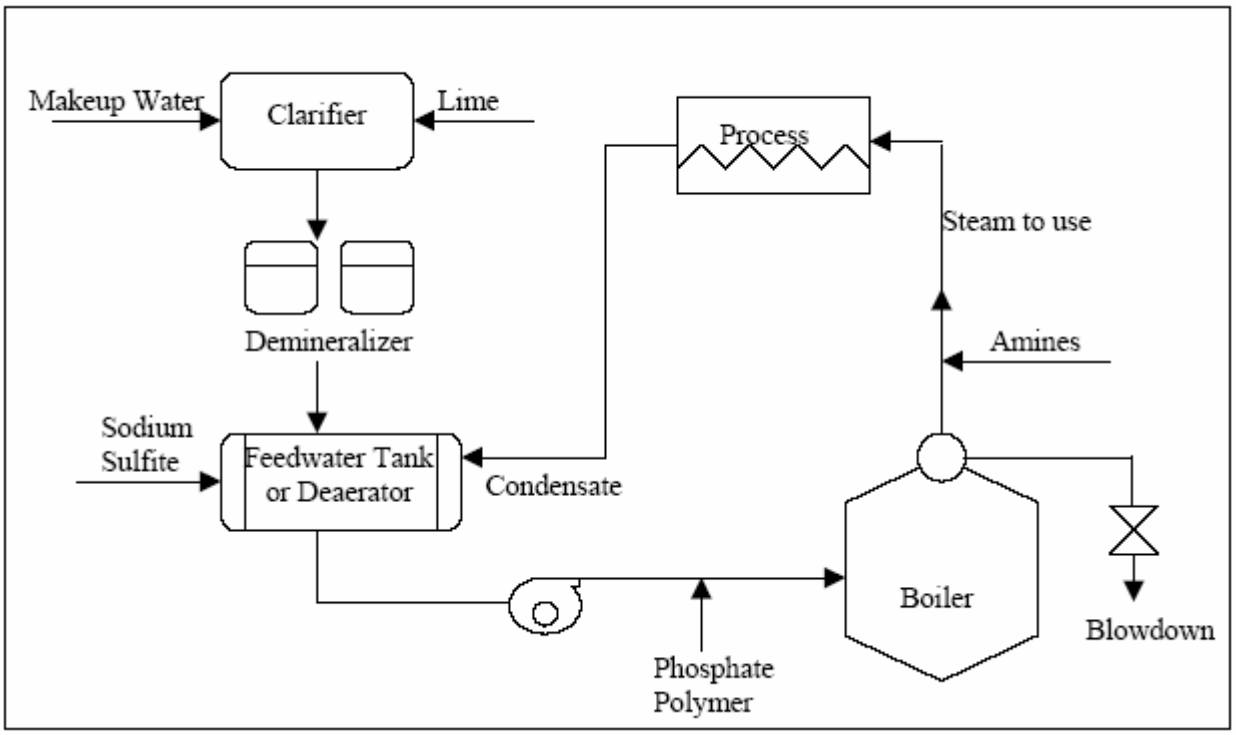
WATER AND WASTEWATER DIVISION

atomes 6065 Thimens, Saint Laurent (Quebec) Canada H4S 1V8 Tel. :(514) 745 2597 Fax: (514) 745 5176

- **FOR BOILERS**
  Basic Boiler System Schematic



Boilers
The big picture of boiler water treatment chemicals is the control of scale, corrosion, and boiler carryover. Scale can lead to boiler inefficiency, plugged tubes, hot spots, under-deposit corrosion, and ultimately boiler damage. Corrosion can reduce the operating life of a boiler system and increase maintenance costs. Boiler carryover can lead to reduced steam quality and purity and cause turbine damage.

Typical boiler treatment chemicals are listed below.

- **Oxygen Scavengers:** chemically neutralize oxygen not removed by the deaerator. Oxygen can lead to pitting in a boiler system.
  - Sulfite/bisulfite
  - Hydrazine
  - DEHA (Diethylhydroxylamine)
  - Carbohydrazide
  - Erythorbate
- **Phosphates:** inhibits scale formation on heat transfer surfaces.
  - Orthophosphate
  - Sodium tripolyphosphate

- Sodium hexametaphosphate
- TKPP (tetrapotassium pyrophosphate)
- HEDP (an organic phosphate)

- **Chelants:** inhibits scale formation by complexing with the hardness ions.
  - EDTA
- **Antifoams:** surface-active chemicals that reduce foaming.
  - Polyalkalene glycol
- **Neutralizing & Filming Amines:** neutralizing amines protect condensate system by neutralizing effects of carbonic acid and filmers provide a protective coating.
  - Morpholine
  - Cyclohexylamine
  - DEAE (Diethylethanolamine)
  - Aminomethylpropanol
  - Aqua ammonia
  - ODA (Octadecylamine) – filming amine
- **Alkalinity Control:** maintaining proper boiler alkalinity or pH protects the boiler from corrosion and facilitates certain types of chemical treatment programs (e.g., phosphate precipitation programs).
  - Caustic (sodium hydroxide)
  - Mono-, di-, and trisodium phosphate (coordinated phosphate control)
- **Polymers:** disperse solids and inhibit scale.
  - Polyacrylates
  - Polymethacrylates
  - Polymaleic acid
  - Polyacrylate/acrylamide
  - Acrylate/AMPS/sulfonated styrene terpolymer
  - Acrylate/sulfonic acid/nonionic terpolymer

BOIL KLIN S
Boiler Water Treatment
Scale & Corrosion Inhibitor

DESCRIPTION

BOIL KLIN S is a concentrated blend of chemicals designed to prevent deposition and corrosion in low and medium pressure boilers, which have low levels of make-up. **BOIL KLIN S** contains diverse anti-corrosion agents and sulfite to provide corrosion protection in both the boiler and the condensate system. Diverse sequestering and chelating agents are included to disperse any scale forming materials that may enter into the boiler water.

BENEFITS

- Easy to administer single product
- Prevents boiler corrosion
- Concentrated formula
- Economical
- Simple to test product
- Prevents scale deposition

DOSAGE

The dosage of **BOIL KLIN S** will vary depending on plant conditions. Specific recommendations, can be provided by your atomes representative.

FEEDING

BOIL KLIN S may be fed directly to the boiler or be added to either the feed water or condensate storage tanks. No special materials of construction are required for the chemical feed system.

PRODUCT SPECIFICATIONS

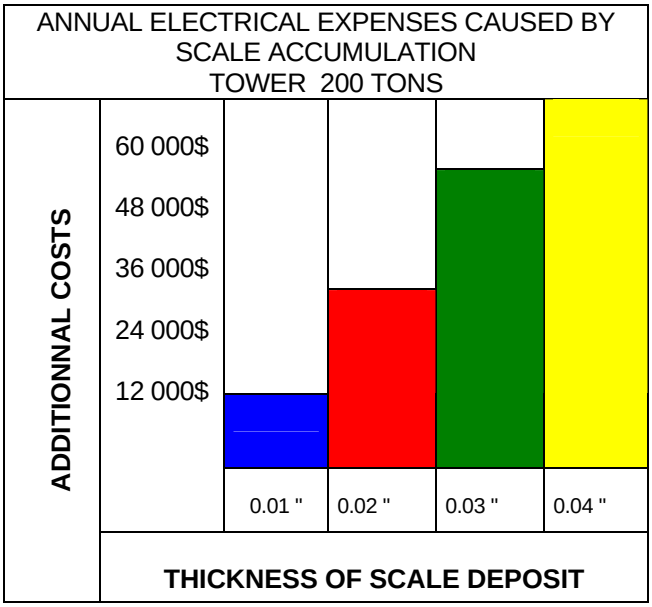
- Specific Gravity: 1.125
- Freezing Point: Not available
- Appearance: Clear liquid
- Odour: Amine
- pH (1%): 11.50
- Flash Point: >95°C

atomes 6065 Thimens, Saint Laurent (Quebec) Canada H4S 1V8 Tel. :(514) 745 2597 Fax: (514) 745 5176

BOIL KLIN S

SCALE AND CORROSION INHIBITOR

BOIL KLIN S helps you to keep your water free of solids and impurities in order to increase the efficiency of your equipments.



Cooling tower of 200 tons that operates 24 hours per day with a 70% charge. It consumes 2600 kWh per day. And 0.075$ per kWh. The electrical costs daily are 195, 00$

LOSS OF CALORIFIC TRANSFER CAUSED BY SCALE DEPOSITS	
Thickness of scale	Efficiency loss
0.006 "	30%
0.012 "	45.9%
0.024 "	63.9%
0.036 "	71.8%

BOIL KLIN S is a unique water treatment……..
One product, One operation!

atomes 6065 Thimens, Saint Laurent (Quebec) Canada H4S 1V8 Tel. :(514) 745 2597 Fax: (514) 745 5176

- **FOR COOLING TOWERS**

The big picture of cooling tower water treatment chemicals is the control of scale, corrosion, microbiological activity, and foaming. Scale can lead to heat exchanger inefficiency, plugged tubes, inadequate flow, and underdeposit corrosion. Corrosion can reduce the operating life of cooling equipment and increase maintenance costs. Microbiological activity can lead to reduced heat exchanger efficiency, plugged tubes, inadequate flow through the cooling tower fill, under-deposit corrosion, etc.

Typical cooling tower treatment chemicals are listed below.

- **Corrosion Inhibitors:** to protect metal surfaces from corrosion.
  - Phosphates (orthophosphate, sodium tripolyphosphate, sodium hexametaphosphate, TKPP)
  - Phosphonates (HPA and others)
  - Zinc
  - Silicates
  - TT (Tolyltriazole – for yellow metals)
  - BZT (Benzotriazole – for yellow metals)
  - Molybdate
- **Scale Inhibitors:** to protect heat transfer surfaces and cooling system from scale.
  - Phosphates (sodium tripolyphosphate, sodium hexametaphosphate, TKPP)
  - Phosphonates (HEDP, AMP, PBTC)
  - Polymers (polycarboxylates, polyacrylates, polymaleic acid, maleic anhydride copolymer, acrylate/AMPS copolymer, acrylate/AMPS/sulfonated styrene terpolymer, acrylate/sulfonic acid/nonionic terpolymer) – many are dispersants too.
- **Antifoams:** surface-active chemicals that reduce foaming.
  - Silicone and non-silicone blends
- **Biocides:** for microbiological control.
  - Oxidizing biocides (bleach, bromine, chlorine gas, BCDMH, calcium hypochlorite, chlorine dioxide, hydrogen peroxide, iodine, ozone) or our patented **BIOXY S**
  - Nonoxidizing biocides (isothiazolin, gluteraldehyde, DBNPA, MBT) or our unique **POLY QUAT**

atomes 6065 Thimens, Saint Laurent (Quebec) Canada H4S 1V8 Tel. :(514) 745 2597 Fax: (514) 745 5176

COOL T KLIN
Scale and Corrosion Inhibitor

APPLICATION

COOL T KLIN is a concentrated blend of chemicals designed to prevent deposition and corrosion in cooling towers, which have low levels of make-up. **COOL T KLIN** contains diverse anti-corrosion agents to provide corrosion protection in the cooling tower. Diverse sequestring and chelating agents are included to disperse any scale forming materials that may enter into the cooling tower water.

BENEFITS

- Easy to administer single product
- Economical
- Prevents boiler corrosion
- Simple to test product
- Concentrated formula
- Prevents scale deposition

DOSAGE

The dosage of **COOL T KLIN** will vary depending on plant conditions. Specific recommendations, can be provided by your ATOMS representative.

COOL T KLIN may be fed directly to the cooling tower or be added to either the feedwater or condensate storage tanks. No special materials of construction are required for the chemical feed system. **For food plant use, food contact surfaces should be rinsed with abundant potable water before re-use.** Do not contaminate food products.

Not for use in potable water systems.

PROPERTIES

Appearance: Clear yellowish liquid
pH (1%): 11.50 ±1.00
Specific Gravity: @ 25°C: 1.125 ±0.050
Odour: Amine

PRECAUTIONS

COOL T KLIN contains potassium hydroxide. May cause severe burns. Do not take internally. If ingested, give 3-4 glasses water or milk to drink and seek medical attention. DO NOT INDUCE VOMITING. If product comes in contact with eyes, flush for at least 15 minutes with a large amount of water. If irritation persists, consult a physician.

atomes 6065 Thimens, Saint Laurent (Quebec) Canada H4S 1V8 Tel. :(514) 745 2597 Fax: (514) 745 5176

Closed Loops
For closed loops, the big picture of water treatment chemicals is to control corrosion and microbiological activity. Corrosion can lead to equipment failure and increased maintenance costs. Microbiological activity can lead to reduced heat exchanger efficiency, plugged tubes, and under-deposit corrosion.

Typical closed loop treatment chemicals are listed below.

- **Corrosion Inhibitors:** to protect metal surfaces from corrosion.
  - Nitrites
  - Zinc
  - Silicates
  - TT (Tolyltriazole – for yellow metals)
  - BZT (Benzotriazole – for yellow metals)
  - Molybdate
  - Sulfite
  - pH control (caustic, borates, etc.)
  - VpCI (Volatile Phase Corrosion Inhibitors)

- **Biocides:** for microbiological control.
  - Nonoxidizing biocides (isothiazolin, gluteraldehyde, DBNPA, MBT, **POLY QUAT**)

atomes 6065 Thimens, Saint Laurent (Quebec) Canada H4S 1V8 Tel. :(514) 745 2597 Fax: (514) 745 5176

- **FOR MICROBIAL CONTROL IN WATER AND WASTEWATER**
    - **BIOXY S**
    - **POLY QUAT**
    - **OXY CHLOR 12**

atomes 6065 Thimens, Saint Laurent (Quebec) Canada H4S 1V8 Tel. :(514) 745 2597 Fax: (514) 745 5176

BIOXY S NEW
SOLID PERACETIC ACID
Unique to atomes

DESCRIPTION

BIOXY S is a powdered product that generates peracetic acid in water. **BIOXY S** was formulated to sanitize surfaces in contact with food, reservoirs, C.I.P. evaporators, fillers, aseptic equipment and pasteurisers found in dairies, wineries, breweries, and food, beverage and meat processing and packaging plants. Use **BIOXY S** to sanitize water reservoirs. **BIOXY S** is also ideal to sanitize water tanks, boilers, cooling tours and other equipments related to water and wastewater treatment. **BIOXY S** is non foaming.

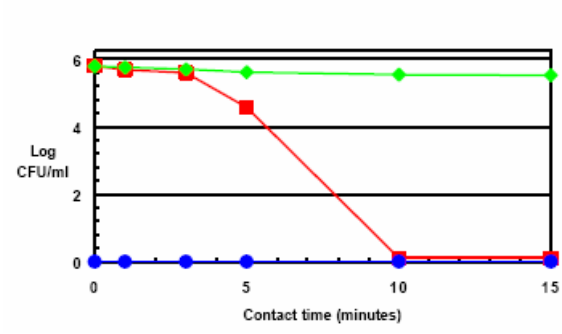
DIRECTIONS FOR USE

Use **BIOXY S** on previously cleaned equipment. Use at a concentration of 0.2% (2 g **BIOXY S** in 1 liter of water ; or 20 g **BIOXY S** in 10 liters of water; or 200 g **BIOXY S** in 100 liters of water). This concentration of 0.2% yields 200 ppm of active peracetic acid. Allow a 0.2% solution to circulate at 5-40^{0}C (40-105^{0}F) and keep in contact for at least 60 seconds. Drain. Do not rinse with water (active ingredients break down into water, oxygen and vinegar). **BIOXY S** can be used from a concentration ranging from 0.2% up to 2%. **BIOXY S** at 2% (20 g/L) concentration is considered as a chemical sterilant. For an efficient kill, use **BIOXY S** at a concentration of 0.5%.

PROPERTIES

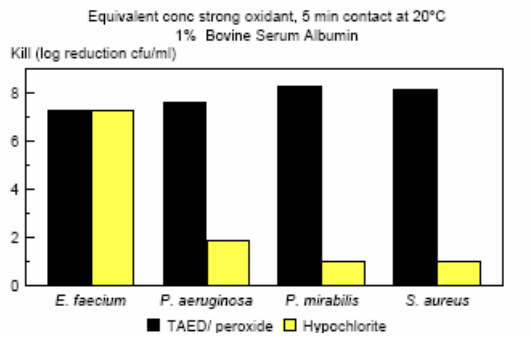
Appearance: White powder
Odour: Mild
Solubility: Complete

Effect of **BIOXY S** against Legionella pneumophila



- **Red BIOXY S**
- **Green Perborate**
- **Complete Kill**

Soil tolerance of **BIOXY S**



- **BIOXY S**
- **Hypochlorite**

atomes 6065 Thimens, Saint Laurent (Quebec) Canada H4S 1V8 Tel. :(514) 745 2597 Fax: (514) 745 5176

Comparison
BIOXY S NEW vs Liquid Peracetic Acid

Description	BIOXY S - atomes	Liquid Peracetic acid
Activity	10% active (2 times more concentrated)	5% active
Concentration used	0.2% 2 g / L = 20g / 10 L	0.4% 4 ml / L
Physical status	Solid	Liquid
Transportation	Safe	Hazardous
Odor	No odor	Offensive – Strong acetic acid smell
pH	Reacts with water to generate peracetic acid at **neutral** pH levels	The pH is highly **acidic**
Corrosion / surfaces	No induced corrosion	Extremely corrosive to surfaces
Handling / employees	Safe to handle	Extremely dangerous to handle
Storage	Requires a limited place	Requires large and a secured space to prevent leaking
Chemical stability	Stable	Decomposes if exposed to heat or organic materials

atomes 6065 Thimens, Saint Laurent (Quebec) Canada H4S 1V8 Tel. :(514) 745 2597 Fax: (514) 745 5176

POLY QUAT
WATER TREATMENT
QUATERNARY BIOCIDES

CAS Number- 68424-95-3 and 68424-85-1

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, algaecides 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.

Chemical Composition – Typical
Active Ingredients POLY QUAT
Alkyl (C14 50%, C12 40%, C16 10%) Dimethyl Benzyl Ammonium Chloride 2.0%
Octyl decyl dimethyl ammonium chloride 1.5%
Dioctyl dimethyl ammonium chloride 0.6%
Didecyl dimethyl ammonium chloride 0.9%

Specifications
pH (1% Active Solution): 7.00
POLY QUAT contains 5% active polyquats. When used at:
-0.2% (2 mL/L), it generates 100 active ppm
-0.4% (4 mL/L), it generates 200 active ppm
-0.8% (8 mL/L), it generates 400 active ppm
-1.0% (10 mL/L), it generates 500 active ppm

Summary of the superior performance characteristics of POLY QUAT :

- Broad spectrum biocidal activity against both gram-positive and gram-negative organisms.
- Increased hard water tolerance.
- Superior fungicidal performance.

atomes 6065 Thimens, Saint Laurent (Quebec) Canada H4S 1V8 Tel. :(514) 745 2597 Fax: (514) 745 5176

MICROBIAL ACTIVITY

Test Organism	Minimum Effective Concentration
Staphylococcus aureus	250 ppm active quaternary
Salmonella choleraesuis	250 ppm active quaternary
Pseudomonas aeruginosa	450 ppm active quaternary
Pseudomonas cepacia	450 ppm active quaternary
Escherichia coli	250 ppm active quaternary
Serratia marcesens	250 ppm active quaternary
Brevibacterium ammoniagenes	250 ppm active quaternary
Salmonella typhi	250 ppm active quaternary

Test Organism	Hard Water Concentration	Minimum Effective Concentration
Pseudomonas aeruginosa	0 ppm/$CaCO_3$	450 ppm active quaternary
	300 ppm/$CaCO_3$	850 ppm active quaternary
	400 ppm/$CaCO_3$	850 ppm active quaternary
	500 ppm/$CaCO_3$	1000 ppm active quaternary
Salmonella choleraesuis	0 ppm/$CaCO_3$	250 ppm active quaternary
	300 ppm/$CaCO_3$	600 ppm active quaternary
	400 ppm/$CaCO_3$	600 ppm active quaternary
	500 ppm/$CaCO_3$	700 ppm active quaternary
Pseudomonas cepacia	400 ppm/$CaCO_3$	850 ppm active quaternary

POLY QUAT has been cleared by the FDA as an “Indirect Food Additive’’, under 21 CFR part 178.1010 at a concentration of 150-400 ppm active, and requires no water rinse. This clearance covers the usage of **POLY QUAT** on food processing equipment and utensils and food contact surfaces in public eating places. In addition, the use of sanitizing solutions based on **POLY QUAT** fulfills the criteria of the Grade “A” Pasteurized Milk Ordinance 1978 Recommendations of the United States Public Health Service.

atomes 6065 Thimens, Saint Laurent (Quebec) Canada H4S 1V8 Tel. :(514) 745 2597 Fax: (514) 745 5176

Fungicidal Activity
Test Organism Ten Minute Killing Dilution (100% Active)
Trichophyton mentagrophytes 1:8000 (125 ppm)

APPLICATIONS
POLY QUAT will control algae and bacterial slimes found in recirculating cooling tower water and oil field water floods. They help clean and loosen slime deposits from cooling and flooding system surfaces. When used in slug doses, no other biocide is often required.

Application	**Recommended Use-levels on a 100% Active Basis**
Recirculating Cooling Tower	
- Initial Dosage	20-30 ppm
- Subsequent Dosages	7-10 ppm
Oil FieldWater Flood	
- Continuous Addition	5-10 ppm
- Intermittent Addition	5-20 ppm

Recirculating Cooling Towers
Initially use 20 ppm active quaternary. Increase to 30 ppm if satisfactory results are not obtained. Repeat the initial dose every 7 days or more frequently if needed. Once control is achieved, lower dosage to 7-10 ppm to maximize cost performance. Repeat weekly as needed. Should slime develop again, go back to initial dosage. Cooling tower waters which are inherently low in algae growth and bacteria count may be adequately controlled by the lower range of these dosages, and slug fed every 7 days.

Oil Field Water Flood/Salt Water Disposal System
DO NOT APPLY IN MARINE AND ESTUARINE OIL FIELDS.
For control of slime-forming and sulfate-reducing bacteria in oil field water flood or salt water disposal systems, add 5-10 ppm active quaternary continuously. Levels for effective control will vary depending on conditions at the site. For intermittent use, dose at a rate of 5-20 ppm active for 4-8 hours per day, one to four times a week as needed to maintain control.

atomes 6065 Thimens, Saint Laurent (Quebec) Canada H4S 1V8 Tel. :(514) 745 2597 Fax: (514) 745 5176

OXY CHLOR 12

SANITIZER - SODIUM HYPOCHLORITE

DESCRIPTION
OXY CHLOR 12 is a solution of sodium hypochlorite. **OXY CHLOR 12** is a sanitizer that controls microorganisms such as bacteria, yeast and mold.

APPLICATION
Cleaning: Use **OXY CHLOR 12** at a concentration of 0.2 to 3% in water.

For food plant use, food contact surfaces should be rinsed with abundant potable water before re-use.
Sanitation in food plants (meat, fish, poultry, dairy and other food plants)**:** use at a concentration of 0.2% maximum (2ml per liter). Do not rinse if concentration is at 200 ppm available chlorine or below.
For fish processing plants: Use to treat influent processing water for microbial control. Product should be fed into incoming water source with appropriate metering equipment and monitoring controls so as not to exceed 3 ppm total chlorine.
For water and wastewater plants: Use to treat influent processing water for microbial control. Product should be fed into incoming water source with appropriate metering equipment and monitoring controls so as not to exceed 3 ppm total chlorine.

PROPERTIES
Appearance: Yellowish liquid
pH (1% solution): alkaline
Available chlorine~ 10%
PRECAUTIONS
OXY CHLOR 12 may cause severe burns. Do not take internally. If ingested, give 3-4 glasses water or milk to drink and seek medical attention. DO NOT INDUCE VOMITING. If product comes in contact with eyes, flush for at least 15 minutes with a large amount of water. If irritation persists, consult a physician.
INGREDIENTS
Contains: Sodium hypochlorite

MADE IN CANADA

atomes 6065 Thimens, Saint Laurent (Quebec) Canada H4S 1V8 Tel. :(514) 745 2597 Fax: (514) 745 5176

atomes

- **FOR RO MEMBRANE**

EQUATION RO
PREVENTS SCALE AND SLUDGE FORMATION

atomes 6065 Thimens, Saint Laurent (Quebec) Canada H4S 1V8 Tel. :(514) 745 2597 Fax: (514) 745 5176

EQUATION
PREVENTS SCALE AND SLUDGE FORMATION

DESCRIPTION

EQUATION is a semi-viscous liquid engineered to prevent the formation of diverse scales (i.e. calcium carbonate, calcium oxalate, etc.). Once **EQUATION** is used at a continual basis, acid descaling is not necessary.

APPLICATION

EQUATION must be used between the range of 2-50 ppm depending on the hardness and types of salts.

PROPERTIES

Appearance: Yellowish liquid
Odor: Mild
pH (as is):6.50±0.50
Specific gravity @ 25°C: 1.190±0.050
Solubility: Complete

PRECAUTION

EQUATION may cause irritation with eye and skin contact. In case of eye contact, rinse with copious amount of water for at least 15 minutes and if irritation persists, consult physician. When handling, use rubber gloves and safety chemical goggles. Do not breath dust particles.

INGREDIENTS

Contains: wetting and sequestering agents, etc.

atomes 6065 Thimens, Saint Laurent (Quebec) Canada H4S 1V8 Tel. :(514) 745 2597 Fax: (514) 745 5176

- **FOR DESCALING**

1. **DE SCALE**
2. **CLR NF**
3. **SAFE ACID NF**

atomes 6065 Thimens, Saint Laurent (Quebec) Canada H4S 1V8 Tel. :(514) 745 2597 Fax: (514) 745 5176

DE SCALE

HYDROCHLORIC ACID BASED DESCALER WITH CORROSION INHIBITOR

PRODUCT DESCRIPTION

DE SCALE is a highly active cleaning agent and descaler based on hydrochloric acid. **DE SCALE** also includes a special CORROSION inhibitor to protect carbon steel, copper and brass against acid attack. This inhibitor also serves as a penetrant and dispersant to enhance the effectiveness of the acid.

DE SCALE can be used to dissolve lime-scale (calcium carbonate) deposits in boilers, calorifiers and heat exchangers.

Application rate for **DE SCALE:**

DE SCALE can be used at strengths between 20 and 50% and at temperatures up to 80°C, the speed of reaction being enhanced by acid strength and elevated temperature. Contact **ATOMS** for the exact dosage recommended for a particular application. After completion of descaling equipment should be drained and flushed thoroughly and any acid effluent neutralised. For further technical assistance please contact **ATOMS**.

PRODUCT SPECIFICATION

pH ~1

Odeur : pungent

atomes 6065 Thimens, Saint Laurent (Quebec) Canada H4S 1V8 Tel. :(514) 745 2597 Fax: (514) 745 5176

CLR NF
A NON FOAMING ACID DETERGENT

DESCRIPTION

CLR NF is a concentrated acid detergent containing non foaming surfactants. This chemical will efficiently remove mineral deposits. It is extremely good for cleaning in place.

APPLICATION

CLR NF is used at a concentration of 0.5-2.0% (5 mL/L to 20 mL/L ; 0.625 oz / gal to 2.56 oz/gal) for cleaning in place. A concentration of 5.0% (50 mL/L ; 6.4 oz/gal) is recommended for manual cleaning. Temperatures in excess of 50ºC should be avoided when using this chemical.

PROPERTIES

Appearance: Clear liquid
pH (1% solution): 2.00±1.00
Specific gravity @ 25°C: 1.442±0.050

PRECAUTIONS

Do not take internally. If ingested, give 3-4 glasses water to drink and seek medical attention. DO NOT INDUCE VOMITING. If product comes in contact with eyes, flush for at least 15 minutes with a large amount of water. If irritation persists, consult a physician.

atomes 6065 Thimens, Saint Laurent (Quebec) Canada H4S 1V8 Tel. :(514) 745 2597 Fax: (514) 745 5176

SAFE ACID NF
A NON FOAMING ORGANIC ACID BASED CLEANER

DESCRIPTION
SAFE ACID NF is a concentrated ***phosphate-free*** organic acid cleaner. This chemical will efficiently remove mineral deposits. It is extremely good for cleaning in place.

APPLICATION
SAFE ACID NF is used at a concentration of 0.5-5.0% (5 mL/L to 50 mL/L for cleaning in place. A concentration of 5.0% (50 mL/L ; 6.4 oz/gal) is recommended for manual cleaning. Temperatures in excess of 50ºC should be avoided when using this chemical.

PROPERTIES
Appearance: Clear liquid
pH (1% solution): 3.00±1.00
Specific gravity @ 25°C: 1.120±0.050

INGREDIENTS
Contains: urea- monohydrochloride and urea-sulfate

MADE IN CANADA
FOR FOOD OR INDUSTRIAL ESTABLISHMENTS

atomes 6065 Thimens, Saint Laurent (Quebec) Canada H4S 1V8 Tel. :(514) 745 2597 Fax: (514) 745 5176

DESCRIPTION:

SAFE ACID NF is a low pH organic salt that is used to replace traditional strong corrosive acids. Our acid replacement technology is safe, non hazardous and biodegradable.

ADVANTAGES:

- 4 to 10 times more effective than citric and glycolic acid and 2 to 3 times more effective than phosphoric acid when dissolving calcium carbonate.
- High performance vs cost ratio compared to phosphoric and citric acids.
- Non-fuming, safer to handle and store.
- No solubility limits (ideal for concentrated cleaners).
- Classified as a mild skin irritant.
- Phosphate free thus eliminating the potential of eutrophication (algae blooming).
- Low contributor to BOD/COD in effluents.
- Approved for use in green seal and Canadian ecologo products.
- Contains no VOCs and no bleaching agents.
- Non-corrosive to skin, mild steel and most of surfaces.
- Approved by the US EPA as a non-food inert ingredient in biocide applications.

atomes 6065 Thimens, Saint Laurent (Quebec) Canada H4S 1V8 Tel. :(514) 745 2597 Fax: (514) 745 5176

atomes

FOR OIL AND PETROLEUM REMOVAL

OIL RID
OIL SPILL REMOVER

DESCRIPTION

OIL RID dissolves and disperses oil slicks on water rendering them harmless to birds, fish, and other aquatic Life. **OIL RID** will dissolve slick oil spills on roadways, runways, racetracks, parking lots, and floors. This will reduce their flammability, and make them water soluble so they can be rinsed with ease. **OIL RID** is safe to use on cement, asphalt, and other paving and flooring surfaces.

OIL RID is non toxic, non flammable, and biodegradable.

PROPERTIES

Appearance	Clear amber liquid
pH (solution 1%)	~ 7.5
Specific gravity	~1.04
Upper cloud point	~ 43°C (110°F)

APPLICATION

ON WATER: Spray **OIL RID** on oil spill. It will slowly Turn milky white then dissipate. ON **HARD SURFACES:** Spray **OIL RID** uniformly over oil Spill. Allow **OIL RID** to remain in contact with spill for 3-5 minutes, then rinse with water to the drainage. If instant removal is required, brush the treated area with A broom, the rinse with water.

PRECAUTIONS

OIL RID is a non-toxic compound, but ordinary Precautions should be taken when any chemical is used.
Do not swallow. In case of eye or skin contact, rinse immediately with water for 15 minutes. Obtain medical attention.

atomes 6065 Thimens, Saint Laurent (Quebec) Canada H4S 1V8 Tel. :(514) 745 2597 Fax: (514) 745 5176

atomes

FOR ODOR CONTROL AND BIODEGRADATION

BACT O MAX

Multiple Spore Blend for
Odor Control – Quick Cleaning Action – Organic Removal
IDEAL FOR AQUA CULTURE & AQUARIUM

BENEFITS

-Components are listed on the Canadian Domestic Substances List (DSL)
-Designed to provide an environmentally safe solutions for many types of organic wastes and odor problems.
-Biodegrades the organic contents of ***garbage*** completely to CO_2 and H_2O. Its biostrains specifically promote optimum enzymatic activity of protease, lipase, amylase and cellulase, and provides outstanding breakdown of protein, starch, carbohydrates, fats, oils and grease.
-It is designed to provide exceptional ***odor control*** performance in septic and waste treatment.

APPLICATIONS

Fill the truck reservoir with clean warm water. The reservoir has to be clean and free of disinfectants. Fill the reservoir with clean warm water and then add **BACT O MAX** to clean water prior vaporization. Mix 0.1% to 1% **BACT O MAX** in the water.

1% **BACT O MAX** yields 5.4×10^5 CFU/ml. That is 540 000 bacteria per ml; or 540 million bacteria per L vaporized.

0.1% **BACT O MAX** yields 5.4×10^4 CFU/ml. That is 54 000 bacteria per ml; or 54 million bacteria per L vaporized.

In the beginning, do a shock treatment that is a higher concentration for the bacteria to get adapted to the new environment; then reduce the concentration to maintain the biodegradation process.

PRODUCT CHARACTERISTICS

Bacteria count:	5.4×10^7 CFU/ml
Bacteria type:	Blend of *Bacillus* spores
Salmonella/*Shigella*	Negative
Stability	2 years at 2°C to 35°C (35°F-95°F)
Enzyme Production	Lipase, Protease, Amylase and Cellulase
Bacterial Pathways	Aerobic & facultative anaerobic
pH range	5.0 –9.8
Temperature range	3°C to 63°C (38°F-145°F)

CHARACTERISTICS

-High enzyme production of: Lipase, Protease, Amylase and Cellulase.
-Grease biodegradation outperforms other competitive formulations in laboratory and field studies.
-Superior germination and outgrowth results in increased bacterial activity in a variety of organic waste applications.
-Accelerated enzymatic degradation – Synergistic action allows the multiple spore blend to work faster and more effectively.
-General organic waste degrader.
-Enhanced aerobic and anaerobic performance, designed for applications subject to aerobic and anaerobic environments.

DOSAGE

Specific recommendations, can be provided by your atomes representative.

atomes 6065 Thimens, Saint Laurent (Quebec) Canada H4S 1V8 Tel. :(514) 745 2597 Fax: (514) 745 5176

FOR SWIMMING POOLS

AQUA UNIQUE
FOR ALGAE CONTROL IN SWIMMING POOLS

AQUA UNIQUE is a cationic polymeric algaecide for use in swimming pools. It is effective against both greenish free-flowing varieties of algae and the so-called black algae that cling to the walls and bottoms of pools. The regular use of **AQUA UNIQUE** in swimming pools can overcome the problems caused by algae, such as unsightly appearance, murky water, objectionable odors, clogged filters, and increased chlorine demand.
AQUA UNIQUE is effective at all pH values and, unlike the commonly employed quaternary ammonium compounds, it will not cause foam when added in high concentration slug doses. **AQUA UNIQUE** also will not interfere with the efficient operation of sand, diatomaceous earth (DE), or other types of commonly used filters.

METHODS OF APPLICATION

For maximum effectivness, **pools containing a heavy growth of algae** should be cleaned prior to starting the use of **AQUA UNIQUE**. Pools having just visible algae growth (greenish cast to the water or black or green spots on the walls and bottoms) should be treated with with 9 – 14 ml of **AQUA UNIQUE** per cubic meter of water (11 – 17 fl oz per 10,000 gal of water). Then about 24 hours later, the algae debris should be removed by standard cleaning procedures, including brushing loose algae spots, vacuuming the pool, and backwashing the filter.
For treatment of a freshly cleaned and filled pool, add initially 5 – 9 ml of **AQUA UNIQUE** per cubic meter of water (6 – 11 fl oz per 10,000 gal of water). Then should be treated with 1.6 – 3 ml of **AQUA UNIQUE** per cubic meter (2 – 4 fl oz per 10,000 gal of water) every 5 – 7 days after the initial treatment. Uniform distribution of **AQUA UNIQUE** throughout the water in the pool is necessary for maximum effectivness of the product.
AQUA UNIQUE is compatible with other chemicals commonly used to treat swimming pools, and its effective in both acid and alkaline pH ranges. It can be used in pools treated with chlorine chemicals, and its use may reduce the amount of these chemicals normally required. However, do not mix **AQUA UNIQUE** with the concentrated dry or liquid chlorine products.

Active ingredient:	Poly [oxyethylene (dimethyliminio) ethylene (dimethyliminio) ethylene dichloride] @ 60%
Density at 25ºC	1.15 g/ml
Approximate volume per kg	870 ml
Flash point	Greater than 135ºC
pH (100 ppm in distilled Water)	6-7

atomes 6065 Thimens, Saint Laurent (Quebec) Canada H4S 1V8 Tel. :(514) 745 2597 Fax: (514) 745 5176

UNIQUE IN THE WORLD FOR SWIMMING POOLS

AQUA UNIQUE

WATER SOLUBLE CATIONIC POLYMER
MULTIFUNCTIONAL PREMIUM POOL ALGAECIDAL

FEATURES AND BENEFITS

- Effective against algae and bacteria at pH 6-9. It is effective even when water chemistry is out of balance.
- Effective against green, blue, bluegreen, mustard and black algae.
- Effective as an algistat. Prevents regrowth of algae even when chlorine residual is low. **AQUA UNIQUE** is an excellent maintenance product.
- **AQUA UNIQUE** prevents the growth of algae and bacteria, thereby reducing chlorine consumption.
- **AQUA UNIQUE** also allows the suspended solids to be more efficiently removed by the filter and backwashed out of the pool.
- **AQUA UNIQUE** functioning as a cationic coagulant, keeps pool water clear.
- There is a synergism created with chlorine, bromine, ozone and oxone because **AQUA UNIQUE** either weakens or makes holes in the cell menbrane of algae and bacteria, it makes them more susceptible to the oxidizer, thereby making the sanitizers more efficient.
- **AQUA UNIQUE** will not cause foam like quaternary ammonium products.
- **AQUA UNIQUE** can be used in both pool and spas without foam complaints. It is suitable at spa temperatures, will not evaporate or break down and causes no odour problems.
- **AQUA UNIQUE** is stable in direct sun and is ultraviolet light suitable.
- **AQUA UNIQUE** will not precipitate or plate out like copper or silver based products can at high pH, causing blue or black stains that need to be acid washed out.
- **AQUA UNIQUE** will not cause green stains in blonde haired swimmers.
- **AQUA UNIQUE** will not interfere nor react with scale or stain preventers.
- **AQUA UNIQUE** will not interfere with DPD or OTO chlorine tests
- **AQUA UNIQUE** will not interfere with TDS, alkalinity, calcium or pH testing.
- **AQUA UNIQUE** will not interfere with efficient operation of sand, DE or cartidge filters.

atomes 6065 Thimens, Saint Laurent (Quebec) Canada H4S 1V8 Tel. :(514) 745 2597 Fax: (514) 745 5176

FOR SCALE AND CORROSION INHIBITION

1. PREVENT

2. CORROSION FREE

atomes 6065 Thimens, Saint Laurent (Quebec) Canada H4S 1V8 Tel. :(514) 745 2597 Fax: (514) 745 5176

PREVENT
Corrosion Inhibitor Product

DESCRIPTION

PREVENT is a concentrated blend of chemicals designed to prevent corrosion, scale and the formation of red water in industrial closed cooling - and hot water systems filled with soft/softened water. It is also applied in once through cooling systems and in domestic and potable water supply lines and fire fighting systems to prevent corrosion and scaling problems. **PREVENT** contains diverse anti-corrosion agents (i.e. silicate and tetrapotassium pyrophosphate) to provide corrosion protection in various systems.

BENEFITS

Easy to administer single product.
Economical. Extends pipe and equipment life.
Simple to test product. Easy and safe to handle liquid product.
Concentrated formula.
Multiple anti-corrosion agents.
Prevents corrosion and deposit formation in industrial and domestic water supply systems.
Effectively controls corrosion in corrosive, low hardness waters.
Prevents formation of “red water” .
Potable grade - can be used in domestic and potable water lines.

DOSAGE

The dosage of **PREVENT** will vary depending on plant conditions. Specific recommendations, can be provided by your atomes representative.
PREVENT may be fed directly to the boiler or be added to either the feed water or condensate storage tanks. No special materials of construction are required for the chemical feed system.

PRODUCT SPECIFICATIONS

- Specific Gravity: 1.10
- pH (1%): Mildly alkaline
- Odour: Bland
- Appearance: Clear liquid

atomes 6065 Thimens, Saint Laurent (Quebec) Canada H4S 1V8 Tel. :(514) 745 2597 Fax: (514) 745 5176

CORROSION FREE
Corrosion Inhibitor Product

DESCRIPTION

CORROSION FREE is a concentrated blend of chemicals designed to prevent corrosion, scale and the formation of red water in industrial closed cooling - and hot water systems filled with soft/softened water. It is also applied in once through cooling systems and in domestic and potable water supply lines and fire fighting systems to prevent corrosion and scaling problems. **CORROSION FREE** contains diverse anti-corrosion agents and neutralizing amines to provide corrosion protection in various systems. **CORROSION FREE** contains also other effective corrosion inhibitors such as silicate and tetrapotassium pyrophosphate.

BENEFITS

Easy to administer single product.
Economical. Extends pipe and equipment life.
Simple to test product. Easy and safe to handle liquid product.
Concentrated formula.
Multiple anti-corrosion agents.
Prevents corrosion and deposit formation in industrial and domestic water supply systems.
Effectively controls corrosion in corrosive, low hardness waters.
Prevents formation of “red water” .
Potable grade - can be used in domestic and potable water lines.

DOSAGE

The dosage of **CORROSION FREE** will vary depending on plant conditions. Specific recommendations, can be provided by your atomes representative.
CORROSION FREE may be fed directly to the boiler or be added to either the feed water or condensate storage tanks. No special materials of construction are required for the chemical feed system.

PRODUCT SPECIFICATIONS

- Specific Gravity: 1.10
- pH (1%): Mildly alkaline
- Odour: Amine
- Appearance: Clear liquid

atomes 6065 Thimens, Saint Laurent (Quebec) Canada H4S 1V8 Tel. :(514) 745 2597 Fax: (514) 745 5176

POLYMERS FOR WATER AND WASTEWATER TREATMENT

ATO PAC 101 - UNIQUE
PolyAluminum Chloride – Inorganic coagulant

DESCRIPTION
ATO PAC 101 is a PolyAluminium Chloride coagulant. This product belongs to inorganic macromolecular polymer, enjoying strong adsorbing force, adhesive force, forming large flocculent lumps with small dosage and quick sedimentation rate. Moreover it has the advantages of wide applying range. Therefore, this product is a water-cleaning agent with high efficiency, quick speed, low consumption and safety.

Performances and Uses:
(1)As a water-cleaning agent, it has the advantages of small dosage, low cost, and strong practicability. It has competitive price and a wide range of application. According to the feedback of customers with long-term use of this product, it enjoys significant effect and accordingly well favored by them.

(2) It has ideal cleaning effects on all water turbidity and pollutant concentrations.

(3)It suits any water including drinking water and industrial water as well as various waste water with the quality of treated water reaching state stipulated standard.

(4)Due to OH radical in its structure, it causes little corrosion to pipelines and equipment, and is safe and convenient for use.

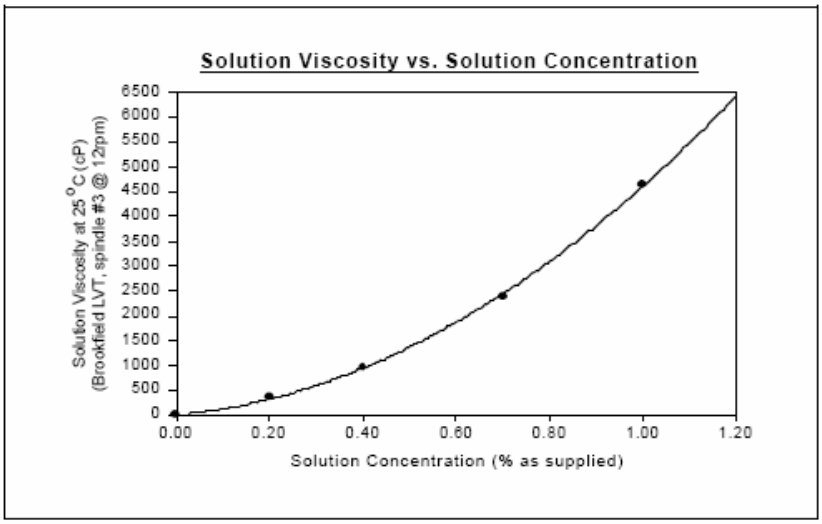
(5) This product can clean drinking water, industry-used water and various waste water, effectively eliminate solid suspended substances, sulfide,and lower heavy metal, phenol, fluoride etc.

(6) It can act as solidifying agent, adhesive agent in place of amine chloride in precise casting industry.

ATO FLOC155 Flocculant
Anionic Granular Grade Polymer

Description ATO FLOC 155 is a medium molecular weight, polyacrylamide based flocculant which exhibits a low degree of anionic charge. **ATO FLOC 155,** once hydrated in water, reacts readily to provide superior floc formation and performance in a variety of solids/liquid separation processes.
ATO FLOC 155 is supplied in a free-flowing granular form.
Principal Uses ATO FLOC 155 has been designed as a flocculant for a variety of municipal and industrial waste substrates. It has been proven especially effective for conditioning these substrates for solids sedimentation, thickening, and dewatering processes.
ATO FLOC 155 offers greatly improved solids/liquid separation efficiencies over a wide range of pH and is available in a variety of packaging for ease of handling and safety.

Typical Properties		
	Physical form	Off-white, free-flowing granules
	Bulk density	45 lbs./ft^3
	Particle size	10% > 780µm, 50% > 570µm, and 90% > 240µm
	Solution pH	6-8
	Solution Viscosity	See graph below



atomes 6065 Thimens, Saint Laurent (Quebec) Canada H4S 1V8 Tel. :(514) 745 2597 Fax: (514) 745 5176

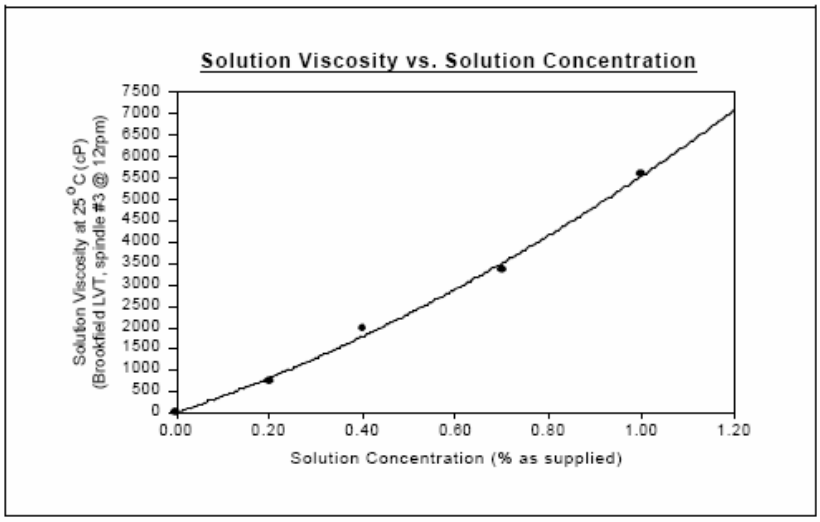
Application & Storage
Recommended solution concentrations:
Stock solution 0.25%-0.5%
Feed solution 0.01%=0.2%
Recommended storage periods:
Product as Supplied Up to two years
Stock solution 2-5 days
Feed solution 1-3 days
Storage of the product and solutions for longer than the recommended periods may be acceptable under the correct conditions but could result in some loss of product efficiency. Product should be stored in a cool, dry place, and conditions of high temperature and high humidity should be avoided. Under such conditions, the hygroscopic nature of the product may result in excessive moisture up-take and product caking. Packages should be kept sealed when not in use. Further advice on solution preparation using atomes Specialty Chemicals automated make-up systems is available, and details may be obtained on request.
Corrosive Properties Corrosion towards most standard materials of construction is very low. Stainless steel, fiberglass, polyethylene, polypropylene and rubberized surfaces are recommended. In some cases, aluminum and galvanized surfaces can be adversely affected.
Packaging ATO FLOC 155 is supplied in 55lb. (25kg.) bags, 1,102lb. (500kg.) tay bags, 1,543b. (700kg.) tay bags, 2,000lb. (907kg.) tay bags, or in bulk by tanker delivery (40,000lb./18,149kg. maximum).
Spills Spills of **ATO FLOC 155** should be contained and disposed of in accordance with local regulations. Discharges of product or solutions of product to waterways should be avoided since some polymeric products may have an adverse effect on the mucous membranes on fish gills. Solutions of **ATO FLOC 155** are very slippery.
Technical Service Complete technical service is provided in the sale of **ATO FLOC 155**. This includes advice and full assistance in all aspects of product selection, laboratory testing, troubleshooting, and plant trials.
Health and Safety ATO FLOC 155 exhibits a very low order of toxicity and does not present any abnormal problems in its handling or general use. Standard industrial safety procedures should be observed. Detailed information on handling and any precautions to be observed in the use of the product(s) described in this leaflet can be found in our relevant Material Safety Data Sheets.
Warranty The information contained in this leaflet is given in good faith but no liability is assumed nor is freedom from any patent owned by atomes Specialty Chemicals or others implied. This information should not be taken to represent a specification for the product.

atomes 6065 Thimens, Saint Laurent (Quebec) Canada H4S 1V8 Tel. :(514) 745 2597 Fax: (514) 745 5176

ATO FLOC 919 Flocculant
Anionic Granular Grade Polymer

Description ATO FLOC 919 is a very high molecular weight, polyacrylamide based flocculant which exhibits a high degree of anionic charge. **ATO FLOC 919,** once hydrated in water, reacts readily to provide superior floc formation and performance in a variety of solids/liquid separation processes.
ATO FLOC 919 is supplied in a free-flowing granular form.
Principal Uses ATO FLOC 919 has been designed as a flocculant for a variety of municipal and industrial waste substrates. It has been proven especially effective for conditioning these substrates for solids sedimentation, thickening, and dewatering processes.
ATO FLOC 919 offers greatly improved solids/liquid separation efficiencies over a wide range of pH and is available in a variety of packaging for ease of handling and safety.

Typical Properties		
	Physical form	Off-white, free-flowing granules
	Bulk density	45 lbs./ft^3
	Particle size	10% > 780µm, 50% > 570µm, and 90% > 240µm
	Solution pH	6-8
	Solution Viscosity	See graph below



atomes 6065 Thimens, Saint Laurent (Quebec) Canada H4S 1V8 Tel. :(514) 745 2597 Fax: (514) 745 5176

Application & Storage
Recommended solution concentrations:
Stock solution 0.25%-0.5%
Feed solution 0.01%-0.2%
Recommended storage periods:
Product as Supplied Up to two years
Stock solution 2-5 days
Feed solution 1-3 days
Storage of the product and solutions for longer than the recommended periods may be acceptable under the correct conditions but could result in some loss of product efficiency. Product should be stored in a cool, dry place, and conditions of high temperature and high humidity should be avoided. Under such conditions, the hygroscopic nature of the product may result in excessive moisture up-take and product caking. Packages should be kept sealed when not in use. Further advice on solution preparation using Atoms Specialty Chemicals automated make-up systems is available, and details may be obtained on request.

Corrosive Properties Corrosion towards most standard materials of construction is very low. Stainless steel, fiberglass, polyethylene, polypropylene and rubberized surfaces are recommended. In some cases, aluminum and galvanized surfaces can be adversely affected.

Packaging ATO FLOC 919 is supplied in 55lb. (25kg.) bags, 1,102lb. (500kg.) tay bags, 1,543lb. (700kg.) tay bags, 2,000lb. (907kg.) tay bags, or in bulk by tanker delivery (40,000lb./18,149kg. maximum).

Spills Spills of **ATO FLOC 919** should be contained and disposed of in accordance with local regulations. Discharges of product or solutions of product to waterways should be avoided since some polymeric products may have an adverse effect on the mucous membranes on fish gills. Solutions of **ATO FLOC 919** are very slippery.

Technical Service Complete technical service is provided in the sale of **ATO FLOC 919**. This includes advice and full assistance in all aspects of product selection, laboratory testing, troubleshooting, and plant trials.

Health and Safety ATO FLOC 919 exhibits a very low order of toxicity and does not present any abnormal problems in its handling or general use. Standard industrial safety procedures should be observed. Detailed information on handling and any precautions to be observed in the use of the product(s) described in this leaflet can be found in our relevant Material Safety Data Sheets.

Warranty The information contained in this leaflet is given in good faith but no liability is assumed nor is freedom from any patent owned by Atoms Specialty Chemicals or others implied. This information should not be taken to represent a specification for the product.

atomes 6065 Thimens, Saint Laurent (Quebec) Canada H4S 1V8 Tel. :(514) 745 2597 Fax: (514) 745 5176

ATO FLOC 1011 Flocculant
Anionic Granular Grade Polymer

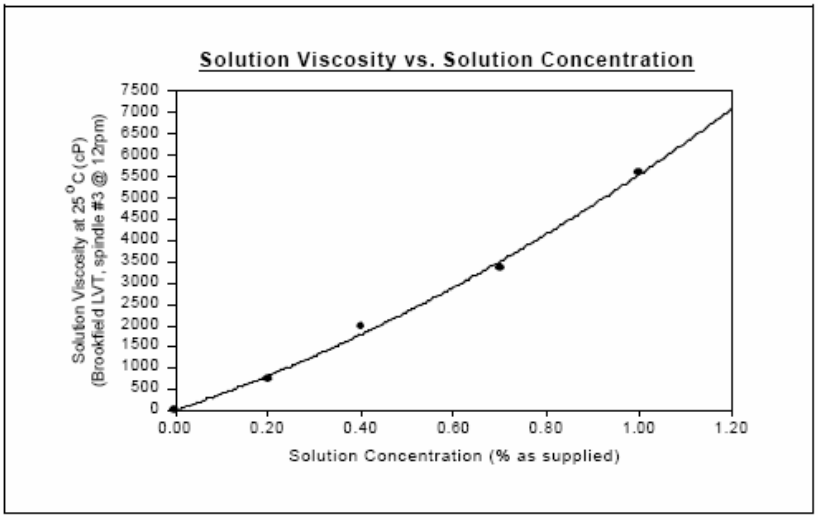
Description ATO FLOC 1011 is a high molecular weight, polyacrylamide based flocculant which exhibits a medium degree of anionic charge. **ATO FLOC 1011,** once hydrated in water, reacts readily to provide superior floc formation and performance in a variety of solids/liquid separation processes.

ATO FLOC 1011 is supplied in a free-flowing granular form.

Principal Uses ATO FLOC 1011 has been designed as a flocculant for a variety of municipal and industrial waste substrates. It has been proven especially effective for conditioning these substrates for solids sedimentation, thickening, and dewatering processes.

ATO FLOC 1011 offers greatly improved solids/liquid separation efficiencies over a wide range of pH and is available in a variety of packaging for ease of handling and safety.

Typical Properties		
	Physical form	Off-white, free-flowing granules
	Bulk density	45 lbs./ft^3
	Particle size	10% > 780µm, 50% > 570µm, and 90% > 240µm
	Solution pH	6-8
	Solution Viscosity	See graph below



atomes 6065 Thimens, Saint Laurent (Quebec) Canada H4S 1V8 Tel. :(514) 745 2597 Fax: (514) 745 5176

Application & Storage
Recommended solution concentrations:
Stock solution 0.25%-0.5%
Feed solution 0.01%-0.2%
Recommended storage periods:
Product as Supplied Up to two years
Stock solution 2-5 days
Feed solution 1-3 days
Storage of the product and solutions for longer than the recommended periods may be acceptable under the correct conditions but could result in some loss of product efficiency. Product should be stored in a cool, dry place, and conditions of high temperature and high humidity should be avoided. Under such conditions, the hygroscopic nature of the product may result in excessive moisture up-take and product caking. Packages should be kept sealed when not in use. Further advice on solution preparation using Atoms Specialty Chemicals automated make-up systems is available, and details may be obtained on request.

Corrosive Properties Corrosion towards most standard materials of construction is very low. Stainless steel, fiberglass, polyethylene, polypropylene and rubberized surfaces are recommended. In some cases, aluminum and galvanized surfaces can be adversely affected.

Packaging ATO FLOC 1011 is supplied in 55lb. (25kg.) bags, 1,102lb. (500kg.) tay bags, 1,543lb. (700kg.) tay bags, 2,000lb. (907kg.) tay bags, or in bulk by tanker delivery (40,000lb./18,149kg. maximum).

Spills Spills of **ATO FLOC 1011** should be contained and disposed of in accordance with local regulations. Discharges of product or solutions of product to waterways should be avoided since some polymeric products may have an adverse effect on the mucous membranes on fish gills. Solutions of **ATO FLOC 1011** are very slippery.

Technical Service Complete technical service is provided in the sale of **ATO FLOC 1011**. This includes advice and full assistance in all aspects of product selection, laboratory testing, troubleshooting, and plant trials.

Health and Safety ATO FLOC 1011 exhibits a very low order of toxicity and does not present any abnormal problems in its handling or general use. Standard industrial safety procedures should be observed. Detailed information on handling and any precautions to be observed in the use of the product(s) described in this leaflet can be found in our relevant Material Safety Data Sheets.

Warranty The information contained in this leaflet is given in good faith but no liability is assumed nor is freedom from any patent owned by Atoms Specialty Chemicals or others implied. This information should not be taken to represent a specification for the product.

atomes 6065 Thimens, Saint Laurent (Quebec) Canada H4S 1V8 Tel. :(514) 745 2597 Fax: (514) 745 5176

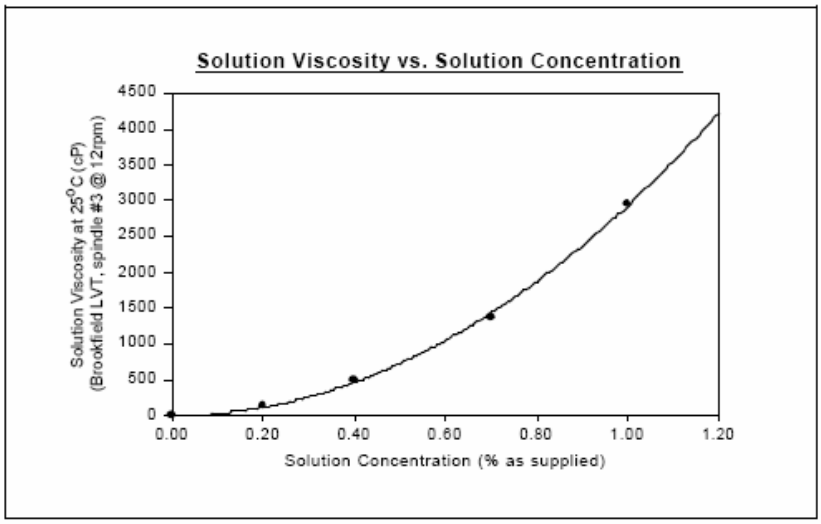
ATO 7563 Flocculant
Cationic Mico-Bead Polymer

Description ATO 7563 is a medium molecular weight, polyacrylamide based flocculant which exhibits a medium degree of cationic charge. **ATO 7563,** once hydrated in water, reacts readily to provide superior floc formation and performance in a variety of solids/liquid separation processes. **ATO 7563** is supplied in a unique micro-bead form which renders the product free-flowing and essentially non-dusting.

Principal Uses ATO 7563 has been designed as a flocculant for a variety of municipal and industrial waste substrates. It has been proven especially effective for conditioning these substrates for solids sedimentation, thickening, and dewatering processess.

ATO 7563 offers greatly improved solids/liquid separation efficiencies over a wide range of pH and is available in a variety of packaging for ease of handling and safety.

Typical Properties		
	Physical form	Off-white, free-flowing micro-bead
	Bulk density	50 lbs./ft^3
	Particle size	10% > 765µm, 50% > 590µm, and 90% > 260µm
	Solution pH	3.5-5.5
	Solution Viscosity	See graph below



atomes 6065 Thimens, Saint Laurent (Quebec) Canada H4S 1V8 Tel. :(514) 745 2597 Fax: (514) 745 5176

Application & Storage Recommended solution concentrations:
Stock solution 0.25%-0.5%
Feed solution 0.05%-0.25%

Recommended storage periods:

Product as Supplied Up to two years
Stock solution 2-5 days
Feed solution 1-3 days

Storage of the product and solutions for longer than the recommended periods may be acceptable under the correct conditions but could result in some loss of product efficiency. Product should be stored in a cool, dry place, and conditions of high temperature and high humidity should be avoided. Under such conditions, the hygroscopic nature of the product may result in excessive moisture up-take and product caking. Packages should be kept sealed when not in use. Further advice on solution preparation using Atoms Specialty Chemicals automated make-up systems is available, and details may be obtained on request.

Corrosive Properties Corrosion towards most standard materials of construction is very low. Stainless steel, fiberglass, polyethylene, polypropylene and rubberized surfaces are recommended. In some cases, aluminum and galvanized surfaces can be adversely affected.

Packaging ATO 7563 is supplied in 55lb. (25kg.) bags, 1,102lb. (500kg.) tay bags, 1,764lb. (800kg.) tay bags, or in bulk by tanker delivery (40,000lb./18,149kg. maximum).

Spills Spills of **ATO 7563** should be contained and disposed of in accordance with local regulations. Discharges of product or solutions of product to waterways should be avoided since some polymeric products may have an adverse effect on the mucous membranes on fish gills. Solutions of **ATO 7563** are very slippery.

Technical Service Complete technical service is provided in the sale of **ATO 7563**. This includes advice and full assistance in all aspects of product selection, laboratory testing, troubleshooting, and plant trials.

Health and Safety ATO 7563 exhibits a very low order of toxicity and does not present any abnormal problems in its handling or general use. Standard industrial safety procedures should be observed. Detailed information on handling and any precautions to be observed in the use of the product(s) described in this leaflet can be found in our relevant Material Safety Data Sheets.

Warranty The information contained in this leaflet is given in good faith but no liability is assumed nor is freedom from any patent owned by Atoms Specialty Chemicals or others implied. This information should not be taken to represent a specification for the product.

atomes 6065 Thimens, Saint Laurent (Quebec) Canada H4S 1V8 Tel. :(514) 745 2597 Fax: (514) 745 5176

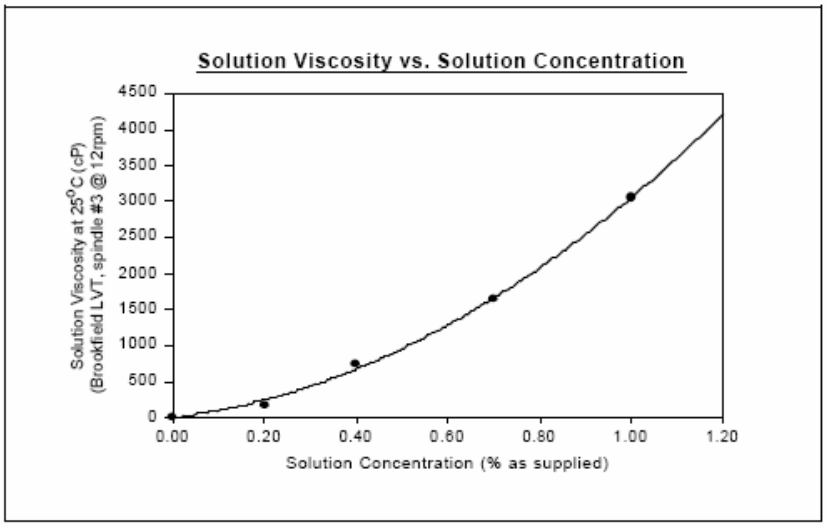
ATO 7587 Flocculant
Cationic Micro-Bead Polymer

Description ATO 7587 is a medium molecular weight, polyacrylamide based flocculant which exhibits a very high degree of cationic charge. **ATO 7587,** once hydrated in water, reacts readily to provide superior floc formation and performance in a variety of solids/liquid separation processes. **ATO 7587** is supplied in a unique micro-bead form which renders the product free-flowing and essentially non-dusting.

Principal Uses ATO 7587 has been designed as a flocculant for a variety of municipal and industrial waste substrates. It has been proven especially effective for conditioning these substrates for solids sedimentation, thickening, and dewatering processes.

ATO 7587 offers greatly improved solids/liquid separation efficiencies over a wide range of pH and is available in a variety of packaging for ease of handling and safety.

Typical Properties		
	Physical form	Off-white, free-flowing micro-bead
	Bulk density	50 lbs./ft^3
	Particle size	10% > 765µm, 50% > 590µm, and 90% > 260µm
	Solution pH	3.5-5.5
	Solution Viscosity	See graph below



atomes 6065 Thimens, Saint Laurent (Quebec) Canada H4S 1V8 Tel. :(514) 745 2597 Fax: (514) 745 5176

Application & Storage Recommended solution concentrations:
Stock solution 0.25%-0.5%
Feed solution 0.05%-0.25%
Recommended storage periods:
Product as Supplied Up to two years
Stock solution 2-5 days
Feed solution 1-3 days
Storage of the product and solutions for longer than the recommended periods may be acceptable under the correct conditions but could result in some loss of product efficiency. Product should be stored in a cool, dry place, and conditions of high temperature and high humidity should be avoided. Under such conditions, the hygroscopic nature of the product may result in excessive moisture up-take and product caking. Packages should be kept sealed when not in use. Further advice on solution preparation using Atoms Specialty Chemicals automated make-up systems is available, and details may be obtained on request.

Corrosive Properties Corrosion towards most standard materials of construction is very low. Stainless steel, fiberglass, polyethylene, polypropylene and rubberized surfaces are recommended. In some cases, aluminum and galvanized surfaces can be adversely affected.

Packaging ATO 7587 is supplied in 55lb. (25kg.) bags, 1,102 (500kg.) tay bags, 1,764lb. (800kg.) tay bags, or in bulk by tanker delivery (40,000lb./18,149kg. maximum).

Spills Spills of **ATO 7587** should be contained and disposed of in accordance with local regulations. Discharges of product or solutions of product to waterways should be avoided since some polymeric products may have an adverse effect on the mucous membranes on fish gills. Solutions of **ATO 7587** are very slippery.

Technical Service Complete technical service is provided in the sale of **ATO 7587**. This includes advice and full assistance in all aspects of product selection, laboratory testing, troubleshooting, and plant trials.

Health and Safety ATO 7587 exhibits a very low order of toxicity and does not present any abnormal problems in its handling or general use. Standard industrial safety procedures should be observed. Detailed information on handling and any precautions to be observed in the use of the product(s) described in this leaflet can be found in our relevant Material Safety Data Sheets.

Warranty The information contained in this leaflet is given in good faith but no liability is assumed nor is freedom from any patent owned by Atoms Specialty Chemicals or others implied. This information should not be taken to represent a specification for the product.

atomes 6065 Thimens, Saint Laurent (Quebec) Canada H4S 1V8 Tel. :(514) 745 2597 Fax: (514) 745 5176

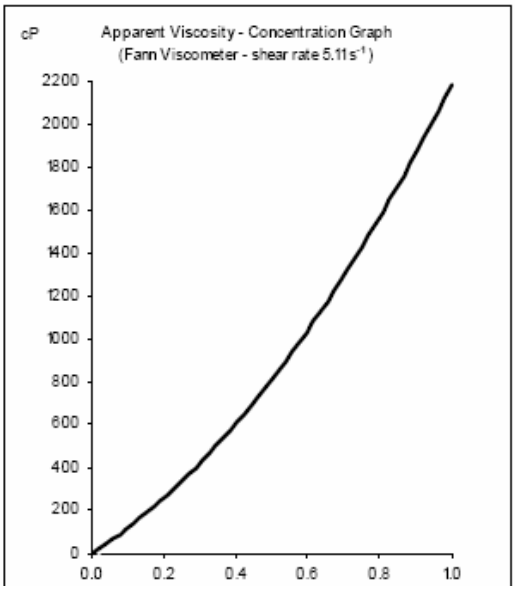
ATO 8160 Flocculant
Cationic Polyelectrolyte incorporating Unique Molecular Architecture

Description **ATO 8160** is a synthetic high molecular weight polyacrylamide. It is supplied as a free flowing white powder. **ATO 8160** is of medium-high cationic charge.

Principle Uses

ATO 8160 has been specifically designed to operate on organic industrial and municipal sludges where such wastes are thickened or dewatered using mechanical equipment such as centrifuges, gravity belt thickeners etc.

Typical Properties	*Appearance:*	Off-white granular solid
	Molecular Weight:	High
	Particle Size:	98% < 1750 microns
	Bulk Density:	0.7 g/cm³
	PH of 0.5% solution:	Approx. 3.5
	Viscosity at 25°C	See graph



atomes 6065 Thimens, Saint Laurent (Quebec) Canada H4S 1V8 Tel. :(514) 745 2597 Fax: (514) 745 5176

Application & Storage

Recommended solution concentrations: Recommended storage periods:
Stock Solution 0.20 – 0.50% max. Dry product up to two years
Stock Solution 2 - 5 days
Feed Solution 0.05 – 0.20% max. Feed solution 1 – 3 days
Storage of the dry product and solutions for longer than the recommended periods may be acceptable under the correct conditions but could result in some loss of product efficiency. Storage of the solids should be in a cool, dry place and conditions of high temperature and high humidity should be avoided. Under such conditions the hygroscopic nature of the product may result in excessive moisture up-take and resultant caking. Packages should be kept sealed when not in use.

Corrosive properties Corrosion towards most standard materials of construction is very low. Stainless steel, fibreglass, polyethylene, polypropylene and rubberised surfaces are recommended as ideal. In some cases aluminium and galvanised surfaces can be adversely affected.

Packaging **ATO 8160** is supplied in 55 lb/25 kg net weight plastic bags in palletised shrink-wrapped units of total net weight 1980 lb/900 kg.

ATO *8160* is also available in semi-bulk palletised tay bags of 1540 lb/700 kg net weight.

Spillages Spillages of **ATO 8160** should be contained and disposed of in accordance with local regulations Discharges of neat product or solutions of product to watercourses should be avoided as **ATO 8160** may adversely affect the mucous membranes on fish gills.

Solutions of **ATO 8160** are extremely slippery and caution should be exercised.

Technical Service Complete technical service, including provision of advice and full assistance in all aspects of product selection, laboratory tests and plant trials is available.

Health & Safety

ATO 8160 exhibits a very low order of oral toxicity and does not present any abnormal problems in its handling or general use. Detailed information on handling and any precautions to be observed in the use of the product(s) described in this leaflet can be found in our relevant Materials Safety Data Sheet.

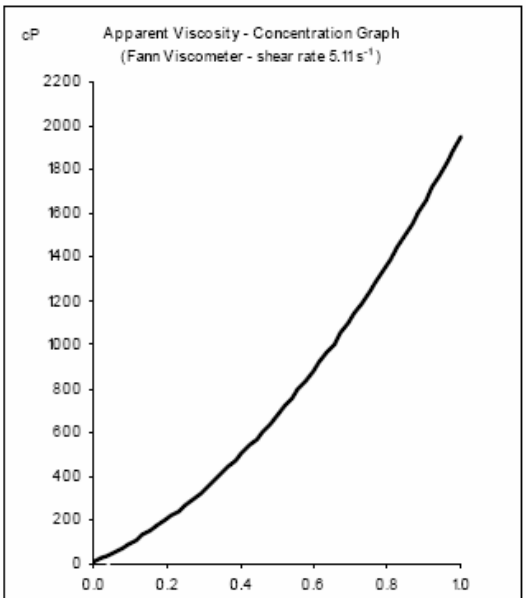
atomes 6065 Thimens, Saint Laurent (Quebec) Canada H4S 1V8 Tel. :(514) 745 2597 Fax: (514) 745 5176

ATO 8180 Flocculant
Cationic Polyelectrolyte incorporating Unique Molecular Architecture

Description **ATO *8180*** is a synthetic high molecular weight polyacrylamide. It is supplied as a free flowing white powder. **ATO 8180** is of high cationic charge.
Principal Uses **ATO *8180*** has been specifically designed to operate on organic industrial and municipal sludges where such wastes are thickened or dewatered using mechanical equipment such as centrifuges, gravity belt thickeners etc.

Typical Properties

Appearance:	Off-white granular solid
Molecular Weight:	High
Particle Size:	98% < 1750 microns
Bulk Density:	0.7 g/cm^3
PH of 0.5% solution:	Approx. 3.5
Viscosity at 25°C	See graph



atomes 6065 Thimens, Saint Laurent (Quebec) Canada H4S 1V8 Tel. :(514) 745 2597 Fax: (514) 745 5176

Application & Storage

Recommended solution concentrations: Recommended storage periods:
Stock Solution 0.20 – 0.50% max. Dry product up to two years
Stock Solution 2 - 5 days
Feed Solution 0.05 – 0.20% max. Feed solution 1 – 3 days

Storage of the dry product and solutions for longer than the recommended periods may be acceptable under the correct conditions but could result in some loss of product efficiency. Storage of the solids should be in a cool, dry place and conditions of high temperature and high humidity should be avoided. Under such conditions the hygroscopic nature of the product may result in excessive moisture up-take and resultant caking. Packages should be kept sealed when not in use.

Corrosive Properties Corrosion towards most standard materials of construction is very low. Stainless steel, fibreglass, polyethylene, polypropylene and rubberised surfaces are recommended as ideal. In some cases aluminium and galvanised surfaces can be adversely affected.

Packaging **ATO 8180** is supplied in 55 lb (25 kg) net weight plastic bags in palletised shrink-wrapped units of total net weight 1980 lb (900 kg).

ATO 8180 is also available in semi-bulk palletised tay bags of 1540 lb (700 kg) net weight.

Spills Spillages of **ATO 8180** should be contained and disposed of in accordance with local regulations Discharges of neat product or solutions of product to watercourses should be avoided as **ATO 8180** may adversely affect the mucous membranes on fish gills.

Solutions of **ATO 8180** are extremely slippery and caution should be exercised.

Technical Service Complete technical service is provided in the sale of **ATO 8180**. This includes advice and full assistance in all aspects of product selection, laboratory testing, troubleshooting, and plant trials.

Health and Safety **ATO 8180** exhibits a very low order of oral toxicity and does not present any abnormal problems in its handling or general use.

Detailed information on handling and any precautions to be observed in the use of the product(s) described in this leaflet can be found in our relevant Materials Safety Data Sheet.

atomes 6065 Thimens, Saint Laurent (Quebec) Canada H4S 1V8 Tel. :(514) 745 2597 Fax: (514) 745 5176

ATO FLOCs Flocculants

Emulsion Polyacrylamide (PAM), cationic

ATO FLOCs flocculants are cationic emulsions with a very broad charge and molecular weight range. They are for use in sludge conditioning, wastewater treatment and water clarification processes across the industry spectrum. The chemistry range available ensures there is a product suitable for each individual application.

Advantages

- Very broad cationic charge range
- Economical to use — lower dosage levels
- Improve production and cake solids
- Achieve high solids removal efficiencies
- Easily soluble in water; dissolves rapidly
- Liquid form for easier handling
- Perform well over a wide pH range

Principal Uses

ATO FLOCs flocculants are recommended for the following liquid-solid separation processes:

- Belt filter, screw press and centrifuge dewatering — increased production rate, cake solids and solids capture
- Dissolved air flotation — result in clearer underflows and greater flowrates
- Gravity settling — improves floc formation for faster settling rates, increased sludge compaction and improved water quality
- Coagulant aid — settling aid with inorganic and organic coagulants
- Water clarification — improves influent, process and effluent water quality by reducing suspended solids and turbidity
- Thickening — improved compaction, settling, drainage and effluent quality

The above are the primary applications for these products. These products may be beneficial in any liquid-solid separation process.

Application

Prior to initial use, agitate thoroughly via a low RPM (<475 rpm) drum/ IBC stirrer or a recirculation pump to ensure uniformity. Recommended working solutions are 0.5% concentration, however, stock solutions can be prepared up to 2% via an automated make down unit or on a batch basis. Solutions should be aged 30 minutes for maximum effectiveness. High quality make up water should be used. Secondary dilution water can be added to the stock solution prior to the addition point to improve mixing with the substrate. A ratio of at least 10:1 is recommended. A distributing header or distribution ring is recommended in the treatment stream. Avoid centrifugal pumps for polymer transfer.

Health and Safety

These products can irritate the eyes and skin. Rubber gloves, goggles and protective clothing are recommended for use while handling. They are not acutely toxic by oral and dermal administration to laboratory animals though eye irritation did result. See the Material Safety Data Sheet for complete safety, health and environmental data. Specific cationic emulsion PAMs (see chart) are certified to ANSI/NSF Standard 60 by NSF International.

atomes 6065 Thimens, Saint Laurent (Quebec) Canada H4S 1V8 Tel. :(514) 745 2597 Fax: (514) 745 5176

atomes

FOR DUST CONTROL

DUST SUPPRESSANT

DUST SUPPRESSANT is a polymer which is IDEAL FOR:

- Construction sites
- Mines
- Fair grounds
- Exhibitions
- Parking lots
- Golf courses
- Dusty passages

PHYSICAL PROPERTIES:

Appearance :	Opaque emulsion.
pH (as is) :	7.5 – 8.5
% solids :	24.0 – 25.0
Ionic nature :	Anionic
Freeze/thaw stability :	Protect

APPLICATION

To suppress dust, Spray evenly across passage. Coverage: 40 to 75 square meter per 1 liter of product.

PRECAUTIONS

DUST SUPPRESSANT is a non-toxic compound, but ordinary Precautions should be taken when any chemical is used.

Do not swallow. In case of eye or skin contact, rinse immediately with water for 15 minutes. Obtain medical attention.

atomes 6065 Thimens, Saint Laurent (Quebec) Canada H4S 1V8 Tel. :(514) 745 2597 Fax: (514) 745 5176

atomes

FOR H_2S & ANAEROBIC MALODOR CONTROL

NT PRODUCT

UNIQUE TO ATOMES

BIOTECHNOLOGY BASED
ELIMINATES VFAs and H_2S

DESCRIPTION

NT PRODUCT is an environmentally benign, non-toxic and non-biocidal iquid 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_2S) and mercaptans) create nuisance odors objectionable to citizens leaving near or around municipal waste treatment plants. **NT PRODUCT** effectively and economically prevents the production of VFA's, H_2S and mercaptans, thereby stopping odors from formin thus creating a pleasant living environment.

DESCRIPTION

NT PRODUCT is a powdered product that is applied at low concentrations depending upon the initial concentration of hydrogen sulfide and/or volatille fatty acids. This product is generally applied in areas where VFAs and H_2S are generated such as: water and wasterwater treatment plants, pulp and paper mills, petroleum wells, municipality drains and septic systems, grease traps and wherever anaerobic activity is present. A start-up concentration to prevent the formation of these malodors varies from 25 to 100 ppm. Unlike other products, **NT PRODUCT:**

- Is not a biocide
- Is environmentally-friendly and not toxic
- Prevents the initial formation of these malodors and does not only mask it.
- Modifies the metabolism of anaerobic bacteria and does not kill these bacteria essential for anaerobic biodegradation, therefore BOD and COD are not affected.

PRECAUTIONS

Warning : May cause eye irritation.
Precautionary measures : Do not ingest. No special personal protection equipment required.
First Aid : **Eyes** : Flush with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids.
Ingestion : Drink several glasses of water or milk. Seek medical attention.
KEEP OUT OF REACH OF CHILDREN.
Ingredients : Electron acceptors, etc.

atomes 6065 Thimens, Saint Laurent (Quebec) Canada H4S 1V8 Tel. :(514) 745 2597 Fax: (514) 745 5176

FOR FOAM CONTROL

DE FOAM
DEFOAMER

DESCRIPTION:

DE FOAM is a highly stable, long-lasting, "reacted" silicone defoamer which virtually eliminates problems associated with improperly emulsified silicone oils found in most silicone defoamers. Readily dispersible, **DE FOAM** is effective under a broad range of conditions including high-temperature and pressure processes.

TYPICAL PROPERTIES:

Appearance :	Milky white liquid.
Chemical nature :	Reacted poly-siloxane dispersion.
Ionic charge :	Nonionic
Dispersibility :	Easily dispersed in water.
Stability :	Excellent to dilute acids and alkalis at dye bath concentrations.

ADVANTAGES:

- Eliminates foam efficiently throughout dyeing cycle - defoams even during depressurizing of jets.
- Superior compatibility with dyes and other chemicals stable to most electrolytes.
- Efficient and stable at high temperatures; resistant to emulsification by processing surfactants.
- Effective in all types of dyeing equipment; leaves no scum ring, avoids dye spots.

atomes 6065 Thimens, Saint Laurent (Quebec) Canada H4S 1V8 Tel. :(514) 745 2597 Fax: (514) 745 5176

APPLICATION:

Selecting a defoamer involves far more than evaluating its efficiency to kill foam. The product must be finely balanced to control foam, yet have the stability necessary to prevent any negative effects caused by the active defoaming ingredients.

DE FOAM is a "stabilized" silicone defoamer manufactured by an exclusively developed HYDRO-SILICONE reaction process. By altering the defoaming molecule, we have greatly increased its foam killing efficiency and made it far more resistant to emulsion breakdown. The water dispersibility of **DE FOAM** is also superior to that of other silicones, so it rinses freely from the goods.

Unlike other silicone defoamers **DE FOAM** is stable in baths containing high concentrations of electrolytes which can come from one or more of the following sources:

1. pH modifiers (ammonium sulphate, MSP, TSP, other salts).
2. Water (hardness ions and trace metals).
3. Dyestuffs (the dye molecule, salt, diluents, and/or dispersants).
4. Chemicals (cationic or anionic materials).
5. Salts (common salt, Glauber salt).

While most defoamers (silicone or non-silicone) show poor emulsion stability in electrolytes, **DE FOAM** exhibits no breakdown in as much as 50 g/l electrolyte solutions.

USE LEVELS:

Because **DE FOAM** is a stabilized, reacted silicone product, very low silicone levels are required for effective defoaming.

For most applications, the use of 0.25 - 0.5% O.W.G. (on weight of goods) **DE FOAM** provides effective foam control. Greater amounts are required only where surfactant levels in the bath are unusually high.

DILUTION PROCEDURE:

Pre-dilute **DE FOAM** with 10 - 20 times its weight of cold water (16° - 32°C / 60° - 90°F), using hand mixing or light, low speed mechanical agitation (as with any defoamer emulsion, the use of lengthy or high speed mechanical mixing during the dilution process should be avoided, as it can tend to over-shear and break down the emulsion). Add **DE FOAM** to the dyeing machine before the addition of any other chemicals. **DE FOAM** should not be mixed with acid or any other chemicals before adding to the dye bath.

DE FOAM is normally added at the beginning of the dye cycle. However, when properly diluted as above, it can be added to the bath during the dye cycle if needed.

COLD WEATHER HANDLING:

KEEP FROM FREEZING. If exposed to temperatures below 4°C (40°F), freezing damage may result. If this occurs, consult *Atomesbio* before using.

For more information concerning the handling, the manipulation or the use of this product, please consult our material safety data sheet or consult our Technical Service department.

atomes 6065 Thimens, Saint Laurent (Quebec) Canada H4S 1V8 Tel. :(514) 745 2597 Fax: (514) 745 5176

INDUTRIAL WATER TREATMENT
IWT Products p1

Catergory Boiler Water Treatment	Product number	Dosage	Description
Oxygen Scavanger	**IWT 300**	**20–40 ppm**	**Liquid Oxygen Scavanger : 33% as Na_2SO_3.** Continuous Feed recommended. Fed Directly to the boiler or fed to either the storage section of the deaerator or the hotwell.
Oxygen Scavanger	**IWT 301**	**20–40 ppm**	**Powdered Oxygen Scavanger : 96% as Na_2SO_3.** Continuous Feed recommended. Fed Directly to the boiler or fed to either the storage section of the deaerator or the hotwell.
Sludge Conditionners Scale inhibitor	**IWT 310**	**100–300ppm**	**For feedwater containing mainly hardness.** Continuous Feed recommended. Fed Directly to the boiler or fed to either the storage section of the deaerator or the hotwell.
Sludge Conditionners Scale inhibitor	**IWT 311**	**100–300ppm**	**For feedwater containing mainly iron oxide.** Continuous Feed recommended. Fed Directly to the boiler or fed to either the storage section of the deaerator or the hotwell.
Sludge Conditionners Scale inhibitor	**IWT 312**	**100–200ppm**	**For high pressure applications.** Continuous Feed recommended. Fed Directly to the boiler or fed to either the storage section of the deaerator or the hotwell.
Sludge Conditionners Scale inhibitor & Anti-foam	**IWT 313**	**150–400ppm**	**General purpose with an anti-foam.** Continuous Feed recommended. Fed Directly to the boiler or fed to either the storage section of the deaerator or the hotwell.
Phosphate Scale inhibitor	**IWT 320**	**10-20 ppm**	**Disodium phosphate, 65% PO_4. Powdered phosphate.** Continuous Feed recommended. Fed Directly to the boiler or fed to either the storage section of the deaerator or the hotwell.
Phosphate Scale inhibitor	**IWT 321**	**10-20 ppm**	**Disodium phosphate, 27% Ortho PO_4. Liquid phosphate.** Continuous Feed recommended. Fed Directly to the boiler or fed to either the storage section of the deaerator or the hotwell.
Phosphate Scale inhibitor	**IWT 324**	**As needed**	**Trisodium phosphate, 39% PO_4. Powdered phosphate.** Continuous Feed recommended. Fed Directly to the boiler or fed to either the storage section of the deaerator or the hotwell.

atomes 6065 Thimens, Saint Laurent (Quebec) Canada H4S 1V8 Tel. :(514) 745 2597 Fax: (514) 745 5176

IWT Products p2

Catergory Boiler Water Treatment	Product number	Dosage	Description
Phosphate Blends Scale Inhibitor	**IWT 330**	**10–20 ppm**	**Liquid Blend of phosphates.** Continuous Feed recommended. Fed Directly to the boiler or fed to either the storage section of the deaerator or the hotwell.
Phosphate Blends Scale & Corrosion Inhibitor	**IWT 331**	**As needed**	**6% as Na_2SO_3 ; 2% DEAE.** Continuous Feed recommended. Fed Directly to the boiler or fed to either the storage section of the deaerator or the hotwell.
Phosphate Blends Scale Inhibitor	**IWT 332**	**10–20 ppm**	**Liquid Blend of phosphates.** Continuous Feed recommended. Fed Directly to the boiler or fed to either the storage section of the deaerator or the hotwell.
Phosphate Blends Scale & Corrosion Inhibitor	**IWT 333**	**As needed**	**7% Sulphite.** Continuous Feed recommended. Fed Directly to the boiler or fed to either the storage section of the deaerator or the hotwell.
Phosphate Blends Scale & Corrosion Inhibitor	**IWT 334**	**As needed**	**7% Sulphite.** Continuous Feed recommended. Fed Directly to the boiler or fed to either the storage section of the deaerator or the hotwell.
Misc. Scale & Corrosion Inhibitor	**IWT 370**	**75-125ppm Mo**	**1.8% Mo; 5.6% NaOH; 2% DEAE.** A molybdate level of approximately 100 ppm should me maintained in the boiler water. Fed Directly to the boiler or be added to either the feedwater or condensate storage tanks.
Misc. Scale & Corrosion Inhibitor	**IWT 371**	**75-125ppm Mo**	**0.8% Mo; 2.3% NaOH; 2% DEAE.** A molybdate level of approximately 100 ppm should me maintained in the boiler water. Fed Directly to the boiler or be added to either the feedwater or condensate storage tanks.
Misc. Scale & Corrosion Inhibitor	**IWT 372**	**75-125ppm Mo**	**1.8% Mo; 2.8% NaOH; 2% DEAE.** A molybdate level of approximately 100 ppm should me maintained in the boiler water. Fed Directly to the boiler or be added to either the feedwater or condensate storage tanks.
Misc. Scale & Corrosion Inhibitor	**IWT 373**	**75-125ppm Mo**	**1.8% Mo; 1% NaOH; no amines.** A molybdate level of approximately 100 ppm should me maintained in the boiler water. Fed Directly to the boiler or be added to either the feedwater or condensate storage tanks.
Misc. Scale & Corrosion Inhibitor	**IWT 374**	**75-125ppm Mo**	**0.8% Mo; 1.5% NaOH; 2% DEAE.** A molybdate level of approximately 100 ppm should me maintained in the boiler water. Fed Directly to the boiler or be added to either the feedwater or condensate storage tanks.
Misc. Scale & Corrosion Inhibitor	**IWT 375**	**75-125ppm Mo**	**1.8% Mo; 2.8% NaOH; no amines.** A molybdate level of approximately 100 ppm should me maintained in the boiler water. Fed Directly to the boiler or be added to either the feedwater or condensate storage tanks.

atomes 6065 Thimens, Saint Laurent (Quebec) Canada H4S 1V8 Tel. :(514) 745 2597 Fax: (514) 745 5176

IWT Products p3

Catergory CWT	Product number	Dosage	Description
Closed systems Corrosion inhibitor	**IWT 500**	**800–1000 ppm**	**12% $NaNO_2$; Borate; Azole. For closed systems: Hot or Cold.** Directly Fed to the closed system via automatic pump.
Closed systems Corrosion inhibitor	**IWT 506**	**75–100ppm Mo**	**1.6% Mo ; Borate; Azole. For closed systems: Hot or Cold.** Directly Fed to the closed system via automatic pump.
Closed systems Corrosion inhibitor	**IWT 509**	**75–100ppm Mo**	**3.2% Mo ; Borate; Azole. For closed systems: Hot or Cold.** Directly Fed to the closed system via automatic pump.
Cooling Towers Corrosion & Scale inhibitor	**IWT 510**	**200ppm**	**General purpose CWT – COLD PO_4 1.73%.** Directly Fed to the system via automatic pump.
Cooling Towers Corrosion & Scale inhibitor	**IWT 513**	**400-800ppm**	**Low TDS water product – COLD PO_4 1.3%; Zn 0.25%. Feeding continuous** - Fed to the system via automatic pump.
Cooling Towers Corrosion & Scale inhibitor	**IWT 516**	**100ppm**	**Low cost CWT – COLD PO_4 4.6%. Feeding continuous** - Fed to the system via automatic pump.
Cooling Towers Corrosion & Scale inhibitor	**IWT 518**	**300ppm**	**Smaller plant CWT – COLD PO_4 1.1%. Feeding continuous** - Fed to the system via automatic pump.
Cooling Towers Corrosion & Scale inhibitor	**IWT 521**	**100ppm**	**High hardness water; 2% Molybdate. Feeding continuous** - Fed to the system via automatic pump.
Cooling Towers Corrosion & Scale inhibitor	**IWT 535**	**100ppm**	**Product for large systems – EDTA ; PHOSPHONATE, AZOLE Feeding continuous** - Fed to the system via automatic pump.
Cooling Towers Corrosion & Scale inhibitor	**IWT 540**	**100-125 ppm**	**High phosphate CWT – o-PO_4 11.3%; p- PO_4 1.5%;. Feeding continuous** - Fed to the system via automatic pump.
Cooling Towers Corrosion & Scale inhibitor	**IWT 545**	**150 ppm**	**Moderate PO_4 for corrosive waters** - Fed to the system via automatic pump.
Cooling Towers Corrosion & Scale inhibitor	**IWT 551**	**150 ppm**	**Zinc-Molybdate CWT; Zn 1.5%; o-PO_4 1.8%; Mo 2%.** Fed to the system via automatic pump.
Cooling Towers Scale inhibitor	**IWT 570**	**20-50 ppm**	**20% Copolymer; 2.5% PMA.** Fed to the system via automatic pump.
Cooling Towers Corrosion inhibitor	**IWT 574**	**As needed**	**Closed system buffer (high alkalinity)- 21% alkalinity; OH 17.8%. based on NaOH and metaborate** Fed to the system via automatic pump.
Cooling Towers Scale inhibitor & deposit control	**IWT 580**	**10-50 ppm**	**4.2% PO_4 (phosphonate) , 8% PMA; 4% Copolymer Feeding continuous to tower basin** - Fed to the system via automatic pump for at least 24 hrs or until conditions return to normal. It inhibits scale and deposit formation under severe conditions.

atomes 6065 Thimens, Saint Laurent (Quebec) Canada H4S 1V8 Tel. :(514) 745 2597 Fax: (514) 745 5176