Clariant

Peroxide Stabilizer and Sequestrant

Polyron® AMG

FUNCTION

Polyron AMG stabilizes alkaline hydrogen peroxide bleach liquors without the addition of magnesium salts or sodium silicate. ***Polyron AMG*** gives an equal white to sodium silicate at ideal conditions for sodium silicate: a better white than sodium silicate at higher caustic soda levels, with less fiber damage. There is no risk of sedimentation, as in the case when such bleach liquors are stabilized with sodium silicate. Many problems related to the formation of silicate deposits on the fabric or on the equipment are thus eliminated.

FEATURES

Polyron AMG:

- Stabilizes Hydrogen Peroxide during the bleach process very effectively.
- Demonstrates high sequestering capacity for heavy metal ions, thus preventing catalytic damage. Also, the calcium and magnesium compounds derived from defoliating agents and those naturally present in raw cotton are removed.
- Does not foam

Goods bleached in the presence of Polyron AMG:

- Demonstrate a very high, even absorbency.
- Show a very low ash value indicating high cleanliness.
- Demonstrate a softer handle than goods bleached with sodium silicate.

PHYSICAL AND CHEMICAL PROPERTIES

Chemical description:	Proprietary blend
Appearance:	Clear, amber liquid
Ionic character:	Anionic
Specific weight (25°C):	1.30 g/cm^3 (10.8 lbs/gal)
pH (as is):	Alkaline
Dilutability:	Can be mixed with water in any proportion
Compatibility:	Compatible with other bleaching auxiliaries
Storage stability:	Good at least one year
Freezing characteristics:	Freezing may occur if exposed to temperatures below 32°F/0°C. Fully usable after thawing and stirring.

APPLICATION INFORMATION

Polyron AMG is employed at concentrations of 15-25%, calculated based on the amount of hydrogen peroxide, 50% used. The quantity of alkali and peroxide depends on the nature of the pretreatment, the type of goods to be bleached, the method, the treatment time and the temperature.

Non-continuous Processes

1) Peroxide bleaching in becks or JETs:

0.25 - 1.0%	owg	***Polyron AMG***
0.5 - 1.0%	owg	Pentex® AS
1.5 - 2.5%	owg	sodium hydroxide, 50%
2.0 - 8.0%	owg	hydrogen peroxide, 50%

The bleach liquor is prepared at 100°F and heated over a period of 30-40 minutes to about 205°F; the goods are bleached for 45-60 minutes at this temperature.

2) Peroxide bleaching under H.T. conditions (package machine):

0.25 - 1.0%	owg	***Polyron AMG***
0.5%	owg	Pentex® AS
0.8 - 1.2%	owg	sodium hydroxide, 50%
3.0 - 6.0%	owg	hydrogen peroxide, 50%

The bleach liquor is prepared at 100°F and heated over a period of 30-40 minutes to about 230°F; the goods are bleached for 30-40 minutes at this temperature.

3) Peroxide bleaching for a short liquor (jig):

0.5 - 2.0%	owg	***Polyron AMG***
0.5%	owg	Sandopan® CLF Liquid
2.5 - 8.0%	owg	sodium hydroxide, 50%
2.0 - 8.0%	owg	hydrogen peroxide, 50%

The necessary degree of whiteness of goods bleached on a jig tends to vary quite considerably; hence the relatively wide variation in the suggested concentrations of auxiliaries.

The bleach liquor is slowly heated to 200-205°F and the goods are bleached over about 6 ends.

4) Peroxide bleaching in the kier:

0.5 - 1.2	g/l	***Polyron AMG***
0.5 - 1.0	g/l	Sandopan CLF Liquid
1.5 - 3.0	g/l	sodium hydroxide, 50%
2.0 - 5.0	g/l	hydrogen peroxide, 50%

Temperature: 190-200°F
Time: 3 hours

Semi-continuous Processes

1) Pad-Roll method:

2.4-5.8	g/l	***Polyron AMG***
0.5-2.0	g/l	Sandopan CLF Liquid
5.0-9.0	g/l	sodium hydroxide, 50%
10.0-24.0	g/l	hydrogen peroxide, 50%
X	%	optical brightener

At a temperature of 205°F in the roller box, the dwell time should be 2-3 hours.

2) Cold Pad/Batch method:

3.6-5.4	g/l	***Polyron AMG***
0.5-2.0	g/l	Sandopan CLF Liquid
16.0-27.0	g/l	sodium hydroxide, 50%
20.0-30.0	g/l	hydrogen peroxide, 50%

Dwell time: 18-24 hours
The rolls should be covered with plastic foil.

Fully Continuous Processes

1) One Stage (grams product/kilogram fabric)

15	g/kg	***Polyron AMG***
6	g/kg	Sandopan CLF Liquid
40	g/kg	sodium hydroxide, 50%
40	g/kg	hydrogen peroxide, 50%

2) Two Stage (grams product/kilogram fabric)

a) Oxidative Desize Method

Oxidative Desize Formula:

3	g/kg	***Polyron AMG***
2	g/kg	Sandopan CLF Liquid
60	g/kg	sodium hydroxide, 50%
5	g/kg	hydrogen peroxide, 50%

Bleach Formula:

4	g/kg	***Polyron AMG***
2	g/kg	Sandopan CLF Liquid
8	g/kg	sodium hydroxide, 50%
25	g/kg	hydrogen peroxide, 50%

b) Enzymatic Desize Method

Enzyme Desize Formula:

4	g/kg	Bactosol® HTA Liquid
2	g/kg	Sandopan CLF Liquid

Bleach Formula:

12	g/kg	***Polyron AMG***
4	g/kg	Sandopan CLF Liquid
40	g/kg	sodium hydroxide, 50%
40	g/kg	hydrogen peroxide, 50%

3) Three Stage (grams product/kilograms fabric)

Enzyme Formula:

4	g/kg	Bactosol® HTA Liquid
2	g/kg	Sandopan CLF Liquid

Caustic Scour Formula:

3	g/kg	Polyron PB
2	g/kg	Sandopan CLF Liquid
60	g/kg	caustic soda, 50%

Bleach Formula:

4	g/kg	***Polyron AMG***
2	g/kg	Sandopan CLF Liquid
8	g/kg	caustic soda, 50%
25	g/kg	hydrogen peroxide, 50%

4) Jemco III Bleaching

a) 100% cotton:

		1,100 gal Head Tank (lbs.)
20 g/l	***Polyron AMG***	183
5 g/l	Sandopan CLF Liquid	46
20 g/l	sodium hydroxide, 50%	184
75 g/l	hydrogen peroxide, 50%	688
X g/l	Leucophor® AC Liquid	Y

b) Polyester/cotton (50/50):

		1,100 gal Head Tank (lbs.)
12 g/l	***Polyron AMG***	105
5 g/l	Sandopan CLF Liquid	46
10 g/l	sodium hydroxide, 50%	92
50 g/l	hydrogen peroxide, 50%	460
X g/l	Leucophor® AC Liquid	Y

Concentrations in a kier will be approximately half of the head tank concentration.