



## EM USED IN CLEANING SWIMMING POOLS IN ELEMENTARY AND JUNIOR HIGH SCHOOLS THROUGHOUT JAPAN

Two applications of EM were all it took to eliminate the need for chemicals and removed both foul odors and slime from the pools

The swimming season is finally upon us, and for public schools in Japan this means the problem of scrubbing the school pools to get them clean before school children use them. In Japan, school children take on the task of cleaning out their schools' swimming pools. This leads not only to pollution from the use of various chemicals, but also bad effects on the health of the children involved.

However, if a fixed appropriate amount of activated EM, and the leftover water in which rice has been washed (rinsed rice water ) that's then fermented with EM, are put into the pool prior to cleaning, this will help break down contaminants in the water and make the pool cleaning much easier. Beyond this, the pool then becomes a kind of living biology lab (biotope), providing the students a more enjoyable way to learn and a means to actually help clean the environment themselves. We encourage you to begin using EM in your own local elementary school pool so that the task of cleaning the pool becomes enjoyable.



It's fun cleaning, because it doesn't smell bad!



Clean swimming pool at the Minami Elementary School in Kitamoto City.

## LOCAL BOARD OF EDUCATION PROMOTES USE OF EM IN ALL SCHOOL POOLS IN THE CITY

EM is being used to help clean school pools in many elementary and junior high schools throughout Japan, but in Morioka City in Iwate Prefecture, three years ago the Board of Education called on all elementary and junior high schools in the city to use EM, and 38 local schools began to do so. And this year the Board of Education in Kitamoto City in Saitama Prefecture decided that all elementary and junior high schools in the city would use EM in cleaning swimming pools.

There are several factors that led to this decision in Kitamoto City: (1) A local environmental volunteer group, the "Kitamoto Eco Club," has been actively promoting the use of EM; (2) after a workshop in the City Hall on EM, the city began using EM in cleaning toilets in the City Hall, which has led to a reduction in odor; (3) a vocational aid facility(mentally and/or physically challenged special education institutes) in the city set up an EM activation tank and is able to provide large amounts of activated EM to schools; and (4) several local political and education leaders have been actively using EM in their own homes, including Ms. Setsuko Takahashi, member of the City Council, and Mr. Takeshi Nakajima, vice-chief of the Education Division of the Board of Education, who has had wonderful results using EM fermented kitchen waste in his own garden.

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## GRASSROOTS ENVIRONMENTAL MOVEMENT BEGINNING WITH SWIMMING POOLS

One other factor leading to the decision to have all schools in Kitamoto City use EM was the success three local schools experienced when they used EM to clean their pools. These schools found that EM helped (1) reduce algae, (2) reduce lichen, (3) make the water less cloudy and (4) improve the overall odor.

Masayasu Shimokawa, a teacher at one of the three schools, the Minami Elementary School, notes that, "In the past some pupils wore masks over their noses and mouths with towels wrapped around them because of the bad smell, but when we used EM there weren't any foul odors and the children enjoyed cleaning the pool. Use of EM has also reduced the amount of time we had to spend cleaning the pool." And Mr. Nakajima of the Board of Education, confident in promoting the use of EM, commented that, "There are no negatives involved in using it. It's good for children, and good for the environment."

Mr. Hideki Enomoto, principal of the Asunaro Gakuen a vocational aid facility that produces all the activated EM used in city schools, is especially pleased with the results. "Having all the schools in the city use EM," he says, "makes us feel we're really doing something worthwhile." Mr. Shimokawa adds that, "I hope we can use this experience to teach more about EM to further develop our environmental curriculum." Great hopes are held out for further joint ventures between local citizens involved in EM and local schools.

It should also be noted that the latest edition of an "Environmental Reader" targeting elementary and junior high school students in Kitamoto City includes information on EM, and students are now studying about EM as part of their regular curriculum. Perhaps adults will learn about EM from their children.

## TEACHERS, STUDENTS, AND LOCAL VOLUNTEERS: IN THE OFF SEASON, PREPARE ACTIVATED EM!

**STANDARD METHOD OF APPLYING EM:** Time period: Twice a year in the fall and spring

- In the fall, immediately following the end of the swimming season
- In the spring, approximately one month before draining the pool

Amount to use: 100-150 liters of EM-fermented rinsed rice water (or activated EM) in a ratio of 1:2,000-3,000 (EM-fermented rinsed rice water/activated EM to volume of the pool.)

**Note:**

- (1) For concrete pools and other surfaces that get dirty easily, use twice the normal amount of EM-fermented rice water and/or increase the number of applications.
- (2) Scrub the pool immediately after it's drained. If the surface of the pool is allowed to dry, it will be more difficult to clean.



Suggestions for Putting this into Practice:

- (1) As part of children's school curriculum on the environment.
- (2) As a joint effort among children, teachers, the PTA, and local volunteers.

Expected Results:

- (1) Bad odors will disappear.
- (2) The pool will be easier to clean, without the use of detergents, and will clean up more quickly.
- (3) There will be a reduction in the amount of slime, making the cleaning operation safer.
- (4) The bottom of the pool and the sides will be shinier and more appealing after cleaning.