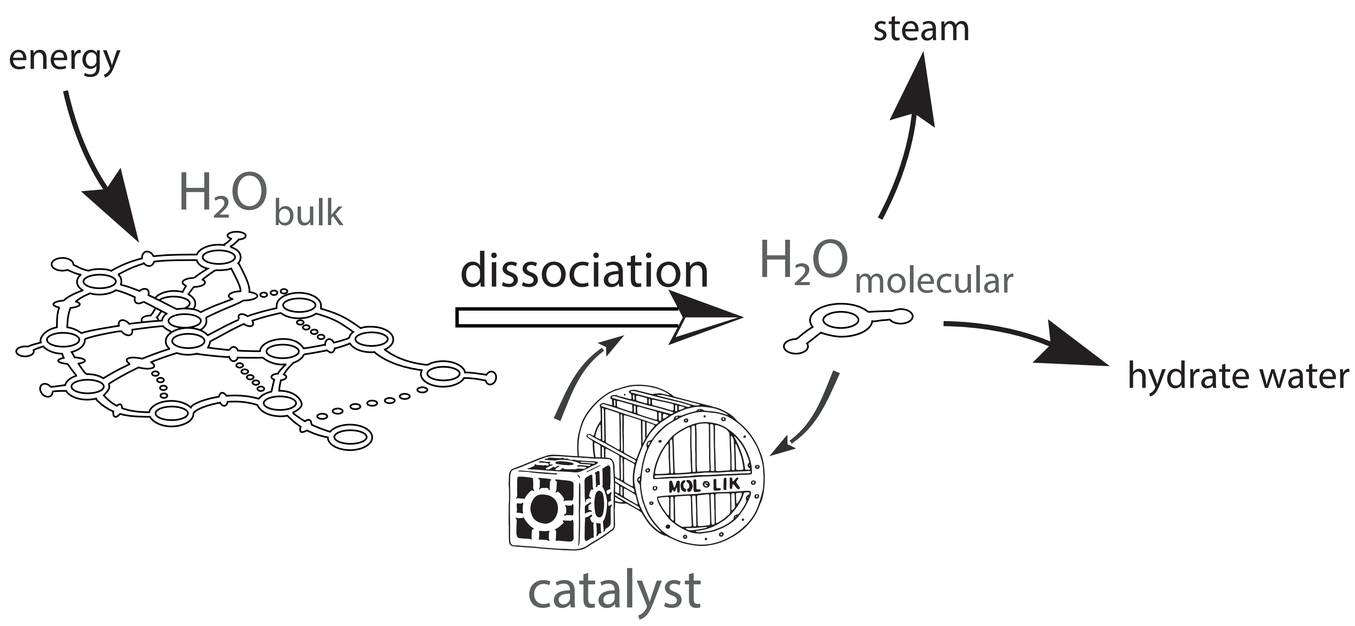
Smart Solution

A possible solution is speeding up the formation of small water molecules by adding thermal energy or a suitable heterogenous catalyst. The installation of a MOL®LIK-catalyst is speeding up this process, as the thermodynamic equilibrium between water structures is achieved quicker. This results in:



- Optimal hygienic control with
- Clean systems.

In the end, there is in a markedly raised efficiency of the cooling process. The manual cleaning intervals are enlarged – without any troubles in fulfilling applicable regulations.



Principle of catalytic improved solubility

Further information available at: VAN DIJK et al.: 'Innovative Solutions in the Process Industry for next generation Resource Efficient Water Management'; Collaborative project; Innovation roadmap for demonstrated technologies; INSPIREWATER – D2.4 GA723702 (2019) pp. 42-52; online at: https://www.spire2030.eu/sites/default/files/users/user500/d2.4_innovation_roadmap_final.pdf