ODOUR CONTROL SYSTEMS INTERNATIONAL LTD

PRODUCT SHEET

"AIR REPAIR"© FS GOLD

OVERVIEW

"AIR REPAIR"© FS GOLD was developed for the strong acid odours, mainly Hydrogen Sulphide, Methyl Mercaptan and other gases, associated with sewage and fatty wastes. "AIR REPAIR"© FS GOLD has added to it, an emulsifying agent, which helps with the dispersion of scum and oil and reduces fat build-up on plant and machinery and considerably reduces maintenance costs and prolongs equipment and infrastructure life. It is important to note, acidic odours, regardless of origin, can be neutralized using "AIR REPAIR"© FS GOLD. The neutralization of Hydrogen Sulphide can be shown in the following equation: H2S (HYDROGEN SULPHIDE) + "AIR REPAIR"© FS GOLD = RNH3SH (AMINE-BISULPHIDE SALT). This is a non-volatile Amine, therefore has no odour and is readily absorbed.
"AIR REPAIR"© FS GOLD is also used in industries where hydrocarbon odours are a problem. Specifically, odorous compounds such as Benzene, Toluene, Ethyl benzene, Xylene, Naphthalene, and PAH's (Polycyclic Aromatic Hydrocarbons). Examples of these types of industries are oil refineries, bitumen manufacturing for use in tar sealing roads, refining of natural gas, and contaminated soil remediation.

"Air Repair"© products are different than nearly all other odour neutralisers or masking agents. The difference lies in the product makeup: nearly every product in the market is a blend of essential oils or plant extracts combined with a standard surfactant while "Air Repair"© products are made of food and cosmetic grade compounds and contain only 1% essential oils or plant extracts (by total volume of concentrate). Basic chemistry proves all essential oil and plant extract based products cannot truly neutralise odours; they can only mask them or encapsulate them for a period before releasing them again. Essential oils and plant extracts cannot bind to, and react with, a compound such as H2S and change the structure of that volatile compound into a non-volatile compound.

METHODS OF APPLICATION

"AIR REPAIR"© FS GOLD can be applied by using one of the following methods to control odour.

1) Fogging System
2) Vapour Phase System
3) Direct Dosing into liquid.

It is worth explaining, that, unlike masking agents, "AIR REPAIR"© does not blow away in the wind. Being positively charged, it will seek out target molecules and bond to them resulting in a chemical reaction forming a non-volatile organic salt. If an "AIR REPAIR"© molecule does not find a target, it will attach itself to a negatively charged surface and wait for an odorous molecule. As with all gases, the odorous molecules are constantly moving and, given time, will come into contact with an "AIR REPAIR"© molecule and be destroyed.

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Fogging System

Fogging systems spraying "AIR REPAIR"© FS GOLD are used when odour is from open-air sources. "AIR REPAIR"© products are application methodology. "AIR REPAIR"© products are sprayed on an interval basis, depending on odour type and strength. An example of this is running the system for 30 seconds ON and 2 minutes OFF. Some examples of these types of problems are:

- Waste water / sewage treatment plants
- Pig farms
- Sludge lagoons
- Contaminated soil remediation
- Steel manufacturing slag beds

Fogging systems spraying "AIR REPAIR"© FS GOLD are also used in indoor facilities. Some examples are:

- Sewage pumping stations
- Slurry pits

Vapour Phase Systems

Vapour phase systems delivering "AIR REPAIR"© FS GOLD are used when odour is from ducted, or confined, air sources. This type of application is designed to inject the vapour into a continuous flow air stream that is part of an exhaust or extraction process. These types of systems are delivering vapour into the air stream continuously. Some examples of these types of problems are:

- Manufacturing process exhaust airflow
- Sewage plant air extraction
- Sewage pumping stations
- **ANY** air emissions vented to the atmosphere

Direct Dosing

"AIR REPAIR"© is exceptionally effective in capturing its target in a liquid solution. Liquid solutions only produce odours when they reach a point where cavitation occurs, say at the end of the pipe or weir. Odour is produced as a result of the reduction in water pressure and the odorous gases are stripped out of solution. This method of application is ideal for waste treatment plants, animal and fish processing plants, and pig and chicken farms, which have wash down systems where waste water is collected and stored in a settlement pond system or holding tanks.

"AIR REPAIR"© molecules will attach to the odorous compounds to remove toxins from the water and, over about seven days, will spread through the whole anaerobic/facultative/aerobic pond system to remove odours. This action chemically bonds (valency bond) to the odorous compound to form a non-toxic, non-odorous organic salt. Bacteria will then break down this salt. As a result, there is no increase in BOD, and no regeneration of foul odours.

"AIR REPAIR"© can best be thought of as a detoxifying catalyst that beneficially affects the pond ecology. It is extremely powerful.

Any "AIR REPAIR"© product, which is not required to destroy toxic odorous compounds, will continue in the stream and neutralise any air that is stripped from the stream due to water turbulence at the treatment station or ponds.