

## How to Make Activated EM®

You can take one quart of EM•1® and turn it into 5 gallons of Activated EM®! When you purchase a quart of EM•1®, this is a first generation of the EM® culture. Because these are living organisms, they can reproduce into a second generation of the EM® culture. This second generation is called “Activated EM®” or simply AEM. However, this second generation of AEM no longer has a shelf life of six months—but has a shelf life of about 4 to 6 weeks. So be sure to activate only enough to meet your needs for that timeframe. Also, be sure not to try to produce a third generation of AEM from a second generation. The vitality of the microbes is diminished too severely, if this is attempted.

**Activating One Gallon.** Be sure to use a strong plastic container that can be sealed airtight. Because a fermentation process is taking place, a glass container may explode from the offgassing. Once the fermentation process begins, be sure to briefly open and shut the lid to “burp” the expanding gasses. Do this on a daily basis. When using a plastic one gallon container, there are sixteen cups per gallon. The formula for one gallon would be:  $\frac{3}{4}$  of a cup (6 oz) of EM•1®;  $\frac{3}{4}$  of a cup of molasses; and the rest of the container would be filled with water. It is recommended to use high quality purified water that has been micro-structured by the EM® Ceramics. Because the molasses is thick and hard to mix, it is a good idea to add the molasses first into the plastic container, and then add about two cups of warm water. Then close the container and shake it well. This helps to thin the molasses down. Then add the EM•1® and the remaining (room temperature) water. When the container is full, make sure that the lid is sealed tight. The ideal temperature for fermenting is about 100°F. In most cases, it is difficult to maintain this temperature at a consistent rate. So the fermentation process will be slower at normal room temperatures. When fermenting, it is okay to activate in a light area. When the AEM stops offgassing, then the fermentation process is complete - then place it in a dark, cool place. The fermentation process normally takes between 10-20 days to complete at room temperature – such as a cupboard. The completed AEM will have a sweet-sour aroma, and should have a pH level of 3.8 or lower—if you have a pH test kit. For activating smaller or larger quantities of EM•1®, the same procedures apply at the same ratios of 1:1:20 –which is: 1 part EM; 1 part molasses; and 20 parts water.

### Items Needed for Activating EM®:

- A clean airtight plastic bottle/a funnel/a measuring cup
- 1 part EM•1® or 5% of total volume
- 1 part Black Strap Molasses or 5% of total volume
- 20 parts water or 90% of total volume

**How to Use Activated EM®.** AEM can be used interchangeably at the same ratios as the first generation of EM•1®. The only difference is that the AEM has a shorter shelf-life. Activated EM® is a great way to keep the cost of applying EM® around the household at a very low minimum. Use the AEM for: *gardening, composting, cleaning your septic and sewer lines, cleaning your clothes, bathing your pets, odor and mold control, making bokashi, and for a broad variety of other household uses.* Be sure to share these environmental-quality application ideas with friends and neighbors!

**Helpful Hint:** Once the activation process is completed, place the contents of the larger container in smaller bottles. In that the activated EM® is an anaerobic fermentation end-product, the shelf-life of the AEM remains much longer when it is kept in air-tight containers. Use only what you need, one smaller bottle at a time.

**The Emerald Earth Company**  
328 S Guadalupe Street #K  
Santa Fe, NM 87501  
(505) 983-4014  
[www.emearth.com](http://www.emearth.com)