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TECHNICAL DATA SHEET

CLEARPOL®

CLEARPOL® is a reliable, environmentally friendly, and safe-to-use clarifying agent to perform clarification of sugar cane juice, sugar beet juice and different sugar mill materials at laboratory scale to measure sucrose content.

The general practice in the sugar industry around the world requires the measurement of sucrose content in sugar cane or sugar beet samples, either for process control or for determining the sucrose content in the incoming cane or beet to the mill. The first step for this analysis is the core sampling, where the extracted/pressed juice at the laboratory needs to be clarified to remove all the impurities and non-sugars, leaving a clarified juice, clean and clear for later measurement on a polarimeter.

This process requires a reliable, accurate and safe-to-use clarifying agent to perform a quick clarification and efficient filtration, yielding clear juice suitable for optical measure.

CLEARPOL® is the new clarifying agent, lead free which reacts with the organic compounds present in the sugar cane juice as waxes, some fats, gums, and inorganic salts to form a precipitate. **CLEARPOL®** subsequently captures the suspended matter present in the juice as fines particles, color bodies and colloids, which after a further filtration process produces a clear juice which is clean enough for optical measure in a polarimeter or saccharimeter, and able to obtain an accurate sucrose content in the sample.

CLEARPOL® does not cause any interference with the optical activity of the samples.

HOW TO ACTIVATE THE PRODUCT

The jar comes with the pre-mixed powder and the catalytic in a separate bag inside the container. Open the jar, tear the catalytic bag and add the whole content of the catalytic bag into the pre-mix. To blend the catalytic into the formulation it must be continuously mixed using the UMA 3DCP Shaker, a mixing paddle or hand-shaken for 3-5 minutes before starting using the product. Homogenization is very important, so be sure to perform it correctly, the longer the mixing the better the results. Then the **CLEARPOL®** is ready to use.

After the activation, the **CLEARPOL®** is ready to be used and will be in good shape for around 2-3 weeks.

APPLICATION DETAILS

CLEARPOL® can be used in all the stages of the sugar mill where the sucrose measurement is required, as the Core Lab Juices, Crusher Juice, Mixed Juice, Clarified Juice and Filtrate, Bagasse, Filter Cake, Syrup, Massecuite, Molasses, Raw Sugar, White Plantation and Refined Sugar. It can be also used in Sugar Beet Mills.

For the juice samples and process streams, it is suggested to use the dilution rates shown in the attached table.

Material	Dilution
Juice	No dilution required
Syrup	26 g, dilute to 200 mL
A & B Massecuite	1:1 - then 26 g/200 mL
C Massecuite	1:1 - then 13 g/200 mL
A & B Molasses	1:1 - then 26 g/200 mL
C Molasses	1:1 - then 13 g/200 mL

The best results of **CLEARPOL®** are achieved by adding 10-15 grams of this product to 150 ml (5.27 fluid-oz) of sugar cane juice or diluted molasses (as required). Add the sample with the **CLEARPOL®** to an Erlenmeyer flask, shake the content vigorously for at least 30 seconds for reaction time (or using a magnetic stirrer). Sometimes there are more contaminated samples, therefore, in this case, it is suggested to leave the mixture react for 1-2 minutes, then it can continue with the standard procedure. Place the proper filter paper defined in the POL analysis procedure into a decanter funnel

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and pour the content of the flask to filter. The clarified juice is collected in a beaker, and it is ready to measure in a polarimeter or saccharimeter.

For POL analysis of Molasses or high viscosity by-products, a higher amount of **CLEARPOL®** is likely to be required. It is recommended to start testing with 15 grams of this product to 150 ml (5.27 fluid-oz) of the material to clarify. If the POL reading is not achieved, then increase the dose in 2 grams of **CLEARPOL®** at the time. End by trial and error to determine the proper dose until reaching the point where the reading is successful.

At the end it should be possible to obtain a clear yellow liquid similar to the picture.

In laboratory research, POL measurements were evaluated adding **CLEARPOL®** to standard solutions of pure sucrose, at different concentrations, to determine the performance, precision, and accuracy of the **CLEARPOL®**. The results showed a correlation of $R^{2=}$ 0.9996, which means that POL values measured after the usage of **CLEARPOL®** were 99.96% accurate to the standard sucrose concentration used. The conclusion is that **CLEARPOL®** does not cause any interference with the optical activity of the sucrose in the samples clarified.

PRESENTATION

CLEARPOL® is in a convenient heat-sealed plastic container of 1.5 kg (3.3 lb.) with the catalyst bag inside.

TECHNICAL DATA

PHYSICAL FORM	White- yellowish powder
CHEMICAL NATURE	Non-hazardous, Non-Reactive. Blend of inert materials
SOLUBILITY	Insoluble in water
TOXICITY	Lead Free, Non-Toxic, *consult SDS for further details.
STORAGE	It should be stored in a dry, clean environment away from direct sunlight and at a temperature above 5°C and below 40°C. Once opened, the shelf-life decay if there is no moisture control.
SHELF LIFE	If the product is not open, and kept under standard conditions of temperature and moisture, the shelf life is up to 2 years. Once opened the product should be used the soonest as the shelf life decays. Better if used during the next 30 days.

Disclaimer Statement

Although **CLEARPOL®** is a blend of non-toxic and non-reactive products, considered environmentally friendly. It Is generally acknowledged that exposition to fine particles of powder may cause hazard problems, in order to prevent potential problems, safety precautions should be taken as normally indicated for those who have regular contact with such substances, eye protection goggles and wear respiration equipment with dust filter. For further information please consult the Safety Data Sheet, section 8.

Important Information