

Making our world more productive



SOLVOCARB[®] technologies

for neutralization of alkaline wastewater with carbon dioxide

With Linde's SOLVOCARB[®] technologies, the environment friendly gas carbon dioxide (CO₂) is used to neutralize alkaline wastewater. Carbon dioxide is a product obtained from industrial waste gases after compression and cleaning, supplied in cylinder bundles or by a truck filling up a high pressure tank on site.

SOLVOCARB technologies make simple and flexible solutions possible for reliable pH-adjustment, including everything from gas supply and dosing panel to efficient equipment for dissolving carbon dioxide gas into water.





Alkaline wastewater is typically produced in tunnel projects. This wastewater needs to be neutralized before it can be discharged. For many construction companies, such as Subterra in this site, it is a conscious environmental choice to use carbon dioxide as a neutralization chemical.



The standardized and CE-marked SOLVOCARB® dosing panels provide capacities up to 20 kg CO₂/h. The gas dosage is automatically regulated towards the desired pH-value through continuous pH-measurement.

For the environment's sake: the benefits of carbon dioxide

Stricter government requirements and audits by the authorities oblige different fields of industry to increasingly focus on the environmental impact of their business. For wastewater-producing construction sites, this means that only wastewater with a pH close to neutral may be discharged into the receiving waters. With SOLVOCARB® technologies, gaseous carbon dioxide is used to neutralize alkaline wastewater. When dissolved in water, carbon dioxide forms carbonic acid which reduces the pH to within a permissible range.

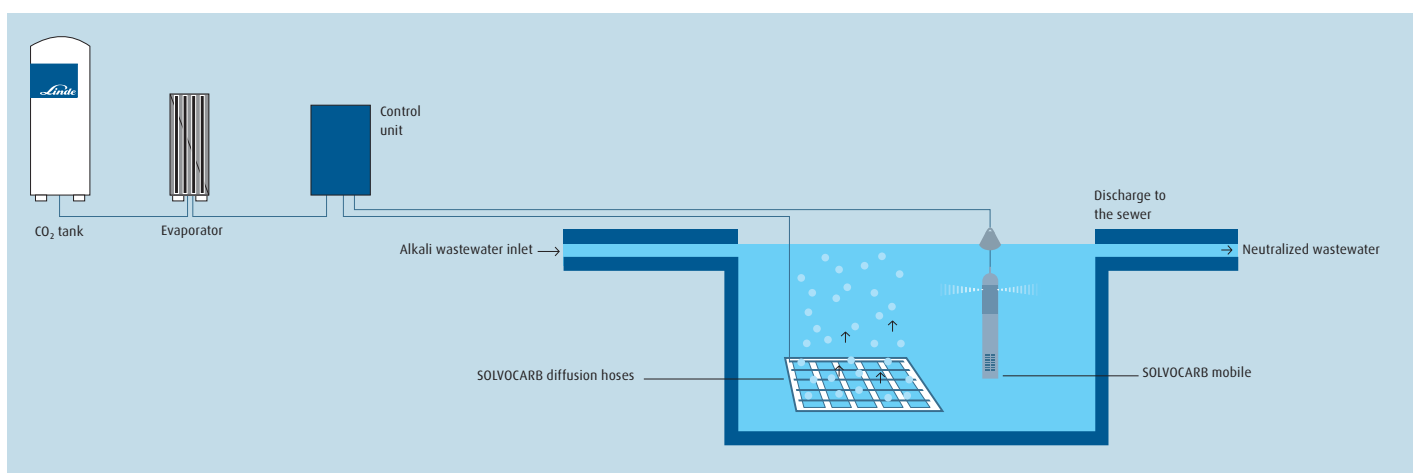
Carbon dioxide has multiple advantages over mineral acids. For instance, it prevents chlorides, sulphates or other salts harmful for the environment from being formed in wastewater. Carbon dioxide is a safer choice than strong acids and corrosion problems are largely avoided. Furthermore, it is almost impossible for the wastewater to become too acidic thanks to carbon dioxide's flat neutralization curve.

Guidelines for alkaline wastewater handling

Alkaline wastewater (pH >10) is produced at construction sites when using cement, for example in tunnel projects. This alkaline wastewater, containing cement residues, is most often not allowed into the environment or sewage system as such. Nowadays, construction companies are required to comply with environmental guidelines. In particular, the solids need to be removed and pH needs to be decreased. The guidelines recommend an adjustment of pH into the range between 6.5–9. It is always essential to ensure that the sewer and wastewater treatment plant in the area have sufficient additional capacity.

When in need of a complete solution – Linde is a total supplier of gas and equipment for pH adjustment

By choosing Linde, you benefit from our long history of different customer projects within the field. Our team of experienced engineers will assist you to make sure the solution meets your requirements and that the process runs smoothly from installation to operation.



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