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PULP & PAPER
PRODUCTS CATEGORY

- BIOCIDE
- BOILOUT COMPOUND
- BRIGHTNESS ENHANCER/ BRIGHTNESS REVERSION PREVENTOR
- CHELATING AGENT
- CLEANERS
- DEFOAMERS
- DE INKING
- DELIGNIFICATION AID
- DRAINAGE AID
- HYDROGEN PEROXIDE STABILIZER
- ODOR CONTROL
- PITCH CONTROL AGENT
- PULPING AID
- SCALE INHIBITOR
- SCALE REMOVER
- STICKY DISPERSANT

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ATOCIDE powder is a broad-spectrum anti-microbial agent for controlling microorganisms such as bacteria, slime, fungi and algae. ATO CIDE is used in white water re-circulating closed or open systems, cooling towers, or any other industrial process where water is used and bacterial growth is a problem. It is well known that microorganism accumulation causes a number of problems, such as the accumulation of slime forming bacteria on surfaces, causing breaks, reduction of drainage, clogged piping, blockages, and the reduction of thermal transfer efficiency and flow. Being 100% active contrary to other biocides on the market, transportation costs are reduced by 90%.

POLY QUAT is a radically new development based upon atomes “Twin Chain” quaternary ammonium compound technology. POLY QUAT, when evaluated by accepted laboratory procedures, provides superior bactericidal, algaeicides and fungicidal activity far beyond that achieved with other available quaternary ammonium compounds. This provides the formulator with unequaled latitude in the design of biocidal products.

OXY CHLOR 12 SODIUM HYPOCHLORITE
OXY CHLOR 12 is a solution of sodium hypochlorite. OXY CHLOR 12 is a sanitizer that controls microorganisms such as bacteria, yeast and mold.
BOILOUT COMPOUND

ATO BOILOUT is an acid-based scale remover containing corrosion inhibitors. ATO BOILOUT is specially designed for use in the pulp and paper industry.

ATO ECONOX is a highly concentrated liquid boil-out compound designed to clean contaminants usually found in pulp & paper white water systems, such as pitch, alum, resin, and slime.

ATO IBB is a powerful acidic liquid engineered for the removal of diverse inorganic scale usually found in sulfite systems, such as calcium carbonate, calcium oxalate, and silicate. Apply a 5-20% solution and let circulate till clean.
ATO PLUS is a technological breakthrough in the field of mechanical pulping. When ATO PLUS is used the brightness of unbleached and bleached pulps is increased without an increase in bleaching chemicals. Following are some of the advantages to be gained from the use of ATO PLUS in mechanical pulping:

1. Bleaching effect is achieved with reduced use of bleaching agents.
2. Increase in ISO brightness of up to 2.5 points (CTMP).
3. Reduction in brightness reversion or yellowing.
4. Reduction of bleaching chemicals.
5. Reduction in pitch deposition.
7. Production of a better quality product.
9. Cost effective
CHELATING AGENT

ATO HP BOOSTER is a liquid blend of sequestering agents which prevent the decomposition of hydrogen peroxide by chelating manganese, iron and copper metal ions in processing water. Following is a list of benefits to be gained by the use of HP Booster:

1. Increase in ISO brightness up to 1.0 point.
2. Replacement of DTPA in the bleaching stage.
3. Reduction of caustic and silicate dosages in the bleaching sequence.
4. Reduction of hydrogen peroxide dosage.
5. Cost reduction.
CLEANERS

ALUMINIUM HOOD CLEANER
ATO ALUMSHINE is a concentrated highly foaming liquid aluminum cleaner and brightener. ATO ALUMSHINE is used with ATOMES LPC FOAMER or CENTRAFOME system, for the cleaning and brightening of dryer hoods in the pulp and paper industry, or the cleaning of aluminum trailers. When ATO ALUMSHINE is applied with our LPC FOAMER copious amounts of thick, rich foam are generated which give ATO ALUMSHINE residence time in order to penetrate and break the most stubborn of soils. When ATO ALUMSHINE is used re-oxidation of aluminum is reduced to a minimum.

FELT AND WIRE CLEANER
ATO ALK KLEEN is a viscous highly alkaline liquid which contains a special blend of surfactants, wetting agents, penetrants, dispersants, sequestrants, and solvents for felt or wire cleaning by batch or continuous. ATO ALK KLEEN easily cleans a wide range of organic soils including diverse resins, pitch, hot melts, inks, aluminates, and grease from felt and wires. When used on a continuous basis ATO ALK KLEEN maintains felts or wires clean thus maximizing drainage at an economical cost.

ATO N SPERSE is a blend of new cationic polymers engineered for the prevention of wire and felt plugging. ATO N SPERSE controls pitch, latex, ink, glue, and stickies by preventing their agglomeration, and simultaneously bonding them to the pulp or paper fibers, therefore protecting the felts and wires. ATO N SPERSE is effective on pure or recycled pulp, and when used productivity can be increased by as much as 20%.

FELT AND WIRE CLEANER (FOR DRYER FELT)
ATO FELTEC is a liquid neutral pH blend of environmentally accepted solvents, wetting agents, penetrants and dispersants for dryer felt cleaning. ATO FELTEC easily cleans a wide range of soils, including various resins, pitch, hot melts, inks, and grease from dryer felt and wires. ATO FELTEC is primarily used for batch washing in paper mills requiring caustic free washing programs for their dryer cans felts and wires.

FELT AND WIRE CLEANER (FOR RECYCLING MILLS)
ATO BRITE is a liquid engineered specifically for the cleaning of felts and wires found in mills recycling paper. ATO BRITE cleans a wide range of soils, including diverse resins, pitch, hot melts, inks, aluminates, minerals, calcium, and grease without difficulty. When ATO BRITE is used on a continuous basis the felts stay clean maintaining maximum drainage capabilities longer. All felt and wire cleaning needs are achieved cost effectively with ATO BRITE.
GENERAL PURPOSE CLEANER ALKALINE

CAUSTI FOAM is a heavy duty alkaline liquid that combines high alkalinity and long lasting foam. CAUSTI FOAM is designed to be used with foaming systems such as the LPC FOAMER, AROFOMATIC or the CENTRAFOME where it is applied as a foam so that it has contact time with the surfaces to be cleaned.

ATO BRAND is a concentrated all-purpose liquid cleaner. ATO BRAND easily removes dirt, soil, oil, and grease from all types of surfaces including vinyl, leather, fabric, and painted areas. It is non-corrosive and due to its low-foaming characteristics, ATO BRAND can be easily rinsed off with water leaving no residual odor. ATO BRAND is truly the one cleaning compound that is effective on all your surfaces, from floors to walls.

ORA is a pleasant citrus-smelling, Di-Limonene based biodegradable concentrated liquid cleaner containing no chlorinated or oil based solvents. ORA is formulated for heavy duty degreasing. and cost effective cleaning. May be safely used on all surfaces. Waste water treatment plants breakdown readily with ORA.

STEAM CLEANING

ATO M STRIP is a heavy duty alkaline (caustic based), multi purpose boilout compound and batch felt and wire cleaner for 100% synthetic felts and wires. ATO M STRIP contains a special blend of surfactants and water conditioners which will remove pitch, latex, casein, pigments, starch, talk, rosin size, and aluminum resinates effectively and economically. ATO M STRIP also increases permeability and absorbency of the felts, and leaves them noticeably brighter and softer.
DEFOAMERS

*DE FOAM* is a new environmental liquid defoamer that is water-based. *DE FOAM* replaces all oil-based defoamers effectively. *DE FOAM* acts not only as a defoamer but also as a de-aerator for entrained foam. *DE FOAM* is environmentally friendly, non-toxic and has a neutral pH.
DE INKING

**ATO DEINK DISPERSANT** is a liquid specially designed for the recycling of old newspapers (ONP), old magazines (OMG), old corrugated containers (OCC), waste news (offset letter press and rotogravure), and office waste (Xerox, heat set, laser, or computer print outs). **ATO DEINK DISPERSANT** is a new generation product, containing a blend of environmentally friendly and non-toxic solvents, dispersants, solubilizers, emulsifiers, and wetting agents. Following are some of the many advantages of using **ATO DEINK DISPERSANT** over other de-inking chemicals. **ATO DEINK DISPERSANT**:

1. Removes ink (pigment and dyes) and stickies entrapped on the pulp.
2. Improves deinking efficiency.
3. Breaks down the ink particles into small specks.
4. Increases optical brightness.
5. Works as a pulping aid - reduces pulping time.
6. Is effective at room temperature.
7. Works as a drain aid.
8. Is cost effective.
**DELIGNIFICATION AID**

**ATO DSOLV** is a new generation liquid pulping aid which is unique in the pulping industry. **ATO DSOLV** produces a better quality pulp by faster absorption, diffusion and penetration of white/cooking liquor into the chip center. **ATO DSOLV** works on both soft and hardwoods.

Following are numerous additional advantages in using **ATO DSOLV**:

1. Uniform cooking of the chips (internal and external), and faster swelling of fibers.
2. Aids in delignification and extraction of colored organic components from chips.
3. Faster penetration of AQ (anthraquinone) into the chips.
4. Faster separation of fibers without degradation of hemicellulose.
5. Aid for fibrillation of shives and knots, reducing screen rejects.
6. Reduction of Kappa number.
7. Improved brightness.
8. Reduced white liquor charge.
9. Reduced refining energy.
10. Increased production.
11. Cost effective.
12. Additional benefits:
   - Reduction/elimination of TALC and the problems associated with TALC.
   - Ash-free pulp / enhances quality of photographic paper.
   - Improved viscosity of bleached pulp.
   - Reduced solids into recovery boiler.
   - Reduced bleached pulp freeness.
   - Reduced DCM extractives.
ATO DRAIN is a new generation liquid water-based drainage aid specially designed to be applied at the vat dilution line of the first extraction stage washer in Kraft pulping. Following are some of the many advantages of using ATO DRAIN over other drainage aids on the market:

1. Environmentally friendly and non-toxic to aquatic life.
2. Biodegradable and non-corrosive.
3. Improves drainage on the washers.
4. Reduced filtrate carry-over to the D1 stage.
5. Reduced steam consumption in the steam mixer.
6. Lowered buffer caustic demand for pH control in D1 stage.
7. Lowered lignin carry-over to the first chlorine dioxide stage.
8. Lowered chlorine dioxide consumption in the D1 stage.
9. Increased substitution of chlorine by chlorine dioxide in the C/D stage (if mill is still using chlorine) to lower AOX.
10. Increased production.
HYDROGEN PEROXIDE STABILIZER

ATO HP BOOST is a liquid blend of sequestering agents which prevent the decomposition of hydrogen peroxide by chelating manganese, iron and copper metal ions in processing water. Following is a list of benefits to be gained by the use of ATO HP BOOST:

1. Increase in ISO brightness up to 1.0 point.
2. Replacement of DTPA in the bleaching stage.
3. Reduction of caustic and silicate dosages in the bleaching sequence.
4. Reduction of hydrogen peroxide dosage.
5. Cost reduction.
**ODOR CONTROL**

*NTP* is an environmentally benign, non-toxic and non-biocidal powder for odor control. Under anaerobic conditions, bacteria metabolize organic carbon compounds to produce malodorous and explosive chemicals. These chemicals, (which include volatile fatty acids (VFA’s), hydrogen sulfide (H$_2$S) and mercaptans,) create nuisance odors objectionable to citizens leaving near or around municipal waste treatment plants. *NTP* effectively and economically prevents the production of VFA’s, H$_2$S and mercaptans, thereby stopping odors from forming thus creating a pleasant living environment.
PITCH CONTROL AGENT

ATO SPERCE is a new generation liquid pitch control agent. It is environmentally friendly, biodegradable and non-chlorinated. Some of the major advantages in using ATO SPERCE over other pitch dispersants to control pitch in pulp and paper-making processes are as follows:

1. Removes pitch from the pulping system.
3. Drastically reduces pitch count in the finished products
4. Also reduces:
   - Bleaching chemical consumption and associated cost
   - Biocide demand
   - Washer screen plugging
   - Slugs due to pitch
   - Broke
   - Environmental impact
   - Manufacturing cost
   - Downtime for cleaning wires, felts and wet-end
5. Improves:
   - Pulp washing efficiency
   - Drainage and freeness
   - Machine run ability
   - Felt permeability
   - Sheet quality
   - Brightness reversion
   - Productivity
PULPING AID

MECHANICAL PULPING

ATO CHIPAID is a new generation mechanical pulping aid which is unique in the pulp and paper industry. ATO CHIPAID is specially designed for producing better quality pulp with numerous added advantages as follows:

1. Provides lubrication to the refiners and reduces refining energy.
2. Assists in faster penetration of liquor and bleach into center of chip in all three directions at equal rates with (a) Diffusion, (b) Penetration and (c) Absorption.
3. Less degradation of cellulose fibers.
4. Less screen rejection (shives/knots.)
5. Improvement in brightness.
6. Reduction in dirt count.
7. Increase in throughput.

RECYCLING

ATO INSTAPULP is a pulping aid for wet-strength paper grades. ATO INSTAPULP is designed to replace sodium hypochlorite and other chemicals such as hydrogen peroxide for efficient and rapid pulping. This unique and effective blend of chemicals is manufactured in powdered form.

ATO REPULP-AID is a pulping additive used to break down the polyamide-epichlorohydrin type of wet strength additives. ATO REPULP-AID significantly reduces the time required for the disintegration of the broke during the repulping process.

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**SCALE INHIBITOR**

**KRAFT PULPING**

**ATOSCALE HIB** is a semi-viscous liquid crystal modifier engineered to prevent the formation of various scales (i.e. calcium carbonate, calcium oxalate and others), in batch and continuous digesters. When **ATOSCALE HIB** is used on a continual basis, acid de-scaling is reduced or no longer necessary. For best results, **ATOSCALE HIB** must be used non-stop. If the system runs short of **ATOSCALE HIB**, scale and rust will start to form immediately. **ATOSCALE HIB** will not remove existing scale, but will prevent the formation of additional scale.

**ATOSCALE HIB PLUS** is a semi-viscous liquid, specially formulated to reduce, prevent or eliminate various types of scale in batch and continuous digester and evaporator systems. **ATOSCALE HIB PLUS** is designed to sequester various salts (such as carbonates and sulfates of sodium, calcium, barium and potassium), hold them in solution and/or suspension, and disperse them into the system, preventing deposition on the heat transfer tube and other surfaces. **ATOSCALE HIB PLUS** also sequesters metal ions such as iron, manganese, and magnesium. **ATOSCALE HIB PLUS** will not remove existing scale, but will prevent the formation of additional scale in the system. When **ATOSCALE HIB PLUS** is used on a continuous basis, the following benefits can be expected:

1. High sequestration: The ability to complex metal ions at stoichiometric concentration.
2. Hydrolytic stability: Resists decomposition in aqueous solutions even at elevated temperatures and pH extremes.
3. Crystal growth modification: Prevents hard scale deposition.
4. Elimination of costly acid cleaning.
5. Enormous reduction in downtime.
6. Reduction in steam consumption.
7. Cost effective.
SCALE INHIBITOR

MECHANICAL PULPING

ATO KALINHIB is a semi-viscous liquid engineered to prevent the formation of diverse scale (especially calcium oxalate) in the evaporator system of ammonium sulfite mills (red liquor). When ATO KALINHIB used on a continual basis, acid de-scaling of the system will be reduced or eliminated. For best results, ATO KALINHIB must be used on a non-stop basis. If the system runs short of ATO KALINHIB, scale will start to form immediately. ATO KALINHIB will not remove existing scale, but will prevent the formation of additional scale. Boil out or de-scaling the system with our product ATO IBB (scale and sludge remover) prior to the injection of ATO KALINHIB is recommended.

ATO COMPLEX is a unique liquid blend of chemicals designed to prevent scale formation and to lubricate the cutting edge of refiner disks in thermo-mechanical pulp systems. ATO COMPLEX prevents mineral salts from forming, thus reducing friction to a minimum, which in turn dramatically increases the life of the refiner disks. To be most effective, ATO COMPLEX must be used on a continuous basis.
ATO BOILOUT is an acid-based scale remover containing corrosion inhibitors. ATO BOILOUT is specially designed for use in the pulp and paper industry.

ATO IBB is a powerful acidic liquid engineered for the removal of diverse inorganic scale usually found in sulfite systems, such as calcium carbonate, calcium oxalate, and silicate. Apply a 5-20% solution and let circulate till clean.
STICKY DISPERSANT

ATO SPERCE ST is a liquid dispersant and detackifying agent for stickies. The chemical properties of ATO SPERCE ST allow it to solubilize, emulsify, detackify and neutralize stickies in the pulp preparation system. This new generation, environmentally friendly and biodegradable product, has numerous benefits listed as follows:

1. Reduces sticky particle size
2. Alters the surface characteristics of stickies
3. Prevents agglomeration of stickies
4. Detackifies all types of stickies, pitch, etc.
5. Excellent dispersion of the treated stickies into the pulp/sheet
6. Reduces sticky deposition on wires, felts and dryer cans.
7. Improves sheet quality
8. Improves freeness/drainage when replacing talk.
9. Optimizes machine speed
10. Reduces excessive down time due to cleaning.
11. Increases production.
12. Cost effective

ATO NUTRASPERSE is a blend of new cationic polymers engineered for the prevention of wire and felt plugging. ATO NUTRASPERSE controls pitch, latex, ink, glue, and stickies by preventing their agglomeration, and simultaneously bonding them to the pulp or paper fibers, therefore protecting the felts and wires. ATO NUTRASPERSE is effective on pure or recycled pulp, and when used productivity can be increased by as much as 20%.

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OTHER PRODUCTS

- **BIOCIDES**
  - BIOXY S
  - POLY QUAT
  - OXY CHLOR 12

- **FLOCCULANTS**
  - CATIONIC SERIES
  - POLY DAD MAC
  - ANIONIC SERIES
  - EMULSIONS
  - CATIONIC POLY ELECTROLYTES

- **RETAIN** Retention aid
- **NTP** New technology product – Controls VFAs and H₂S malodors
- **BACT O MAX** Bacterial product for odor control & biodegradation.