




CITC 
WATER



**AulBac Bioaugmentation Line
Technical Data Sheets**

FOR WASTEWATER TREATMENT APPLICATIONS

Aul  **Bac**

BIOAUGMENTATION



CHEMICAL
SOLUTIONS

Technical Data Sheet

CitcoWater.com

AulBac

BIOAUGMENTATION

AulBac 300

Industrial Wastewater Treatment Microbial Aid

AulBac 300 is a broad spectrum of bacterial cultures designed to degrade hydrocarbon industrial wastes, thereby enhancing COD, TOC, BOD, and TSS removal in industrial or joint municipal/industrial wastewater treatment plants. The cultures in AulBac 300 are capable of degrading wastes containing strong organic matter and semi-toxic compounds that interfere with normal biomass activity. Biomass optimization with AulBac 300 will allow for effective treatment of complex organics such as, but not limited to; phenols, alcohols, surfactants, detergents, glycols, naphthalenes, amines, nitriles, aliphatic and aromatic hydrocarbons, ketones, cutting oils, styrene, and low levels of cyanide. AulBac 300 can also be used effectively for soil and groundwater remediation projects.

Directions: AulBac 300 may be added directly to aeration tank, lagoon, or oxidation ditch. For trickling filters, it's best to prehydrate product by adding 2 lbs. per gallon of 20-30°C non-chlorinated water. Allow solution to stand for 30 minutes to 1 hour before adding to trickling filter.

Caution: Persons allergic to dust should employ nose and mouth protection when handling this product. In the event of direct contact with the eyes or skin, flush the affected area with water.

Benefits: rapid biological upset recovery, wastewater treatment plant optimization and compliance.



INDUSTRIAL WASTEWATER TREATMENT MICROBIAL AID



Operating Conditions

- pH: 6.0 - 9.0
- Temp: 15°C - 40°C (59°F - 104°F)
- PO₄: 2 mg/L minimum
- NH₃N: 2 mg/L minimum
- Viability: min 4 billion CFU/g



Applications

- Chemical processing
- Steel/coal mills
- Textile mills
- Pharmaceutical plants
- Petrochemical operations
- Pulp mills and landfill leachate



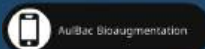
Availability

AulBac 300 is available in 25-lb. plastic pails or 100-lb. fiber drums and may be packaged in 1-lb. water-soluble packs. Contact a CITCO Water consultant for dosage rates.



info@CitcoWater.com
customerservice@CitcoWater.com
800.999.3484

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CHEMICAL
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AulBac

BIOAUGMENTATION

AulBac 300C

Industrial Wastewater Treatment Microbial Aid Patented Low Water Temperature Adapted Microbes

AulBac 300C is a broad spectrum of selected and adapted, patented psychrophilic microbial cultures designed to degrade hydrocarbon industrial wastes, thereby enhancing TOC, COD, BOD and TSS removal in industrial or joint municipal/industrial wastewater treatment plants operating under cold water temperature conditions (2-15°C).

The cultures in AulBac 300C are capable of degrading wastes containing strong organic matter and semi-toxic compounds that interfere with normal biomass activity. Biomass optimization with AulBac 300C will allow for effective treatment of complex organics such as, but not limited to; phenols, alcohols, surfactants, detergents, glycols, naphthalenes, amines, nitriles, aliphatic and aromatic hydrocarbons, ketones, cutting oils, styrene, and low levels of cyanide. AulBac 300C can also be used effectively for soil and groundwater remediation projects.

Directions: AulBac 300C may be added directly to aeration tank, lagoon, or oxidation ditch. For trickling filters, it's best to prehydrate product by adding 2 lbs. per gallon of 20-30°C non-chlorinated water. Allow solution to stand for 30 minutes to 1 hour before adding to trickling filter.

Caution: Persons allergic to dust should employ nose and mouth protection when handling this product. In the event of direct contact with the eyes or skin, flush the affected area with water.

Benefits: rapid biological upset recovery, seasonal wastewater treatment plant optimization and compliance.



INDUSTRIAL WASTEWATER TREATMENT MICROBIAL AID (LOW TEMP)



Operating Conditions

- pH: 6.0 - 9.0
- Temp: 2°C - 15°C (35.6°F - 59°F)
- PO₄: 2 mg/L minimum
- NH₃N: 2 mg/L minimum
- Viability: min 4 billion CFU/g



Applications

- Chemical processing & petroleum refining
- Steel/coal mills
- Textile mills
- Pharmaceutical plants
- Petrochemical operations
- Pulp mills and landfill leachate



Availability

AulBac 300C is available in 25-lb. plastic pails or 100-lb. fiber drums and may be packaged in 1-lb. water-soluble packs. Contact a CITCO Water consultant for dosage rates.



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customerservice@CitcoWater.com
800.999.3484

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CHEMICAL
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AulBac

BIOAUGMENTATION

AulBac 400

Wastewater Treatment Biomass Aid

AulBac 400 is a blend of naturally occurring, non-altered microorganisms and growth stimulants formulated to efficiently degrade carbohydrates, proteins and fats (FOG). The bacteria in AulBac 400 produce multiple types of enzymes such as protease, amylase, esterase, urease, cellulase, xylanase, and lipase to break down waste products associated with meat processing, dairies, vegetable packing, fruit processing and carbohydrate processing facilities. AulBac 400 contains aerobic as well as facultative bacteria to work in anoxic conditions. Use of AulBac 400 will increase biological activity, improve biomass flocculation and enhance nitrogen and phosphorous removal.

Directions: AulBac 400 may be added directly to aeration tank, lagoon, or oxidation ditch. For trickling filters, it is best to prehydrate product by adding 2 lbs. per 1 gallon of 20-30°C non-chlorinated water. Allow solution to stand for 30 minutes to 1 hour before adding to trickling filter.

Benefits: rapid upset recovery and start-up and wastewater treatment plant optimization.



WASTEWATER TREATMENT BIOMASS AID



Operating Conditions

- pH: 6.0 - 9.0
- Temp: 15°C - 40°C (59°F - 104°F)
- PO₄: 2 mg/L minimum
- NH₃N: 2 mg/L minimum



Applications

- Food processing industry
- Rendering plants
- Breweries & beverage industry
- Fruit/vegetable processing
- Municipality/industrial WWTPs



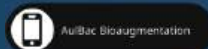
Availability

AulBac 400 is available in 25-lb. plastic pails and 100-lb. fiber drums. Contact a CITCO Water consultant for dosage rates.



info@CitcoWater.com
customerservice@CitcoWater.com
800.999.3484

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CHEMICAL
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AulBac

BIOAUGMENTATION

AulBac 400C

Cold Temperature Adapted Cultures

AulBac 400C is a powdered blend of naturally occurring, non-altered, patented psychrophilic microorganisms (cold water adapted) and growth stimulants formulated to efficiently degrade carbohydrates, proteins and fats, oils and grease (F.O.G.). The bacteria in AulBac 400C produce multiple types of enzymes such as Protease, Amylase, Esterase, Urease, Cellulase, Xylanase, and Lipase to break down waste products associated with meat processing, dairies, brewing and distilling operations, vegetable & fruit processing and carbohydrate processing facilities. AulBac 400C contains aerobic as well as facultative bacteria to work in anoxic conditions. Use of AulBac 400C will increase biological activity, improve biomass flocculation and enhance nitrogen and phosphorous removal at wastewater temperatures below 59°F (15°C). Do not use where high levels of toxic metals are present.



Directions: AulBac 400C may be added directly to aeration tank, lagoon, or oxidation ditch. For trickling filters, it's best to pre-hydrate product by adding 2 lbs. per 1.0 gallon of 20° - 30°C non-chlorinated water. Allow solution to stand for 30 - 60 minutes before adding to trickling filter..

COLD TEMP ADAPTED CULTURES



Operating Conditions

- pH: 6.0 - 10.0
- Temp: 2°C - 15°C
- PO₄: 2.0 mg/L minimum
- NH₃N: 2.0 mg/L minimum
- Specific gravity: 0.5 - 0.7
- Color: beige to light brown



Applications

- Food processing
- Beverage industry, breweries
- Rendering plants
- WWTPs
- Fruit & vegetable proc.



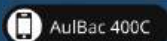
Availability

AulBac 400C is available in 25 lb. plastic pails and may be packaged in 1 lb. water-soluble packs as well as 100 lb. fiber drums (bulk).



info@CitcoWater.com
customerservice@CitcoWater.com
800.999.3484

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CHEMICAL
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AulBac

BIOAUGMENTATION

AulBac 500

Municipal Wastewater Treatment Microbial Aid

AulBac 500 is a blend of adapted microorganisms and biostimulants formulated for use in municipal and domestic wastewater applications. The bacteria in AulBac 500 produce multiple types of enzymes such as protease, amylase, esterase, xylanase, cellulase, and lipase. AulBac 500 is designed to degrade BOD and FOG, in addition to the synthetic detergents and surfactants that are commonly found in municipal wastewater. AulBac 500 contains aerobic as well as facultative bacteria to work in anoxic conditions.

Directions: AulBac 500 may be added directly to aeration tank, lagoon, or oxidation ditch. For trickling filters, it's best to prehydrate product by adding 2 lbs. per gallon of 20-30°C non-chlorinated water. Allow solution to stand for 30 minutes to 1 hour before adding to trickling filter.

Caution: Persons allergic to dust should employ nose and mouth protection when handling this product. In the event of direct contact with the eyes or skin, flush the affected area with water.

Benefits: rapid biological upset recovery, wastewater treatment plant optimization and effluent performance.



MUNICIPAL WASTEWATER TREATMENT MICROBIAL AID



Operating Conditions

- pH: 6.0 - 9.0
- Temp: 15°C - 40°C (59°F - 104°F)
- PO₄: 2 mg/L minimum
- NH₃N: 2 mg/L minimum
- Viability: min 4 billion CFU/g



Applications

- Municipal wastewater treatment plants
- Package WWTPS



Availability

AulBac 500 is available in 25-lb. plastic pails or 100-lb. fiber drums and may be packaged in 1-lb. water-soluble packs. Contact a CITCO Water consultant for dosage rates.



info@CitcoWater.com
customerservice@CitcoWater.com
800.999.3484

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CHEMICAL
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AulBac

BIOAUGMENTATION

AulBac 500C

Low Temp Aerobic Bacteria

During low temperature periods many systems can lose COD, BOD, ammonia and TSS removal efficiency. Microbes in biological wastewater treatment systems are single-minded at growing and surviving using the contaminant found in wastewater as “food”. The growth rate of microbes affects the rate at which the chemicals are removed from the wastewater. As wastewater temperature increases or decreases beyond the optimal growth temperature range, microbes become less sensitive to the presence of the “food” and the net result is microbial growth rate decreases and the rate of biodegradation (COD/BOD removal) decreases. Bacteria that operate at lower temperatures than the mesophilic are termed Psychrophilic and can work in the 32°- 70°F (0° - 20°C) range.



AulBac 500C Benefits: increase biomass activity during low wastewater temperature periods (< 15°C/59°F), enhance COD, TOC, BOD and TSS removal, rapid upset recovery, enhance biosolids settling/secondary clarifier settling.

LOW TEMP AEROBIC BACTERIA



Operating Conditions

- Temp. stressed conditions
- High salinity
- Low and high pH
- Recalcitrant materials



Applications

- WWTPs
- Activated sludge tanks
- Aeration basins
- Lagoons and anoxic digesters



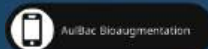
Availability

AulBac 500C is available in 25-lb. pails. Contact your CITCO Water consultant for dosage rates.



info@CitcoWater.com
customerservice@CitcoWater.com
800.999.3484

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AulBac

BIOAUGMENTATION

AulBac 900

Microbial Fat, Oil & Grease Control

AulBac 900 contains a novel blend of microbes and micronutrients specifically formulated to breakdown and digest fats, greases, olefins, and vegetable oils suspended in wastewater over time. AulBac 900 works effectively in scum pits, lift stations, wet wells, flow equalization tanks, facultative lagoons/basins and aeration basins. The microbes produce a prolific amount of diverse enzymes that penetrate and process insoluble oils and fats under stressful environmental conditions. AulBac 900 works under both aerobic and anoxic conditions over a wide wastewater temperature and pH range. It does not contain caustics or acids and will not harm pipes or wastewater treatment equipment.

Directions: AulBac 900 may be added directly to aeration tank, lagoon, or oxidation ditch. For trickling filters, it is best to prehydrate product by adding 2 lbs. per 1 gallon of 20-30°C non-chlorinated water. Allow solution to stand for 30 minutes to 1 hour before adding to trickling filter. **Caution:** Persons allergic to dust should employ nose and mouth protection when handling this product. In the event of direct contact with the eyes or skin, flush the affected area with water.



Benefits: Fats, oil and grease removal.

MICROBIAL FAT, OIL & GREASE CONTROL



Operating Conditions

- pH: 4.50 - 10.0
- Temp: 5°C - 55°C (40°F - 130°F)
- PO₄: 2 mg/L minimum
- NH₃N: 2 mg/L minimum



Applications

- WWTPs
- Wet wells
- Pump and lift stations
- Collection systems
- EQ basins and traps



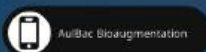
Availability

AulBac 900 is available on 25-lb. plastic pails or 100-lb. fiber drums and can be packaged on 1-lb. and half-lb. water-soluble packs.



info@CitcoWater.com
customerservice@CitcoWater.com
800.999.3484

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CHEMICAL
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AulBac

BIOAUGMENTATION

AulBac 900BC

AulBac 900BC contains a novel blend of microbes and micronutrients specifically formulated to breakdown and digest fats, greases, olefins, and vegetable oils suspended in wastewater. AulBac 900BC will work effectively in scum pits, lift stations, wet wells, flow equalization tanks, facultative lagoons/basins, and aeration basins. The microbes produce a prolific amount of diverse enzymes that penetrate and process insoluble oils and fats under stressful environmental conditions. AulBac 900BC works under both aerobic and anoxic conditions over a wide wastewater temperature and pH range. It does not contain caustics or acids and will not harm pipes or wastewater equipment.

Directions: AulBac 900BC may be applied to the wet well or lift station and various points within a collection system. Hang the AulBac 900BC unit where it partially meets the water line but is not completely submerged. **Caution:** Do not use where high levels of toxic metals such as zinc, chrome, or mercury are known to exist. *Persons allergic to dust should employ nose and mouth protection when handling this product. In the event of direct contact with the eyes or skin, flush area with water. Store product in a dry place between 21° - 27°C. Use immediately if wet. Do not freeze.



FATS, OILS, & GREASE



Operating Conditions

- pH: 4.40 - 10.0
- Temp: 5°C - 55°C (40°F - 130°F)
- PO₄: 2 mg/L min.
- NH₃N: 2 mg/L min.
- Viability: 4 billion CFU/g



Applications

- WWTPs
- Wet wells, lift station
- Collection systems
- Holding tanks & EQ basins



Availability

AulBac 900BC is available in 2, 5, and 10 lb. blocks. A suspension net is included with each unit. Contact a CITCO Water Consultant for dosage rates.

info@CitcoWater.com
customerservice@CitcoWater.com
800.999.3484

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CHEMICAL
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AulBac

BIOAUGMENTATION

AulBac 900C

Microbial Fat, Oil, & Grease Control
Patented Low Temperature Tolerant Strains

AulBac 900C is a dry, free-flowing powder that contains a novel blend of microbes, including patented psychrophilic, low-temperature tolerant strains, and micro nutrients specifically formulated to breakdown and digest fats, greases, olefins, and vegetable oils suspended in wastewater. The microbes in AulBac 900C produce a prolific amount of diverse enzymes that penetrate and process insoluble oils and fats under stressful environmental conditions. 900C works under both aerobic and anoxic conditions over a broad wastewater temperature and pH range. It does not contain caustics or acids and will not harm pipes or wastewater equipment.

Directions: add directly to an aeration tank, lagoon, or oxidation ditch. For trickling filters, pre-hydrate product by adding 2 lbs. per 1 gallon of 20-30°C non-chlorinated water. Allow solution to stand for 30 minutes to 1 hour before adding to trickling filter. **Storage:** store product in a dry place between 21 - 27°C (70° - 80.6°F). If product becomes wet, it must be used immediately. Do not freeze.



LOW TEMP FAT, OIL, & GREASE CONTROL



Operating Conditions

- pH: 4.25 - 10.0
- Temp: 2°C - 15°C (35.6°F - 59°F)
- PO₄: 2 mg/L minimum
- NH₃N: 2 mg/L minimum
- Viability: min 4 billion CFU/g



Applications

- WWTPs
- Wet wells & pump stations
- Collection system lift stations
- EQ basins, holding tanks



Availability

AulBac 900C is available in 25 lb. plastic pails or 100 lb. fiber drums and may be packaged in one lb. and half lb. water-soluble packs.

info@CitcoWater.com
customerservice@CitcoWater.com
800.999.3484

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Technical Data Sheet

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CHEMICAL
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AulBac

BIOAUGMENTATION

AulBac 925BC

Microbial Fat, Oil & Grease Control

AulBac 925BC contains a novel blend of microbes and micronutrients specifically formulated to breakdown and digest fats, greases, olefins, and vegetable oils suspended in wastewater over time. AulBac 925BC blocks work effectively in scum pits, lift stations, wet wells, flow equalization tanks, facultative lagoons/basins and aeration basins. The microbes produce a prolific amount of diverse enzymes that penetrate and process insoluble oils and fats under stressful environmental conditions. AulBac 925BC works under both aerobic and anoxic conditions over a wide wastewater temperature and pH range. It does not contain caustics or acids and will not harm pipes or wastewater treatment equipment.

Directions: AulBac 925BC may be applied to the wet well, lift station, and various points within a municipal collection system. Hang unit to where part of it meets the water line but is not completely submerged. **Caution:** Persons allergic to dust should employ nose and mouth protection when handling this product. In the event of direct contact with the eyes or skin, flush the affected area with water.

Benefits: Fats, oil and grease removal.



MICROBIAL FAT, OIL & GREASE CONTROL



Operating Conditions

- pH: 4.50 - 10.0
- Temp: 5°C - 55°C (40°F - 130°F)
- PO₄: 2 mg/L minimum
- NH₃N: 2 mg/L minimum



Applications

- WWTPs
- Wet wells
- Pump and lift stations
- Collection systems
- EQ basins and traps



Availability

AulBac 925BC is available in 0.5, 1.0, 2.0, 5.0, 10.0 and 30.0-lb blocks. A suspension net is included with each unit.



info@CitcoWater.com
customerservice@CitcoWater.com
800.999.3484

CITCO WATER



Technical Data Sheet

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CHEMICAL
SOLUTIONS

AulBac

BIOAUGMENTATION

AulBac 975L

Microbial Fat, Oil, & Grease Cleaner/Deodorizer

AulBac 975L removes and digests fat, oil, and grease in various wastewater environments under a broad wastewater temperature and pH range. It is best used in grease traps, scum pits, wet wells, equalization tanks, drain lines, and collection systems. AulBac 975L contains naturally occurring aerobic and facultative microbes specifically designed to digest grease, fat, fatty acids, vegetable oils, and sugars and starch (in addition to mitigating foul odors).

Directions: Mix container thoroughly prior to applying. AulBac 975L may be added upstream from the treatment area or directly to the grease trap, EQ basin, or aeration basin. Consult your CITCO Water technical representative for more specific application or dosing instructions. Do not use in environments where high levels of toxic metals such as zinc, chrome, or mercury are known to exist. **Caution:** in the event of direct contact with the eyes or skin, flush the affected area with water. Always refer to the Safety Data Sheet for additional safety information. **Storage:** dry place between 15° - 30°C. Do not freeze (shelf life = 1 year at 21°C (70°F)).



LIQUID FATS, OILS, & GREASE



Operating Conditions

- pH: 4.25 - 10.0
- Temp: 5°C - 55°C (40°F - 130°F)
- Specific gravity: ~ 1.0
- Product: dormant bacterial cultures



Applications

- Grease traps
- Wet wells
- Collection system lift stations
- Drain lines & EQ tanks



Availability

AulBac 975L is available in 5 gallon pails, 55 gallon drums, and 330 gallon totes.

info@CitcoWater.com
customerservice@CitcoWater.com
800.999.3484

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CHEMICAL
SOLUTIONS

AulBac

BIOAUGMENTATION

AulBac 1200

Microbial Aid for Sludge Reduction

AulBac 1200 is a blend of naturally occurring, non-altered Mesophilic microorganisms, growth stimulants, and enzymes formulated to efficiently reduce organic matter in aqueous waste. The microbes in AulBac 1200 produce multiple types of enzymes to break down lignin, cellulose, and other organic solid constituents. AulBac 1200 will increase the biological conversion and removal rate of organic materials in aqueous environments.

Directions: AulBac 1200 is typically mixed with water and applied directly to the basin, pond, or lagoon. It is best to pre-hydrate product by adding 1 lb. per 2 gallons of 20° - 30°C non-chlorinated water. Allow solution to stand for 30-minutes before applying. Consult your CITCO Water technical representative for detailed application and dosing application recommendations. Store product in a dry place between 21°-27° C (70°-80.6°F). If product becomes wet, it must be used immediately. Do not freeze.

Operating conditions - Temp: 15° - 40°C, pH: 5.0 - 8.0, D.O.: 0.5 - 5.0 mg/l. AulBac 1200 is nonpathogenic, salmonella free, contaminant-free, and non-toxic. Product: dormant bacterial cultures.



MICROBIAL AID FOR SLUDGE REDUCTION



Specifications

- Viability: min 4 billion CFU/g (Avail. in 3X conc.)
- Form: dry, free-flowing powder
- Color: beige to light brown
- Shelf-life: min 2-years



Applications

- Aerobic WWTPs
- Anoxic WWTPs



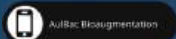
Availability

AulBac 1200 is available in 25 lb. plastic pails or 100 lb. fiber drums. Contact your CITCO Water consultant for dosage rates.



info@CitcoWater.com
customerservice@CitcoWater.com
800.999.3484

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CHEMICAL
SOLUTIONS

AulBac

BIOAUGMENTATION

AulBac 1500

Filamentous & Sludge Settling

AulBac 1500 is a combination of natural components that disfavor the proliferation of various filamentous bacteria in biological wastewater treatment systems. AulBac 1500 has the ability to destabilize and manage excessive filamentous bacterial populations, thereby enhancing secondary biosolids settling while optimizing wastewater treatment plant operation. Nuisance foam generated by specific filament types may be reduced through the use of AulBac 1500. When properly applied, AulBac 1500 has been able to reduce the sludge yield in systems by 20-30%.

Directions: AulBac 1500 may be added directly to aeration tank, lagoon, or oxidation ditch. For trickling filters, it is best to pre-hydrate product by adding 2 lbs. per 1 gallon of 20-30°C non-chlorinated water. Allow solution to stand for 30 minutes to 1 hour before adding to trickling filter.

Do not use in environments where high levels of toxic metals such as zinc, chrome, or mercury are known to exist. Storage: store product in a dry place between 21°-27° C (70°-80.6°F). If product becomes wet, it must be used immediately. Do not freeze.



FILAMENTOUS & SLUDGE SETTLING



Specifications

- pH: 6.0 - 0.0
- Temp: 15°C - 40°C
- PO₄: 2 mg/L Min.
- NH₃N: 2 mg/L Min.
- Viability: min 4 billion CFU/g



Applications

- Excessive foam generation management
- Improve biosolids settling
- Wastewater treatment plants



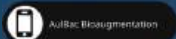
Availability

AulBac 1500 is available in 25 lb. plastic pails or 100 lb. fiber drums and may be packaged in 1-lb. water-soluble packs.



info@CitcoWater.com
customerservice@CitcoWater.com
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CHEMICAL
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AulBac

BIOAUGMENTATION

AulBac 1600

Aerobic Digestion Start Up

AulBac 1600 is a blend of adapted facultative microorganisms formulated for industrial and municipal wastewater applications in which the dissolved oxygen is less than 1 mg/l, such as facultative/anoxic digesters and lagoons. The bacteria in AulBac 1600 produce multiple types of enzymes such as amylase, protease, esterase, urease, cellulase, xylanase, and lipase to break down proteins, animal and vegetable fats and oils, and carbohydrates. Use of AulBac 1600 will increase biological activity, increase supernatant clarity, reduce biosolids sludge yield, and produce a good settling biological floc.

Application: Primary applications include municipal and industrial wastewater treatment aerobic or facultative digesters.

Store AulBac 1600 in a dry place between 10°C - 40°C. If product becomes wet, it must be used immediately. Do not allow to freeze. Product may be added directly to mixing tank, digester, or lagoon. Do not use in environments where high levels of toxic metals such as zinc, chrome, or mercury are known to exist.



AEROBIC DIGESTION START UP



Operating Conditions

- pH: 5.5 - 8.5
- Temp: 15°C - 40°C (59°F - 104°F)
- PO₄: 2 mg/L minimum
- NH₃N: 2 mg/L minimum
- Viability: 4 billion CFU/g



Applications

- Municipal wastewater
- Industrial wastewater
- Facultative digesters
- Aerobic digesters



Availability

AulBac 1600 is available in 25-lb. plastic pails or 100-lb. fiber drums and may be packaged in 1-lb. water-soluble packs. Contact your CITCO Water consultant for dosage rates.

info@CitcoWater.com
customerservice@CitcoWater.com
800.999.3484

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CHEMICAL
SOLUTIONS

AulBac

BIOAUGMENTATION

AulBac 1600

Aerobic Digestion Start Up



Benefits:

- rapid upset recovery and start-up
- improved settling
- enhanced supernatant clarity
- increase digestion rate



Technical Specs:

- product: dormant bacterial cultures and micronutrients
- form: dry, free-flowing powder
- color: beige to light brown



info@CitcoWater.com
customerservice@CitcoWater.com
800.999.3484



AulBac Bioaugmentation

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CHEMICAL
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AulBac

BIOAUGMENTATION

AulBac 1650

MBR Specific Microbial Blend

AulBac 1650 is a broad spectrum bacterial specifically designed for use in the start-up of Membrane BioReactor Wastewater Treatment Systems. AulBac 1650 has a high water-solubility makeup containing a broad spectrum microbial profile, a multifaceted carbon carrier, and micronutrients essential in promoting rapid biomass growth.

The cultures in AulBac 1650 are capable of degrading a wide variety of components associated with industrial wastewater, including but not limited to: proteins, carbohydrates, hydrocarbons, surfactants, and detergents. AulBac 1650 will enhance COD, TOC, BOD, and TSS removal.

Directions: AulBac 1650 may be added directly to aeration tank, lagoon, or oxidation ditch. For trickling filters, it's best to prehydrate product by adding 2 lbs. per 1 gallon of 20-30°C non-chlorinated water. Allow solution to stand for 30 minutes to 1 hour before adding to trickling filter. Consult a CITCO Water representative for detailed dosing recommendations.

Operating conditions - Temp: 15°C - 40°C (59°F - 104°F), PO4: 2 mg/L minimum, NH3N: 2 mg/L minimum.



MBR SPECIFIC MICROBIAL BLEND



Operating Conditions

- Dormant bacterial cultures
- Form: dry, free-flowing powder
- pH: 6.0 - 9.0
- Color: off white to gray



Applications

- Membrane bio reactor seeding
- Industrial wastewater
- System optimization
- Rapid start-up and upset recovery



Availability

AulBac 1650 is available in 25-lb. plastic pails or 100-lb. fiber drums and may be packaged in 1-lb. water-soluble packs. Contact a CITCO Water consultant for dosage rates.



info@CitcoWater.com
customerservice@CitcoWater.com
800.999.3484

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CHEMICAL
SOLUTIONS

AulBac

BIOAUGMENTATION

AulBac 1700

H₂S & Odor Control

AulBac 1700 includes the broad blend of bacteria contained in AulBac A-300, in addition to sulfide/organic acid degrading cultures capable of reducing strong organic content and high COD/BOD wastewater. The microbial blend is capable of using sulfides, including hydrogen sulfide, as the energy source for their metabolism. In wastewater environments, AulBac 1700 converts sulfide compounds to elemental sulfur and degrades various organic acids. AulBac 1700 is applied to reduce toxicity and foaming caused by sulfides or for use in organic acid and mercaptan odor/corrosion reducing programs. AulBac 1700 will work in low pH and anoxic environments.

AulBac 1700 is also applied in tandem with Nitra-Nox for successful odor/corrosion control in collection system, primary clarifier, EQ basin, holding pond, digester, and thickener applications. In wastewater treatment plants that experience bio-solids settling concerns due to excessive filamentous growth associated with sulfides and organic acids, AulBac 1700 is applied as a non-chemical, proactive filamentous bacteria management program which neutralizes the conditions that promote the growth of specific filamentous species.



H₂S & ODOR CONTROL



Operating Conditions

- pH: 5.5 - 10.0
- Temp: 15°C - 40°C (59°F - 104°F)
- PO₄: 2 mg/L minimum
- NH₃N: 2 mg/L minimum



Applications

- Pulp and paper mills
- Petroleum refining
- Chemical processing
- Municipal and industrial wastewater



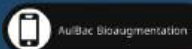
Availability

AulBac 1700 is available in 25 lb. plastic pails or 100 lb. fiber drums and may also be packaged in 1 lb. water soluble packs.



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customerservice@CitcoWater.com
800.999.3484

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CHEMICAL
SOLUTIONS

AulBac

BIOAUGMENTATION

AulBac 1800

Algae Control

AulBac 1800 is a blend of proprietary microorganisms formulated for use where inordinate algae growth is a problem. The microbes in AulBac 1800 will breakdown excess wastes in ponds and lagoons and reduce excessive quantities of inorganic nutrients, such as biologically usable forms of phosphorus and nitrogen (which are causative reasons for excessive algal blooms). This leads to cleaner water, higher dissolved oxygen levels and where necessary, lower effluent Total Suspended Solids (TSS).

Directions: AulBac 1800 may be added directly to a pond, basin, or lagoon. Consult your CITCO Water representative for detailed Wastewater Treatment Plant dosing recommendations.

Do not use in environments where high levels of toxic metals such as zinc, chrome, or mercury are known to exist. Storage: store product in a dry place between 21°-27° C (70°-80.6°F). If product becomes wet, it must be used immediately. Do not freeze.



ALGAE CONTROL



Operating Conditions

- pH: 5.0- 10.0
- Temp: 5°C - 40°C (40°F - 104°F)
- Specific gravity: 0.5 - 0.7



Applications

- Pond clarification
- Lagoon clarification
- Algae management
- Municipal wastewater treatment



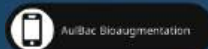
Availability

AulBac 1800 is available in 25 lb. plastic pails or 100 lb. fiber drums and may also be packaged in 1 lb. water soluble packs.



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customerservice@CitcoWater.com
800.999.3484

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CHEMICAL
SOLUTIONS

AulBac

BIOAUGMENTATION

AulBac 1950

Microbial Septic Tank & Cesspool Aid

AulBac 1950 is an all-natural, microbial and micronutrient blend specifically designed for cleaning and maintaining septic tanks, cesspools, and drain fields. The cultures in AulBac 1950 re-establish the liquefying and digesting capabilities of the system due to non-use, excessive loading (overloading), and the use of strong chemicals that contain anti-bacterial properties.

Biomass optimization with AulBac 1950 will allow for effective treatment, thereby opening clogged sidewalls, collectors and distribution boxes, eliminating potential back-up issues and foul odors. AulBac 1950 is non-toxic and non-hazardous to plants, animals, and humans. It contains no harsh chemicals and is not corrosive. Regular use of AulBac 1950 allows the system to maintain peak efficiency helping to reduce system pumping and maintenance costs.

Directions: Initial treatment - use half pound of AulBac 1950 for each 500 gallons of septic tank capacity. This is recommended for typical domestic applications. For schools and restaurants, consult an CITCO Water representative. Repeat dosage in one week.

Maintenance treatment - apply two ounces of AulBac 1950 per 500 gallons of tank capacity monthly. For high use applications, apply two ounces of AulBac 1950 per 500 gallons of tank capacity weekly. Mix AulBac 1950 with a gallon of warm water and flush down the toilet.



MICROBIAL SEPTIC TANK & CESSPOOL AID



Specifications

- Dormant bacterial cultures
- Form: dry, free-flowing powder
- Specific gravity: 0.5 - 0.7
- Color: beige to brown



Applications

- Septic tanks/porto potties
- Sand mounds
- Cesspools & drain fields
- Campgrounds, MHPs
- Schools & Restaurants



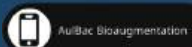
Availability

AulBac 1950 is available in 25-lb. plastic pails or 100-lb. fiber drums and may be packaged in 1-lb. water-soluble packs. Contact a CITCO Water consultant for dosage rates.



info@CitcoWater.com
customerservice@CitcoWater.com
800.999.3484

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CHEMICAL
SOLUTIONS

AulBac

BIOAUGMENTATION

AulBac 2050

Alternative Carbon (BOD) Source

AulBac 2050 is a non-hazardous blended organic carbon source. AulBac 2050 provides a layered source of soluble BOD to support rapid bacterial growth and enzyme production. AulBac 2050 is ideal for denitrification applications and maintaining biomass during periods of low flow, low organic loading or plant shutdowns. AulBac 2050 may also be used to establish a biomass in biological wastewater treatment plant start-up applications.

Directions: AulBac 2050 may be added directly to aeration tank, lagoon, oxidation ditch or trickling filters or anoxic tanks/zones.

Caution: Persons allergic to dust should employ nose and mouth protection when handling this product. In the event of direct contact with the eyes or skin, flush the affected area with water.

Benefits: denitrification, maintain biomass, aid in scheduled plant start-up.



ALTERNATIVE CARBON (BOD) SOURCE



Specifications

- Product: organic materials
- Form: liquid
- Color: brown



Applications

- Municipal and industrial WWTPs



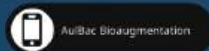
Availability

AulBac 2050 is available in 330-gallon totes and bulk loads. Contact a CITCO Water consultant for dosage rates.



info@CitcoWater.com
customerservice@CitcoWater.com
800.999.3484

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CHEMICAL
SOLUTIONS

AulBac

BIOAUGMENTATION

AulBac 2100

Alkalinity & Micronutrient Blend

AulBac 2100 provides trace levels as all the necessary chelated minerals such as calcium, iron, zinc, cobalt, selenium, and manganese. In addition to the minerals, AulBac 2100 contains significant levels of available inorganic carbon which aids biosolids settling, nitrification (where applicable), and promotes vigorous cellular enzyme production, efficient COD and BOD removal, and rapid biomass growth.

Directions: AulBac 2100 may be added to the influent or directly to the aeration tank, lagoon, or oxidation ditch. For trickling filters, add to influent feed. AulBac 2100 does not require any special pre-hydration procedures.

Caution: Persons allergic to dust should employ nose and mouth protection when handling this product. In the event of direct contact with the eyes or skin, flush the affected area with water.

Benefits: wastewater treatment plant optimization and performance, improve nitrification and TSS removal.



ALKALINITY & MICRONUTRIENT BLEND



Operating Conditions

- pH: 4.25 - 10.0
- Temp: 5°C - 55°C (40°F - 130°F)
- Specific gravity: ~ 1.0
- Product: dormant bacterial cultures



Applications

- Aerobic, anoxic, and anaerobic wastewater treatment units.



Availability

AulBac 2100 is available in 30-lb. plastic pails and 100-lb. fiber drums. Contact a CITCO Water consultant for dosage rates.



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800.999.3484

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CHEMICAL
SOLUTIONS

AulBac

BIOAUGMENTATION

AulBac 2200

Micronutrient Blend

AulBac 2200 is a proprietary blend of micronutrients that provides all the trace levels of minerals, vitamins, and amino acids necessary to support rapid biomass growth. AulBac 2200 also includes inorganic carbon that aids biosolids settling, pH stability, nitrification (where applicable), promotes vigorous cellular enzyme production, and efficient TOC, COD, and BOD removal. AulBac 2200 provides WWTP optimization and improves effluent removal and biosolids settling performance.

Directions: AulBac 2200 may be added to the influent or directly to the treatment unit. For trickling filters and anaerobic reactors, add to the influent feed or pre-reactor mix box/tank. AulBac 2200 does not require any special pre-hydration procedures. Consult your CITCO Water technical representative for detailed application and dosing application recommendations. Store product in a dry place. Keep product dry.

Operating conditions - Temp: 2° - 60°C (35.6°F - 140°F), pH: 6.0 - 8.5.
Product: organic and inorganic materials.



MICRONUTRIENT BLEND



Specifications

- Bulk density: 890 Kg/m³ ± 25
- Form: dry, free-flowing powder
- Color: gray to dark green



Applications

- Aerobic, anoxic, and anaerobic wastewater treatment plants.



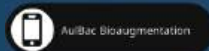
Availability

AulBac 2200 is available in 25-lb. plastic pails and 100-lb. fiber drums and can be packaged in 1-lb. water-soluble packs. Contact a CITCO Water consultant for dosage rates.



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customerservice@CitcoWater.com
800.999.3484

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CHEMICAL
SOLUTIONS

AulBac

BIOAUGMENTATION

AulBac 2400

Anaerobic Unit Micronutrient Blend Wastewater Treatment Aid

AulBac 2400 is a proprietary blend of essential micronutrients that provide specific trace levels of minerals necessary to support anaerobic microbial processes and growth.

Directions: AulBac 2400 may be added to either the influent or directly to the treatment unit. Anaerobic reactors: add to the influent feed or pre-reactor mix box/tank. Consult with you CITCO Water technical consultant for specific dosing recommendations.

Caution: Persons allergic to dust should employ nose and mouth protection when handling this product. In the event of direct contact with the eyes or skin, flush the affected area with water.

Benefits: improve anaerobic removal efficiency and decrease effluent turbidity.



ANAEROBIC UNIT MICRONUTRIENT BLEND



Operating Conditions

- pH: 6.5 - 7.5
- Temp: 2°C - 60°C (35.6°F - 140°F)
- Specific gravity: ~ 1.0
- Form: liquid



Applications

- Anaerobic wastewater treatment units
- Digesters
- Lagoons and basins
- UASB's



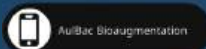
Availability

AulBac 2400 is available in 55-gallon plastic drums and 330-gallon totes. Contact a CITCO Water consultant for dosage rates.



info@CitcoWater.com
customerservice@CitcoWater.com
800.999.3484

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CHEMICAL
SOLUTIONS

AulBac

BIOAUGMENTATION

AulBac 2450

Nitrification Micronutrient Blend
Wastewater Treatment Aid

AulBac 2450 is a proprietary blend of essential micronutrients that provide specific trace levels of minerals necessary to support nitrifying microbial processes and growth.

Directions: AulBac 2450 may be added to either the influent or directly to the tertiary treatment unit. Compete mixed aerobic reactors: add to influent feed. Consult with your CITCO Water technical consultant for specific dosing recommendations.

Caution: Persons allergic to dust should employ nose and mouth protection when handling this product. In the event of direct contact with the eyes or skin, flush the affected area with water.

Benefits: improve/maintain ammonia removal efficiency.



NITRIFICATION MICRONUTRIENT BLEND



Operating Conditions

- pH: 6.0 - 9.0
- Temp: 2°C - 60°C (35.6°F - 140°F)
- Specific gravity: ~ 1.0
- Color: clear - slight yellow



Applications

- Optimize the microbial processes associated with nitrification (ammonia oxidation)
- Lagoons and basins
- Wastewater treatment plants



Availability

AulBac 2450 is available in 55-gallon plastic drums and 330-gallon totes. Contact a CITCO Water consultant for dosage rates.



info@CitcoWater.com
customerservice@CitcoWater.com
800.999.3484

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CHEMICAL
SOLUTIONS

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AulBac

BIOAUGMENTATION

AulBac A-100

Aerobic Bacteria

AulBac A-100 is a blend of adapted microorganisms and biostimulants formulated for use in municipal wastewater applications. The bacteria in AulBac A-100 produce multiple types of enzymes such as protease, amylase, esterase, xylanase, cellulase, and lipase. AulBac A-100 is designed to degrade BOD and F.O.G., in addition to the synthetic detergents and surfactants that are commonly found in municipal wastewater. AulBac A-100 contains aerobic as well as facultative bacteria to work in anoxic conditions.

Directions: AulBac A-100 may be added directly to the aeration tank, lagoon, or oxidation ditch. For trickling filters, it is best to prehydrate product by adding 2 lbs. per 1 gallon of 20-30°C non-chlorinated water. Allow solution to stand for 30 minutes to 1 hour before adding to trickling filter. Store in dry place between 21-27°C. Do not freeze. If product becomes wet, it must be used immediately. Caution: persons allergic to dust should employ nose and mouth protection when handling this product. Always refer to the Safety Data Sheet for additional safety information. Do not use in environments where high levels of toxic metals such as zinc, chrome, or mercury are known to exist.



AEROBIC BACTERIA



Operating Conditions

- pH: 6.0 - 9.0
- Temp: 15°C - 40°C (59°F - 104°F)
- PO₄: 2 mg/L minimum
- Product: dormant bacterial cultures



Benefits

- Rapid upset recovery
- Enhanced wastewater treatment plant operation
- Enhanced effluent performance



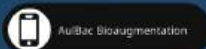
Availability

AulBac A-100 is available in 25-lb. plastic pails and 100-lb. fiber drums and can be packaged in 1-lb. water-soluble packs. Contact a CITCO Water consultant for dosage rates.



info@CitcoWater.com
customerservice@CitcoWater.com
800.999.3484

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CHEMICAL
SOLUTIONS

AulBac

BIOAUGMENTATION

AulBac A-300

Chemical Processing

AulBac A-300 contains a novel blend of bacteria and micronutrients specifically formulated to breakdown and digest fats, greases, olefins, and vegetable oils suspended in wastewater. AulBac A-300 works effectively in scum pits, lift stations, wet wells and flow equalization tanks, facultative lagoons/basins and aeration basins. The bacteria produce a prolific amount of diverse enzymes that penetrate and process insoluble oils and fats under stressful environmental conditions. AulBac A-300 works under both aerobic and anoxic conditions and does not contain caustics or acids and will not harm pipes or wastewater equipment.

Directions: AulBac A-300 may be added directly to an aeration tank, lagoon, or oxidation ditch. For trickling filters, it's best to pre-hydrate product by adding 2 lbs. per 1 gallon of 20-30°C non-chlorinated water. Allow solution to stand for 30 minutes to 1 hour before adding to trickling filter. Persons allergic to dust should employ nose and mouth protection when handling this product. In the event of direct contact with the eyes or skin, flush the affected area with water. Store product in a dry place between 21-27°C (70-80.6°F). If product becomes wet, it must be used immediately.

Do not freeze or use in environments where high levels of toxic metals such as zinc, chrome, or mercury exist.



CHEMICAL PROCESSING



Operating Conditions

- pH: 4.5 - 10.0
- Temp: 5°C - 55°C (40°F - 130°F)
- PO₄: 2 mg/L minimum
- Specific gravity: 0.5 - 0.7



Applications

- F.O.G., BOD and TSS removal
- Wet wells
- Collection system, lift stations
- WWTPs



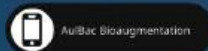
Availability

AulBac A-300 is available in 25-lb. plastic pails and 100-lb. fiber drums and can be packaged in 1-lb and 0.5-lb. water-soluble packs. Contact a CITCO Water consultant for dosage rates.



info@CitcoWater.com
customerservice@CitcoWater.com
800.999.3484

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CHEMICAL
SOLUTIONS

AulBac

BIOAUGMENTATION

AulBac A-400

High BOD/COD & Sludge Settling

AulBac A-400 is a blend of naturally occurring, non-altered microorganisms and growth stimulants formulated to efficiently degrade carbohydrates, proteins, and fats. The bacteria in AulBac A-400 produce multiple types of enzymes such as protease, amylase, esterase, urease, cellulase, xylanase, and lipase to break down waste products associated with meat processing, dairies, vegetable packing, fruit processing, and carbohydrate processing facilities. AulBac A-400 contains aerobic as well as facultative bacteria to work in anoxic conditions. Use of AulBac A-400 will increase biological activity, improve biomass flocculation, and enhance nitrogen and phosphorous removal.

Directions: AulBac A-400 may be added directly to an aeration tank, lagoon, or oxidation ditch. For trickling filters, it is best to prehydrate product by adding 2 lbs. per 1 gallon of 20-30°C non-chlorinated water. Allow solution to stand for 30 minutes to 1 hour before adding to trickling filter. Store product in a dry place between 21-27°C (70°F-80.6°F). If product becomes wet, it must be used immediately. Do not freeze or use in environments where high levels of toxic metals such as zinc, chrome, or mercury exist.



HIGH BOD/COD & SLUDGE SETTLING



Operating Conditions

- pH: 6.0 - 9.0
- Temp: 15°C - 40°C (59°F - 104°F)
- PO₄: 2 mg/L minimum
- NH₃N: 2 mg/L minimum



Applications

- Food processing industry
- Rendering plants
- Breweries & beverage industry
- Fruit/vegetable processing
- Municipality/industrial WWTPs



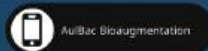
Availability

AulBac A-400 is available in 25-lb. plastic pails and 100-lb. fiber drums. Contact a CITCO Water consultant for dosage rates.



info@CitcoWater.com
customerservice@CitcoWater.com
800.999.3484

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CHEMICAL
SOLUTIONS

AulBac

BIOAUGMENTATION

AulBac ANA 200

Anaerobic Digestion

AulBac ANA 200 is a specially formulated blend used to reduce foaming and improve sludge density and settling. It's effective in wastewater treatment systems that receive high levels of fats, oils, and greases. The bacteria in AulBac ANA 200 has a higher kinetic rate than most indigenous bacterial populations. The bacterium converts a higher percentage of the available BOD into energy.

Directions: Using AulBac ANA 200 regularly will increase the overall plant efficiency and reduce sludge production. For your protection, wear all proper safety devices as recommended in the Safety Data Sheet. Do not use where there are high levels of toxic metals such as zinc, chrome, and mercury. AulBac ANA 200 may be added directly into lagoons, anaerobic tanks, or wastewater headworks. For filter, pre-hydrate product by adding 2 lbs. per gallon of 20-30°C non-chlorinated water. Let solution stand for one half hour up to two hours before adding to trickling filter.



ANAEROBIC DIGESTION



Operating Conditions

- pH: 6.0 - 8.5
- Specific gravity: 0.5 - 8.5
- Appearance: dry, light brown powder



Applications

- Food processing industry
- Rendering plants
- Breweries & beverage industry
- Fruit/vegetable processing
- Municipla/industrial WWTPs



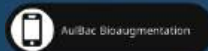
Availability

AulBac ANA 200 is available in 25-lb. plastic pails. Each pail contains (25) 1-lb. bags for easy application. Contact a CITCO Water consultant for dosage rates.



info@CitcoWater.com
customerservice@CitcoWater.com
800.999.3484

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CHEMICAL
SOLUTIONS

AulBac

BIOAUGMENTATION

AulBac BTI

Midge Flies

Aulbac BTI is a microbial composting product with midge fly and mosquito inhibiting cultures. Aulbac BTI contains bacillus thuringiensis, which destroy mosquito and fly larvae environments in which these pests can breed.

Directions: For Wastewater: Aulbac BTI should be pre-hydrated at a rate of 1 lbs. per gallon of 20-30°C water. The product should be applied at a rate of 1/2 lb per 50,000 gallons of flow per day. Initial treatment may require 1.5 lbs per 50,000 gallons of flow per day for 5 days. For Composting: Aulbac BTI should be pre-hydrated at a rate of 1 lbs. per gallon and sprayed over a composting pile at a rate of 1 gallon per 100 cubic yards. For fly and mosquito control, spray product directly to standing water, pits, and puddles. Use of 2 to 3 oz. for 100 square feet is sufficient.

Availability: Product is available in 25 lb. plastic pails or 100 lb. fiber drums. Product may be packaged in 1 lb. or 1/2-lb water-soluble packs for an additional charge. Store product in a dry place between 10°-40°C. If product becomes wet, it must be used immediately. Do not freeze. Do not use in environments where high levels of toxic metals such as zinc, chrome, or mercury are known to exist.



MIDGE FLIES



Operating Conditions

- pH: 6.0 - 8.5
- Temp: 15°C - 55°C
- Specific gravity: 0.5 - 0.6
- PO₄: 2 mg/L Min.



Specifications

- Product: dormant bacterial cultures and enzymes
- Form: dry, free-flowing water and soluble powder
- Color: white to light brown



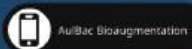
Applications

- Wastewater treatment plants
- Composting



info@CitcoWater.com
customerservice@CitcoWater.com
800.999.3484

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AulBac Bioaugmentation

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CHEMICAL
SOLUTIONS

AulBac

BIOAUGMENTATION

AulBac LS

Lift Stations & Grease Control

AulBac LS is a specially designed enzymatic biological complex. It quickly digests grease in lift stations and grease traps, producing a by-product of carbon dioxide in the water. AulBac LS used regularly will remove and prevent grease build-up in lift stations and grease traps.

Directions: most dosage rates depend on grease concentration and the size of lift station or grease trap. See below for general recommendations. For your protection, wear safety attire when using AulBac LS. Refer to Safety Data Sheet for specific safety information.

Do not use where there are high levels of toxic metals such as zinc, chrome, and mercury. **Grease Trap:** using a dosage pump, apply AulBac LS at an average of one quart per day. **Lift Station:** using a dosage pump, apply AulBac LS at an average of one gallon per day.



LIFT STATIONS & GREASE CONTROL



Operating Conditions

- pH: 6.0 - 8.0
- Specific gravity: 8.2 PPG
- Appearance: tallow liquid
- Freezing/melting point: 32°F



Applications

- Municipal wastewater treatment
- Grease traps
- Lift stations
- Collection systems



Availability

AulBac LS is available in 5-gallon pails and 55-gallon drums. Contact a CITCO Water consultant for dosage rates.



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customerservice@CitcoWater.com
800.999.3484

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CHEMICAL
SOLUTIONS

AulBac

BIOAUGMENTATION

AulBac Nitrifiers

Ammonia Removal

AulBac Nitrifiers is a blend of nitrifying bacteria formulated to work in aerobic wastewater treatment plants that need to reduce or eliminate ammonia. AulBac Nitrifiers can be applied to all industrial wastewater plants such as chemical plants, petroleum refineries, steel mills, food processing plants, landfill leachate, and municipal wastewater treatment plants. Benefits include rapid upset recovery and plant start-up, maintaining compliance.

Directions: primary applications include food processing and municipal and industrial wastewater treatment. Dilute AulBac Nitrifiers concentrate with 1 part concentrate to 5 parts of non-chlorinated water. The dilution water temperature should be between 20°C - 35°C.

Let stand between 45 minutes and 1 hour then apply directly to the aeration basin. Consult your CITCO Water representative for precise dosing and application information.

Warning: do not use in environments where high levels of toxic metals such as mercury, chromium, copper, zinc, etc. are known to exist.



AMMONIA REMOVAL



Operating Conditions

- pH: 6.5 - 8.5
- Temp: 8°C - 40°C (46.4°F - 104°F)
- PO₄: 2 mg/L minimum
- NH₃N: 2 mg/L minimum



Applications

- Landfills
- Steel mills
- Food processing
- Petroleum refineries
- Municipal, industrial wastewater



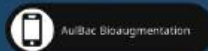
Availability

AulBac Nitrifiers are available in 5 unit packs. Contact a CITCO Water consultant for dosage rates.



info@CitcoWater.com
customerservice@CitcoWater.com
800.999.3484

CITCO WATER



Technical Data Sheet

CitcoWater.com



CHEMICAL
SOLUTIONS

AulBac

BIOAUGMENTATION

AulBac Nitrobe-Rx Microbial Ammonia Degradar

AulBac Nitrobe-Rx contains naturally occurring, acclimated, novel nitrifying microorganisms which biochemically oxidize (remove) ammonia and nitrite in aerobic wastewater treatment plants. Nitrifying bacteria are notoriously subject to growth stresses and toxicity. Various inhibitory compounds, pH variability and water temperature stress can limit the activity of nitrifying bacteria. They require extended periods of time to grow making system ammonia removal recovery slow, therefore efficient ammonia removal suffers during the regeneration period. AulBac Nitrobe-Rx provides an immediate source of nitrifying microbes where unaided natural nitrification cannot or will not occur in the necessary time. AulBac Nitrobe-Rx is also effective when applied in tandem with AulBac 200/200C/200H, AulBac 300/300C/300H or AulBac 1900 for hydrocarbon and recalcitrant constituent biodegradation in refineries, landfills and chemical plants or with AulBac 400/400C or AulBac 1500/1500C in municipal and food processing wastewater treatment plants, specifically if toxicity is confirmed or suspected.



Directions: Consult with you CITCO Water technical consultant for specific dosing recommendations.

Caution: When handling wear appropriate hand protection. In the event of direct contact with the eyes or skin, flush the affected area with water. Refer to the SDS.

Benefits: start-up, enhance or restore ammonia and nitrite removal (nitrification)

MICROBIAL AMMONIA DEGRADER



Operating Conditions

- pH: 7.0 - 8.4
- Temp: 10°C - 40°C (50°F - 104°F)
- D.O. ppm: > 0.5
- o-PO_4 : 0.5 mg/L minimum (filtered)



Applications

- Petroleum refining
- Chemical processing
- Petrochemical processing
- Food processing
- Landfill leachate
- Aquaculture



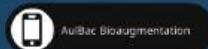
Availability

AulBac Nitrobe-Rx is available in 1.0-unit (0.25 lb.) and 5.0-unit (1.25 lb.) packs and 2.0-gallon (15.0 lb.) pails. Contact a CITCO Water consultant for dosage rates.



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customerservice@CitcoWater.com
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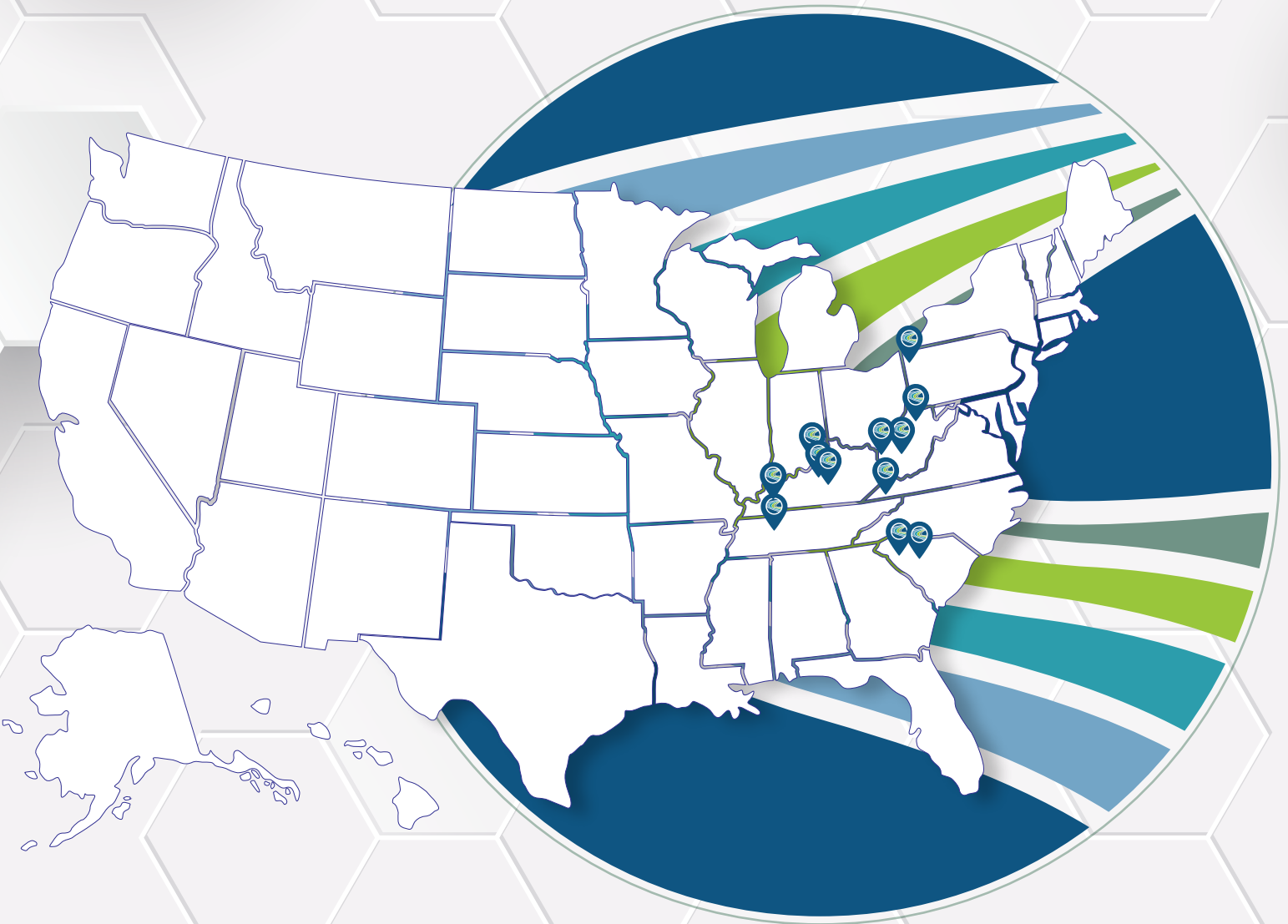
CITCO WATER





Coverage

Solutions driven.
Commitment given.



From chemical, smart meter, engineering and technology, to inventory, hardware, and repair, we have every aspect covered.

Committed to help take water from the source, deliver it to the consumer, and return it back to the source.

CitcoWater.com



**INTEGRATED
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