Wastewater Treatment Solutions from OMEX

Product Guide

www.omexenvironmental.com

OMEX Environmental Ltd is based in the UK and operates both nationally and internationally. Working closely with industry to reduce environmental impact, treat waste and help optimise process performance.

OMEX develop and market a range of nutrients and neutralisers for all types of wastewater treatment, including acidic wastewater treatment, sludge treatment and septicity control. Working alongside industry to ensure that any wastewater released into sewer systems, lakes, streams or other surface waters is neutralized before allowing it to be discharged or treated further in biological processes, such as anaerobic or activated sludge.

Wastewater Treatment

With its range of biological wastewater treatment solutions, OMEX are helping companies to comply with government legislation regarding wastewater discharge. These include N&P solutions (with or without trace elements), acid neutralisers, microbiological augmentation products. odour and septicity control and anti- bulking agents.

Biological Compounds

Biological compounds used to optimise biological activity in aerobic wastewater treatment plants as well as high performance bacteria that will break down fat and grease permanently.

Biogas Additives

These include trace element additives to optimise biogas production, iron solutions to minimise hydrogen sulphide levels, enzyme solutions to improve fibre breakdown and magnesium hydroxide solutions to act as a buffer, all of which help to optimise plant performance and increase return on investment.

Nutromex ® NP & PLUS

Nitrogen and Phosphorus Blends

In biological wastewater systems, microorganisms metabolise the soluble potential pollutants, producing carbon dioxide, water and more micro-organisms (sludge).

To do this with optimum efficiency, the microorganisms need a balanced diet that contains the correct ratios of mineral nutrients. Nutritionally, most wastewaters have been found to lack Nitrogen (N) and Phosphorus (P).

OMEX Environmental Ltd has developed the Nutromex® NP and the Nutromex® PLUS range of solutions designed to optimise biological activity in both Aerobic and Anaerobic wastewater treatment plants.

Back-Up Service

- Macro and Micro nutrient profiling to establish the optimum NUTROMEX®NP solution for your individual needs
- Microbiological analysis and reporting
- Advice on process optimisation

Benefits

- Optimal COD and BOD removal
- Minimised solids loss
- Stable operation
- Minimised fluctuations in N&P Outlet

The Nutromex® Range

NUTROMEX® 100 Series
A range of Nitrogen and Phosphorus blend solutions.
Individual product blends with ratios from 100%N to 100%P
can be provided to optimise plant performance.

NUTROMEX® PLUS 200 Series
A range of N and P nutrients combined with fully bioavailable trace element micronutrients to provide a complete balanced nutritional feed.

NUTROMEX® SALTS 400 Series
This series provides calcium, magnesium, sodium and potassium cations where they are lacking in an industrial treatment system.

NUTROMEX® SALTS 600 Series
As above but with bioavailable trace element micronutrients. Used specifically for condensates being treated anaerobically.

NUTROMEX® EXTRA PP 940
A blend of soluble carbohydrates, N, P , trace micronutrients and essential cations. This super food product is used to augment COD in start ups, over shutdowns and during recovery from toxic shock.

Magmex®

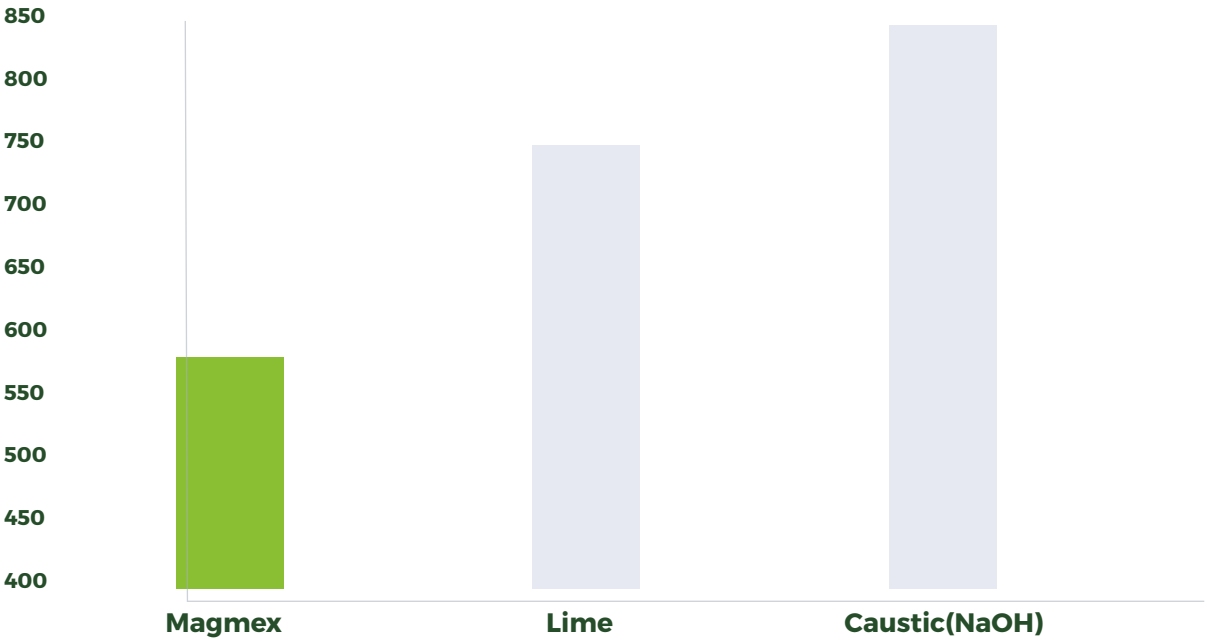
Magnesium Hydroxide Suspensions

A range of magnesium hydroxide suspensions for treating acidic wastewaters and controlling pH levels within both anaerobic and aerobic systems.

Traditionally, sodium hydroxide (caustic soda) and calcium hydroxide (lime) have been used to neutralise acidic solutions. However, these compounds are reactive and can cause high pH levels if not controlled correctly.

The Magmex® range is the environmentally friendly answer to the neutralisation of acidic wastewater. It is safe, ready-to-use and overcomes the majority of problems associated with the traditional acid neutralisers such as caustic soda or lime.

Alkali used (kg) to neutralise 1 tonne sulphuric acid (98%)



Magmex® 1060

A unique formulation specifically designed for use in situations where higher pH levels are needed to enhance precipitation

Magmex® 740

The standard formulation for use where a safe, efficient alkali is required for pH correction and where minimal sludge volumes are needed.

Magmex® 706

A stable formulation for use in smaller scale applications where longer term storage is required without the need for agitation.

Magmex® OP Series

OMEX's exclusive range of magnesium oxide and hydroxide powder products, which are available for a wide range of applications.

Ferromex®
Ferrous Salts

Treatment and disposal of sewage sludge are major factors in the operation of all wastewater treatment plants. Two basic goals of treating sludge before final disposal are to reduce its volume and to stabilize the organic materials.

Ferromex® was created to improve the coagulation of fine suspended solids in wastewater treatment plants. OMEX's range of ferrous salt solutions have been designed to combat problems such as filamentous bulking, pin flocs, poor floc structure and turbid effluent which can be caused by many factors, such as nutrient deficiency, poor oxygenation and compounds in the wastewater stream that are preferentially consumed by filamentous bacterial species.

As Ferromex® does not consist of any chlorides, the action of biological organisms will not be inhibited, and the removal of phosphorous can still be achieved to an equally high degree. Ferromex also benefits from having a higher pH, which results in reduced impact of material corrosion when compared to using solutions with lower/ more acidic pH values.

Micromex®

Biological Compounds

The main purpose of a biological wastewater treatment plant is to break down waste organics. Micro-organisms metabolise the soluble pollution, producing carbon dioxide, water and more micro-organisms (sludge).

The performance of a biological system is highly dependent on the microbial strains present and, in many cases, the biological population in an effluent treatment plant is not ideally adapted to cope with variations in loading and composition and therefore unable to provide optimum performance.

OMEX offers the Micromex® EU range, a range of bio augmentation solutions designed to optimise the biological activity in aerobic wastewater treatment plants, individually tailored for all types of effluent.

Micromex® will result in optimal COD and BOD removal, sludge flocs with superior settling characteristics and the ability to target specific pollutants amongst other things.

Anomex®

Sodium and Calcium Nitrate Solutions

Odour problems are of growing concern to wastewater treatment and municipal sewage treatment plant operators. Hydrogen sulphide is usually the major gaseous component with the typical ‘bad egg’ smell, detectable at very low levels.

Smell and septicity occurs when bacteria in the wastewater utilise all the available oxygen and start to reduce any sulphates present into sulphides. Lack of air supply, stagnant areas and warm temperatures all promote this undesirable biological activity.

ANOMEX® has been developed to prevent this odour and sulphide gas build up, by substituting nitrogen into the microbial respiratory processes.

Dosing Units

Commissioning, Installation & Delivery

OMEX supply a wide range of dosing units to dose a wide range of products. OMEX's standard dosing units for sodium and calcium nitrate solutions, range from 1400 Litres to 10,000 Litres in duty, duty standby and duty assist configurations. Profile dosing and telemetry connections are supported with septicity modelling also available for every project on request.

OMEX will visit a site and ascertain dosing requirements to provide the optimum dosing system. The complete unit is delivered on site and supplied with a commissioning fill of OMEX product. OMEX's dosing units are easy to install and maintain.

All that is needed for installation is a suitable flat surface or plinth for the unit, a power supply and means of getting the dosing line to the wet well. The dosing pump is equipped with a fully programmable timer system to enable a range of dosing rates which is also set during installation.

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