



Neutralac® SLS45.
Refresh your thinking



Reshape your wastewater treatment



A high strength liquid lime for acidic effluents

Neutralac® SLS45

Reshape your wastewater treatment and achieve total compliance

One of the major challenges for anyone dealing with wastewater is to meet today's strict limits on emissions. Here at Lhoist, we have the **product**, the **services** and the **expertise** to shape a tailored solution that will ensure environmental compliance.

At the heart of our offering is **Neutralac® SLS45**, an innovative, **high-strength liquid lime**. It is fast, effective and highly proficient at **neutralising acid-based effluents**, maintaining a steady **pH** and removing **heavy metals, precipitating sulphate, phosphate and fluoride** as well as treating **fat, oil and grease**.

Its performance is enhanced by an all-in-one approach to service and support that is based on our thorough understanding of your needs.

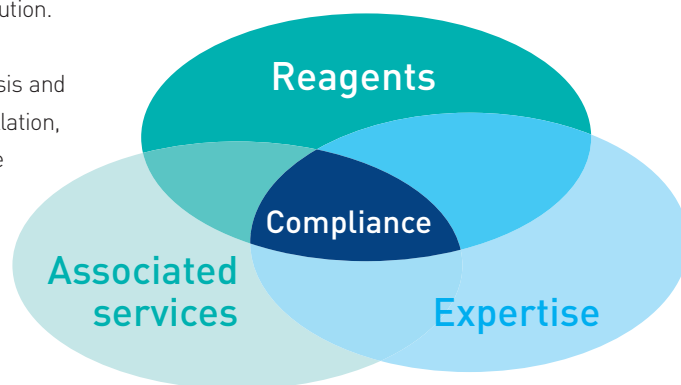
We have more than **20 years' experience** of working with industrial operators on their wastewater needs. And we are adept at working with our customers to take account of specific requirements – including the legislative environment – in order to deliver a precise and bespoke solution.

This **all-in-one solution** comes at an **all-inclusive price**. It covers laboratory analysis and diagnostics, chemical and technical consultation, trial equipment delivery and installation, a suitable storage system and on-site testing assistance. On-going support puts the expertise of our experienced staff at your disposal, free of charge.

Their role is to ensure that you benefit from the **best available technologies**, allowing you to reduce time, labour and running costs, as well as achieve total sewage discharge compliance.

What can you expect from Lhoist?

- A full consultancy approach to your needs
- Effluent samples analysis
- Full scale test equipment
- Trial follow up
- High-performance equipment
- Advice on the retrofit of your existing storage tanks
- Optimised performance of Neutralac® SLS45



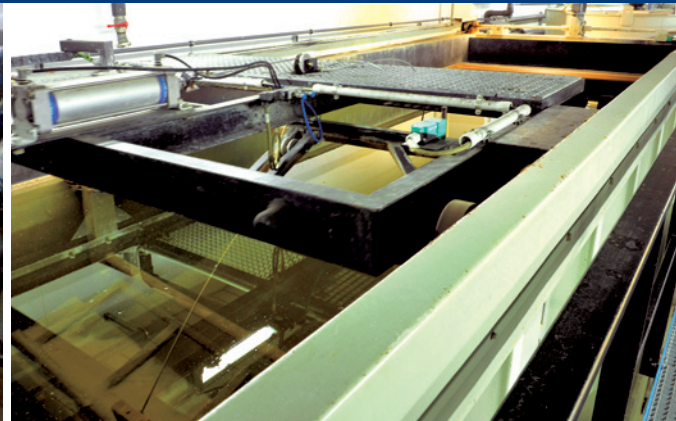
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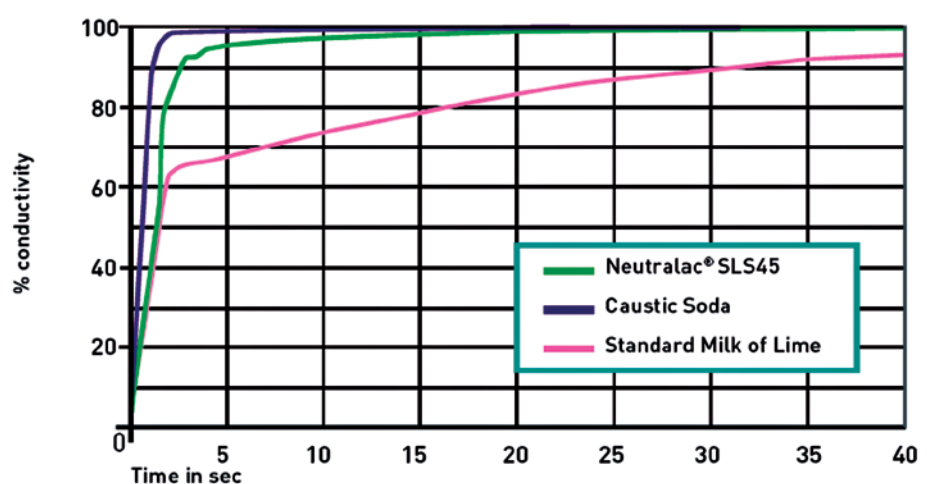
The advantages of Neutralac® SLS45 over other alkaline reagents include:

- **High neutralisation capability** – stronger than the usual 30% caustic soda solution and more powerful than any other milk of lime
- **High reactivity** – in practice, as fast reacting as caustic soda and more reactive than magnesium hydroxide or any other lime slurry
- **Safe and easy to handle** – it is not corrosive. Free-flowing, it maintains its liquid state
- **Long-term suspension** – easy to resuspend after an extended period of storage. In operation it should be agitated for 30 minutes every day
- **Economically beneficial** – with security of supply guaranteed, it is always available at a stable, predictable price



Kiwa Reactivity Test

- 90% of the lime particles are dissolved within 5 seconds.
- Reaction with the effluent starts almost instantly.



The science of performance, the reassurance of compliance

Neutralac® SLS45 comes as a **fast-acting, ready-to-use** suspension of **45% hydrated lime** whilst exhibiting a viscosity comparable to more traditional fluid reagents. Its performance is often superior to caustic soda and is far more advanced than any other liquid lime currently available.

The high concentration of hydrated lime in Neutralac® SLS45 ensures that large amounts of calcium and hydroxide ions act together as powerful precipitators on **all types of acidic effluents**.

This means that Neutralac® SLS45 can act as a **single reagent, replacing two reagents** such as **calcium chloride** and **caustic soda**.

The use of Neutralac® SLS45 **precipitates** an easily removable **calcium phosphate, sulphate or fluoride**. This is a stable, controllable process, often leading to **improved filter cake properties** and **better quality sludges**.

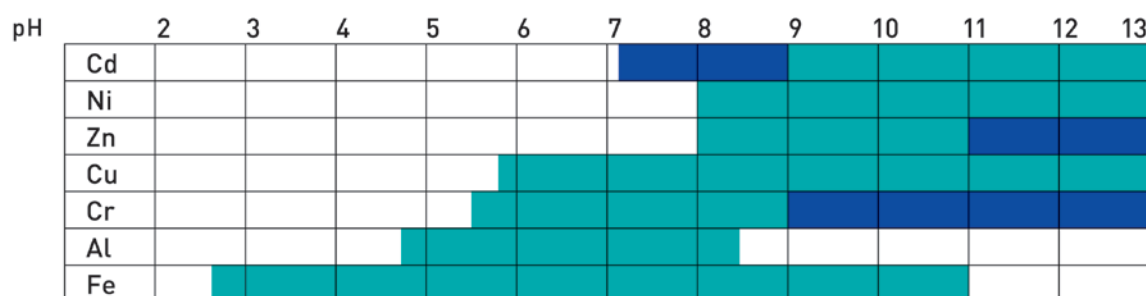
When it comes to **removing heavy metals** with Neutralac® SLS45, the incoming effluent pH is rapidly elevated to a **broader optimum range** for precipitating metals as hydroxides. With its **bigger flocs**, it can minimise the consumption of additional flocculants by displaying **flocculation functionalities** itself and therefore allows a considerable **reduction in the sedimentation time** required for the removal of the metal hydroxide flocs.

Neutralac® SLS45 has also been shown to improve the performance of pollutant removal in **Dissolved Air Flotation (DAF)** processes commonly used in the food and dairy industry. Offering pinpoint dosing accuracy, Neutralac® SLS45 has a proven efficiency to regulate the pH at the optimum working range for the biological hydrolysis of grease.



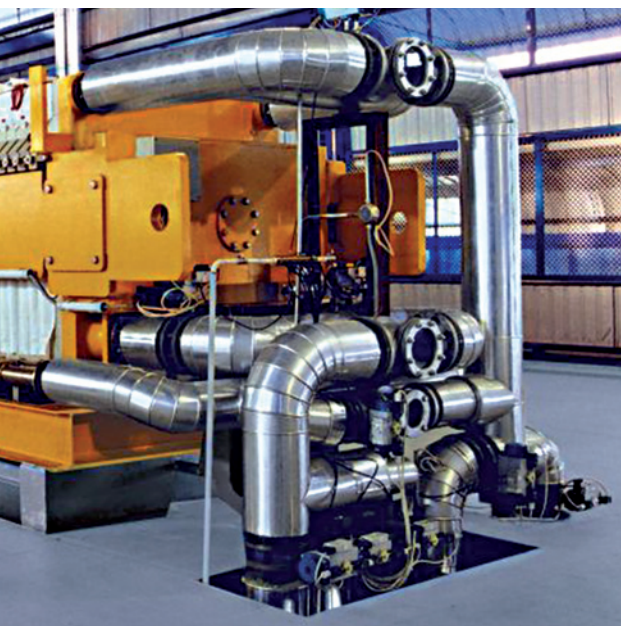
Heavy Metal Precipitation

- Broader range for heavy metals precipitation
- Minimised redissolution risk
- Simultaneous precipitation of most heavy metals



Standard pH values for heavy metals precipitation

Extended pH values with Neutralac®



A flexible, personalised service in the field

Neutralac® SLS45 is backed by a comprehensive array of **associated services** including analysis, wastewater plant auditing and recommendations for sustainable neutralisation programmes. We deliver personalised solutions that incorporate **process** development and **facility** planning.

There is an inherent flexibility in everything we do. Our **'plug and play'** equipment includes 1m³ IBCs, mini-bulk storage tanks (2-3m³) or a bulk industrial-capacity installation, all of which will correspond to your specific needs.

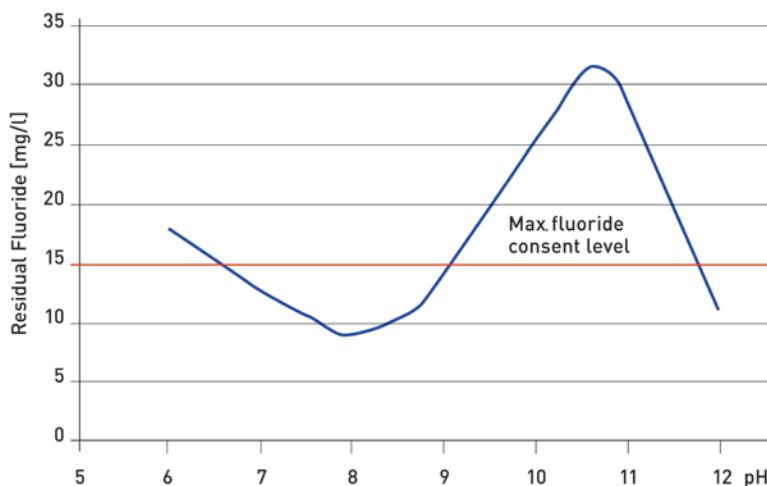
During the field trial phase, we can provide equipment and **monitor performance**. The system can then be optimised by making any necessary adjustments to equipment and instrumentation, before our engineers supervise installation and start-up on site. Subsequent analysis will ensure that the system is delivering maximum performance and is meeting effluent compliance.

High neutralisation potential

High reactivity

Fluoride Removal

- Joint supply of Ca^{2+} and OH^- for optimised fluoride removal
- Better control of the calcium over-dosage
- Milk of lime is the most cost-effective alkali to remove fluoride below the consent value





Backed by proven experience and expertise

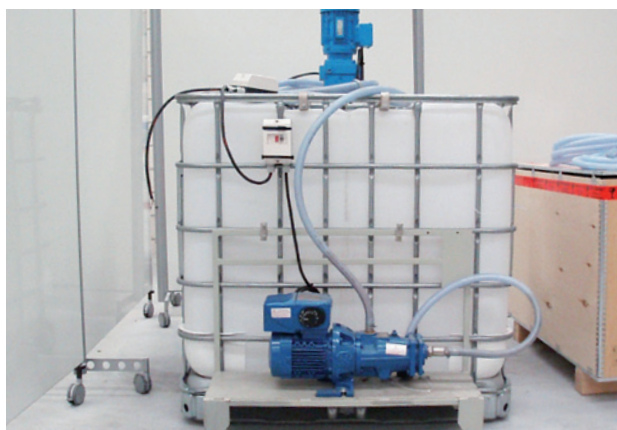
With our 20 years' experience in wastewater treatment and a thorough understanding of the issues you face, Lhoist is able to add real value to your operation.

Speak to our R&D department, and you will be able to tap into the extensive knowledge and understanding of our **dedicated wastewater experts**. Work with our comprehensively equipped laboratory, and you will benefit from facilities that can simulate the specific working conditions of your treatment plant.

Exploring at this favourable level will reveal ways for you to **optimise efficiency** and **cost-effectiveness** on site, whilst our bench scale tests will indicate the planning criteria necessary for possible future upgrades to your water treatment plant.

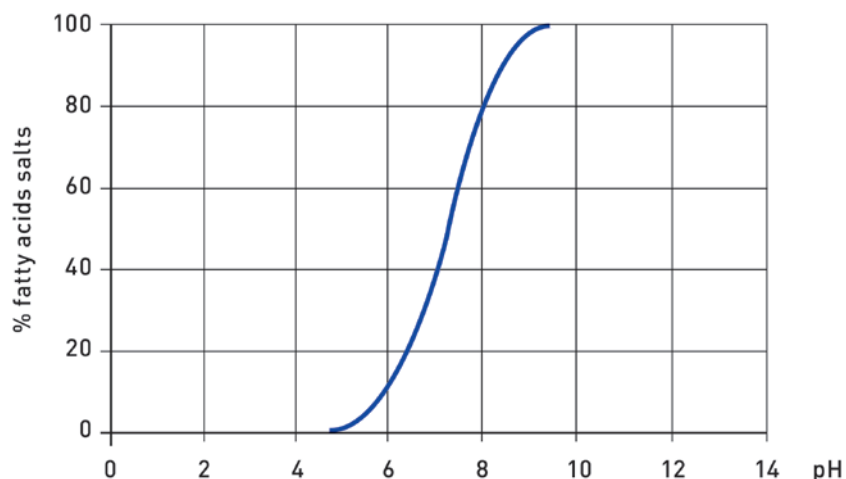
Safe & easy to handle

Long-term suspension



Fat, oil and grease removal

- Sharp pH control: prevents lime post-precipitation
- Ideal miscibility of a liquid lime with effluent streams
- Contributes to the dilution of fat and grease
- Controls foaming and has a ballast effect on filaments





Economically
beneficial

Environmental
compliance

Take up our free trial

Neutralac® SLS45 will improve efficiency, reduce running costs and guarantee effluent discharge compliance. Take up a free, no-risk trial.

Simply make an appointment with us and we will visit your site to perform a **free diagnosis** of your needs.

The trial offer includes:

- State-of-the-art **effluent analysis** and **bench testing** to make sure you get the best out of your plant with Neutralac® SLS45
- **Field trial equipment** packages tailored to your needs and designed for no-risk testing on site
- Equipment hire or purchase with **advice** and **supply of storage and dosing solutions**

We will survey your plant, processes and materials, assessing on-site the alkalis you are using and make appropriate alternative recommendations.

We can install a field trial storage and dosing unit to use in parallel with your existing system, which will visibly validate the improved process efficiency with Neutralac® SLS45.

Your free trial, step by step:

1. A free diagnostic visit from our team
2. Technical audit and effluent analysis
3. Optimised equipment is installed for the free trial
4. Validation of field trial performances

You are convinced and choose our all-in-one solution at an all-inclusive price (if not, we simply take back the equipment and you return to your existing system).



The principles of improved performance



SLS45 production plants



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Trust in the expertise of Lhoist

Founded in Belgium in 1889, the Lhoist Group has unrivalled experience as a world-leading producer of lime products. Today, with an innovative approach to solving wastewater problems and a proven ability to add expertise and value to business, Lhoist's sophisticated solutions cover a diverse range of industrial applications. Still a family-owned company, Lhoist has 5,500 employees and operates 90 plants in 23 countries.

Lhoist Group

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