

CATALYTIC WET OXIDATION

Description/Application

The OXY-PURE[®]- process of Delta Umwelt-Technik GmbH is an innovative method for waste water treatment.

It combines the common known reaction mechanisms of the wet oxidation of oxidisable compounds induced through hydrogen peroxide with the use of adequate carrier bound catalyst systems. Through these the oxidation rate is increased significantly due to the generation of hydroxyl radicals. So an increased cleaning performance can be achieved.

The catalytic wet oxidation comprises simple reactors filled with catalyst and a dosing station for the oxidant hydrogen peroxide.

Advantages of the process

The OXY-PURE[®]-catalysts are characterised through the following characteristics:

- high flexibility for individual problem solutions,
- high mechanic and thermal stability,
- application also with turbid waste water,
- advantageous flow resistance,
- completely recyclable,
- low operating costs,
- high effectivity by low energy input.

Experience and application

OXY-PURE[®] is applied preferential for the following applications:

- waste water treatment (pre treatment of the water),
- ground water remediation, especially PAH,
- process water treatment,
- de-ironing of ground water,
- drinking water purification.



Results

Example of a ground water treatment from a former tar board production plant:

Contamination		Application of the OXY-PURE®-process	
		Before the treatment	After the treatment
phenol index	µg/l	1.300	<5
petroleum-derived hydrocarbon	µg/l	5.002	<100
Aromatic hydrocarbon	µg/l	27,1	Not detectable
PAH	µg/l	1.388	0,4
VOC	µg/l	39,9	Not detectable

