

Municipal Activated Sludge

903 is a biological product specifically formulated to be effective in enhancing municipal waste water biology during colder winter months.

Through extensive research activities, 903 has been developed to involve 14 strains of bacteria, which have been selected for their ability to perform under both aerobic and anaerobic conditions, and to biodegrade organic material comprised of proteins, fats, carbohydrates and select hydrocarbons.

To assure rapid establishment in the biomass, 903 is produced and blended with select biological nutrients and stimulants. 903 produced under ISO 9001:2008 certified quality conditions.

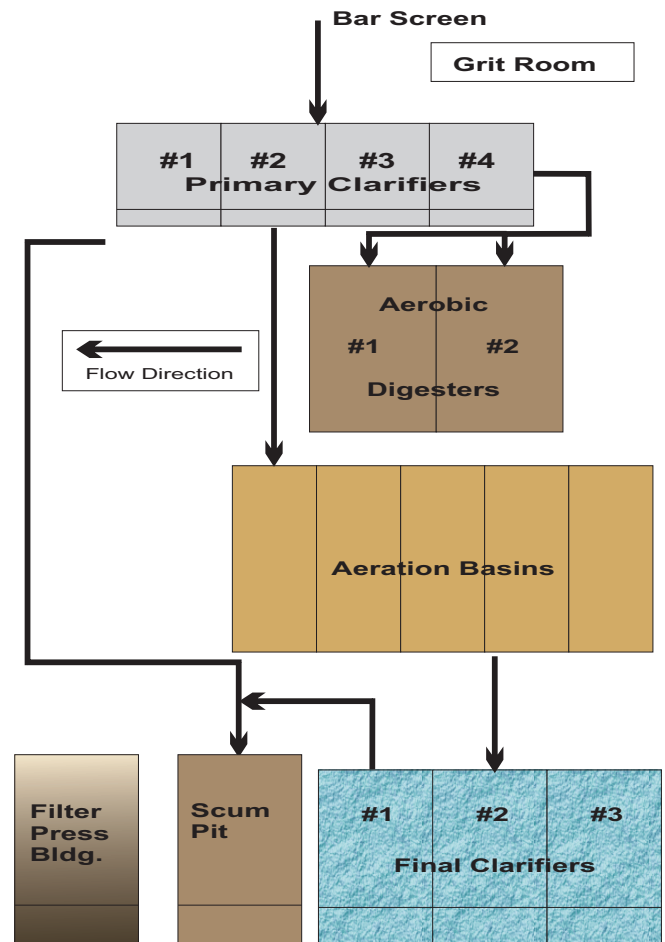
903, with its aerobic and facultative anaerobic microorganisms, establishes and maintains a biomass which, by providing greater resistance to the effects of organic inhibitors present in municipal waste waters, is able to perform more effectively than the naturally occurring biomass. 903 ensures that the natural mechanism for the selection of the biomass population is presented with a range of selected microorganisms. These aerobic and facultative anaerobic bacteria have been taken from their natural environment and then adapted to give optimum performance.

903 is approved for use under the classification of drain cleaners by the Canadian Food Inspection Agency.

Benefits of 903:

- Reduce Sludge
- Improve Effluent
- Reduce Odors
- Fast Start-up

- Reduce sludge build-up
- Control grease, foaming, or scum formation
- Improve settling
- Reduce odors
- Produce an excellent effluent



- Ensure rapid biological start-up with suppression of undesirable filamentous bacteria
- Provide competitive organisms to reduce filamentous activity.



BIO-SYSTEMS
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Municipal Activated Sludge

Specifications

Form: Free-flowing granular powder
Color: Brown
Nutrient Content: Biological nutrients & stimulants
Plate Count: 5 billion per gram

Packaging

4, 8 & 16 oz. water soluble packages protected by a resealable overwrap. 25 lbs. per plastic pail • Bulk 25 lbs., 50 lbs. and 100 lbs.

Storage

DO NOT FREEZE! Store in a cool dry location. Do not inhale dusts, avoid excessive skin contact. SEE M.S.D.S.

Application Instructions

Treatment Plants

Flow Rate	Initial Dosage	Maintenance**
Up to 1,000 gpd	½ lbs. per day for 3 days	½ lb. per week
Up to 5,000 gpd	½ lbs. per day for 3 days	1 lb. per week
Up to 20,000 gpd	5 lbs.*	1½ lb. per week
Up to 50,000 gpd	8 lbs.*	2 lb. per week
Up to 250,000 gpd	15 lbs.*	¼ lb. per day
Up to 500,000 gpd	25 lbs.*	½ lb. per day
Up to 1 mgd	50 lbs.*	1 lb. per day
Up to 5 mgd	50 lbs. per mgd*	1 lb. per mgd per day
Up to 12 mgd	50 lbs. per mgd*	¾ lb. per mgd per day
Up to 100 mgd	30 lbs. per mgd*	½ lb. per mgd per day

*Spread this initial dosage out over the course of 10 days.

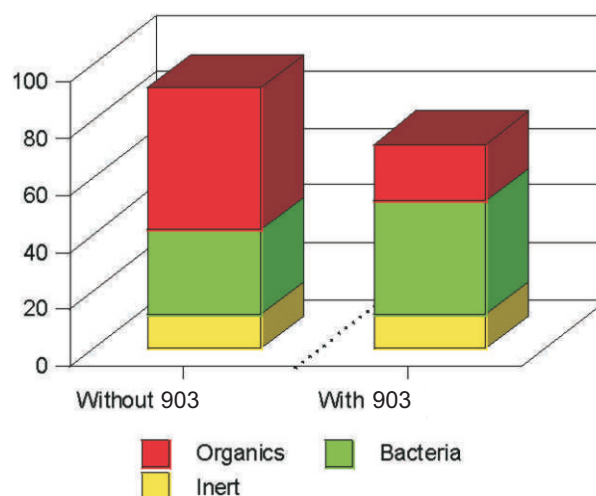
**Add as regularly as possible. If it is required to miss one day, add that day's product with the next dosage.

Dosage rate will vary with flow rates, retention times and system variations. The rates above are for a typical, well maintained system.

Activated Sludge Systems

Activated Sludge Systems include various process flow sheets for example: Extended Aeration, Contact Stabilization, Step Aeration, Oxygen Activated Sludge. The application rate for all products is based on the average daily flow rate to the aeration basin, excluding the return sludge stream. For seasonal or widely fluctuating flows, contact your local technical representative.

903 reduces the sludge produced in any type of secondary biological treatment system by improving the degradation of organic material and converting it to dead "Bugs" that weigh less and occupy less space.



Estimated Improvements:

High rate system with no primary clarifier: 25 to 35% reduction in dry solids produced.

Long retention time (greater than twenty four hours in aeration) with primary clarifier: 10 to 15% reduction in total dry solids.

Long retention time (greater than twenty four hours in aeration) without primary clarifier: 20% reduction in dry solids.

Further reduction in the amount of wet sludge hauled may be achieved because the solids dewater better too!

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