

Introducing **ProCharta**

Produce Paper, The Green & Profitable Way!

Proklean Technologies has developed a first-in-the-world **proprietary technology** under the **ProCharta** umbrella for paper industry.

These bio-chemicals are high performing, non-toxic and readily bio-degradable products which replace some of the chemicals used in various industries.

Proklean is an ISO 9001:2015, ISO 14001 and OHSAS 18001 certified company. Recently, Proklean has been recognized as an **APAC 25 Company** by Cleantech Group, This is a rare recognition for any Indian company on a global platform for sustainability.

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ProCharta currently has 5 products for the Pulp & Paper Industry:

- **ProYield** – Yield Enhancer for Pulp Mills
- **ProEnviro** – Odour Controller for Pulp Mills
- **ProWhite** – Delignification & Bleaching Enhancer
- **ProBleach** – Bleaching Booster for Recycle Paper
- **ProRB** – Bleaching Enhancer For Reductive Bleaching

ProCharta ProYield Yield Enhancer for Pulp Mills

ProCharta ProYield is a first-of-its-kind non-foaming, surfactant based Yield Enhancer that is readily bio-degradable and non-toxic. Unique properties of ProYield are:

- Anthraquinone free
- Improves Yield
- Reduces Active Alkali
- Cuts down odour from Mercaptans by 60%

Advantages

Better Profits: Enhances yield and reduces requirements of Cooking Chemicals resulting in improved bottom line

Better Quality: Allows liquor to dissolve lignin and other extractives to achieve lower Kappa Number without degradation of fiber and thereby improves Yield

Better Environment: Reduction of Mercaptan gases by 60% helps in creating a better environment

Lower Maintenance Cost: Lower levels of Mercaptan gases translates into reduced corrosion thereby saving on maintenance.

Application

ProYield is dosed at 0.25 to 0.5 Kg per tonne of wood chips. Active alkali may be reduced by 5 to 8 Kg per tonne.

ProCharta ProEnviro Odour Controller for Pulp Mills

ProCharta ProEnviro is developed specifically for the paper industry to control / eliminate odour from the cooking operation by neutralising mercaptans, sulphides and thereby enhance significantly the environment and hygiene in and around a pulp mill.

Advantages

Better Environment: Reduction of mercaptans by 60%, helps in creating a better environment

Lower Maintenance Cost: Lower levels of sulphide gases translates into reduced corrosion thereby saving on maintenance.

Better Quality: Allows liquor to dissolve lignin and other extractives to achieve lower Kappa Number without degradation of fiber and thereby improves Yield

ProCharta ProWhite Delignification and Bleaching enhancer for virgin pulp

ProCharta ProWhite is a powerful metal chelator with a surfactant property to enhance delignification and bleaching. It optimizes the use of Chlorine Di-oxide, Caustic, Hydrogen Peroxide, Hypo etc., resulting in reduced requirement of these chemicals even while improving delignification and enhancing whiteness / brightness. Unique properties of ProWhite are:

- Aids in optimising the use of bleaching auxiliaries and Alkali due to its powerful ability to inhibit transition metal ions,
- Reduces consumption of Hard Chemicals:
 - » ODL Stage: Reduces caustic requirement by 2 Kg per tonne
 - » D0 stage: Reduces Chlorine Di-oxide by 1.5 - 2 Kg per tonne

- » Eop Stage: Reduces Caustic and Hydrogen Peroxide dosage by 1 Kg each

Advantages

Lower Operating Costs: Reduced use of auxiliaries' results in lowering operating cost per tonne

Improved Mechanical Properties: Viscosity, Tear Strength etc., are seen to be enhanced
Reduced Effluent Load: Parameters such as COD, AOX, SOR etc., are seen to be lower by 10 to 12%

Application

At ODL Stage: 150 to 250 gm of ProWhite per tonne of pulp while reducing Caustic by 2 Kg per tonne

At D0 Stage: 350 gm of ProWhite per tonne while reducing Chlorine Dioxide by 1.5-2 Kg per tonne

At Eop Stage: 200 gm of ProWhite per tonne while reducing Hydrogen Peroxide and Caustic by 1 Kg each

ProCharta ProBleach Bleaching Booster for Recycle Paper

ProCharta ProBleach is a formulation with powerful metal chelating property that inhibits transition metal ions from degrading oxidative bleaching chemicals used in DI stage with in-built surfactant property for better brightness. ProBleach inherently possesses characteristics to boost performance of Deinking chemicals and it also prevents scaling in separation equipment used in Deinking plant. Unique properties of ProBleach are :

- Compatible with all chemicals and enzymes
- Suitable for all types of furnishes used in Deinking

Advantages

Lower Operating Costs:

- Inhibits Transition metal ions and reduces

dosage of bleaching chemicals

- Possesses surfactant characteristics that helps to reduce surface tension between fibre and ink particles due to which it aids in reducing dosage of DI chemicals.

Better Quality: Inherent surfactant characteristic maintains brightness with relatively less dosage of Hydrogen Peroxide

Reduces Scaling: Inherent anti-scaling property helps in minimising scaling in separation screens.

Application

Typical dosage recommended is 250 - 350 gm/ton of pulp while reducing Hydrogen Peroxide and Stabiliser anywhere between 20 -35%.

ProCharta ProRB Bleaching Enhancer For Reductive Bleaching

ProCharta ProRB is a powerful anti-oxidant with high metal chelating property to inhibit iron from impairing the function of Hydrosulphite while the anti-oxidants enhance the reduction efficiency. This results in reduced use of reduction bleaching chemicals without impacting the quality.

Advantages

- Reduces Bleaching Chemicals: Helps reduce dosage of reduction bleaching chemicals such as Hydrosulphite by 30 to 40%
- Reduced Pollution Load: Lower dosage of bleaching chemicals aids in reduction of effluent parameters such as BOD, COD
- Enhances profitability
- Reduces scaling
- Suitable for all type of bleaching chemicals

Application

ProRB is applied at the rate of 300 to 500 gm per tonne of pulp depending on the type of process

Unique Features of ProCharta

- Formulation is a **consortium** of **bio-chemicals**
- **Non-toxic** and readily **bio-degradable**
- **Not an enzyme**-based product
- Can be stored at ambient temperatures
- **One-year** shelf life
- **No change** required in process conditions
- Can be applied at a **broad pH and temperature** range

Typical Specifications

Physical Form	Liquid
Colour	Ivory / Honey Brown *
Odour	Sweet, Fermented
Operating Range	2.50 - 14.00 pH, 1°C to 140°C
Effective Substance	A consortium of biochemicals derived from Probiotics
Stability To Electrolytes	Stable to electrolytes used in paper manufacturing
pH	2.55 < V < 3.35
Biodegradable	Readily Biodegradable
Storage	Store at room temperature; do not freeze. Keep container closed.
Safety Precautions	Non-hazardous, does not require any protective equipment for handling

Note: The data above is based on our current knowledge, experience and tests conducted. Processors are however requested to carry out their own tests.
*Depends on the product. Minor variation in colour could occur due to organic nature of the raw material used.

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