



NEUTRALOX[®]

... and the air is clean.

***ODOUR CONTROL &
OFF-GAS TREATMENT***

pure air • healthy climate • clear environment

NEUTRALOX Umwelttechnik GmbH

Who we are

NEUTRALOX Umwelttechnik GmbH is a leading manufacturer for cutting edge odour control equipment. Our systems are mainly applied on wastewater treatment plants and related services.

NEUTRALOX® works with physical-chemical treatment methods, which are not sensitive to environmental influences and allow for considerable high performance rates. Our systems achieve high odour reduction and guarantee reliable operation. Based on our long term experience in the market, we are able to assist our clients not only with supply of equipment, but also with know-how, from the beginning of a project.

NEUTRALOX Umwelttechnik GmbH has been established in 1999 and today, we may refer to over 400 references all over the world. Our well established worldwide sales-partner-network is the basis of our successful international business.



Applications

Wastewater treatment plants

Odour is released by nearly all steps of wastewater and sludge collection, treatment and disposal. Typically, these odours are considered to be objectionable. Depending on the treatment process they may even be hazardous. Primary measures may help to reduce the generation of odour emissions. Retention time and temperature, sulfate and oxygen concentrations, concentration of organic material and turbulences influence the generation of odours. Odour emissions which could not be avoided require effective treatment. Odorants released are differing much in kind, conditions and concentrations and require adapted treatment. *NEUTRALOX* Umwelttechnik GmbH developed a number of treatment methods, suitable for handling even the strongest wastewater and sludge odours.



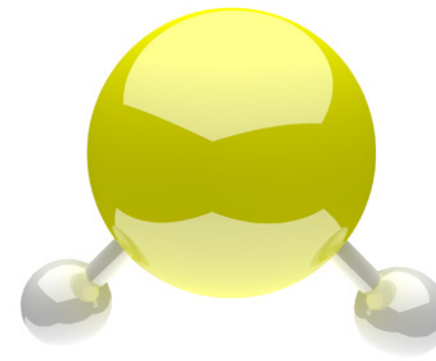
The problems

H_2S , NH_3 , $(CH_3)_2S$, VOX ...

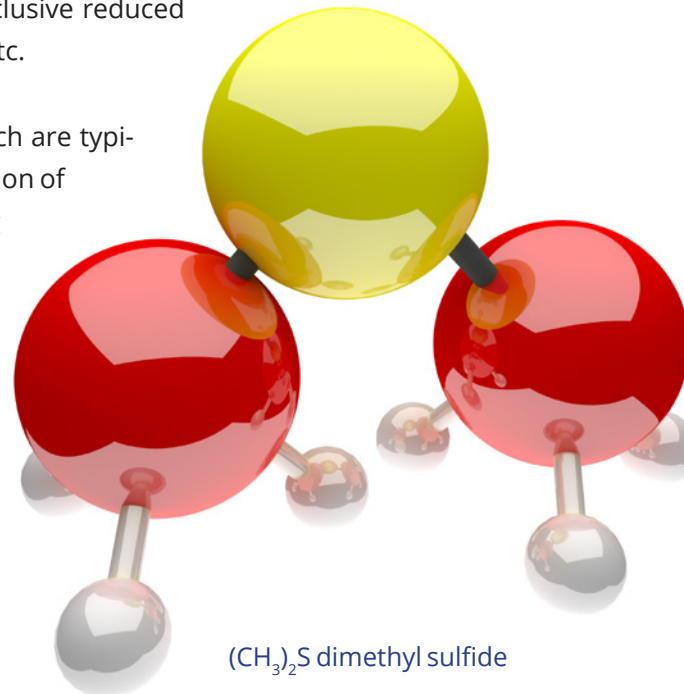
Odour is released by nearly all steps of wastewater and sludge collection, treatment and disposal. One of the most common and well known odour substances is hydrogen sulfide (H_2S). The odour threshold of H_2S is very low (0.5 ppb) which helps the human nose to identify rotten food easily. This warning signal turns into a nuisance, if the odour is associated with wastewater. In wastewater treatment plants however, H_2S does not appear as a single substance. Many other chemical substances contribute to wastewater odours.

Although H_2S is commonly known for wastewater odour, wastewater treatment plants seldom stink like rotten eggs. Wastewater odours are typically a mixture of many different odour substances inclusive reduced sulfur substances, ammonia, volatile organic carbons etc.

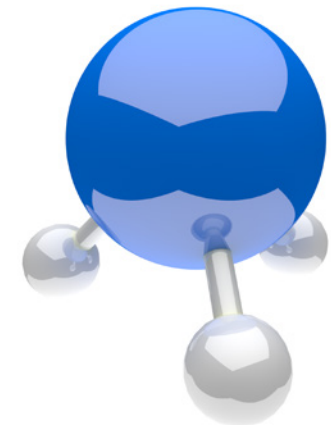
Ammonia and organic acids are odour substances which are typically associated with sludge dewatering. The concentration of odours is described by olfactometry analysis, according to DIN EN 13725. The target value of odour reduction is often the number of 500 OU/m³ - following the German standard TA-Luft.



H_2S hydrogen sulfide



$(CH_3)_2S$ dimethyl sulfide



NH_3 ammonia



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Odour is not the only problem

The requirements for ventilation of buildings and tanks are diverse and are not limited to the reduction of odours, only. Depending on location, odour and the protection of the neighborhood of a treatment plant is not the only requirement, and further requirements may apply.

Explosion protection often plays an important role on sewage treatment plants and the technical ventilation (supply and exhaust) may be part of a superordinate explosion proof concept. Humidity may have to be extracted from tanks and buildings, and corrosive substances concentrations may have to be reduced, too. Nevertheless, sanitary protection has always to be respected and personnel have to be protected from hazardous chemical and biological substance concentrations.



Odour control – our solutions

NEUTRALOX® Technologies

The most important *NEUTRALOX®* odour treatment method is the process of *NEUTRALOX® Photoionisation*.

NEUTRALOX® Photoionisation basically describes the oxidation of substances under radiation of UV-light in presence of catalysts. The Photoionisation process produces strong oxidizing agents via UV-light/Photoionisation. These agents oxidize the odorous substances in presence of catalysts. At other places, simplified terms like fotooxidation, or simply UV-treatment are used to describe similar processes.

NEUTRALOX® Photoionisation is characterized by its high effectiveness and reliability. Low concentrated odours

can be treated as well as high concentrated and varying odours. Low operation and maintenance demand support the reliability of the treatment method.

The technology of *NEUTRALOX® Corona Discharge* is applied inside of rooms and buildings, *NEUTRALOX® Corona Discharge* units purify the indoor air and hence improve working conditions. Based on air-recirculation, the process minimizes the demand of fresh air and consequently reduces heating (or cooling) costs significantly. The technology is based on air ionization, a natural process, which has deodorized and sterilized the atmosphere since the beginning of time.

The same treatment method is used with the *NEUTRALOX® Additive Air system*, for treatment of high air-flow rates combined with rather low concentrated odours. The contaminated air is not ionized directly in this case. Rather, ions are generated from clean ambient air, which are then mixed (added) into the contaminated air stream.



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Our plants

Our know how – your advantage

NEUTRALOX[®] treatment methods have gained reputation during the last two decades. Operators praise the high treatment efficiency of the technology combined with its low operation and maintenance demand. The durable high grade stainless steel design characterizes our treatment units.

NEUTRALOX Umwelttechnik GmbH focuses very much on municipal wastewater applications and industrial odour control - we may refer to extensive know-how and support our clients in all questions of odour control.



NEUTRALOX Umwelttechnik GmbH

Experts in odour control – worldwide

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NEUTRALOX[®] offers solutions and equipment for odour control and off-gas treatment. We work with physical-chemical treatment methods and focus on municipal and industrial wastewater treatment plant applications.

We work with:

- *NEUTRALOX*[®] Photoionisation for off-gas treatment and odour control
- *NEUTRALOX*[®] Corona Discharge for room air treatment
- *NEUTRALOX*[®] Additive Air for off-gas treatment
- *NEUTRALOX*[®] UV technology for air disinfection



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Our references

On 6 continents



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Member of
German Water Partnership



Lightcycle
SAUBERES LICHT, SAUBER RECYCLT.



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