

Activated EM

(activating good microbes for the soil and other uses)

Activated EM is simply an economic way of using EM-1. There are several species of microbes in EM-1 that are in a stable balance (1 year shelf-life, 6 months after opening). When mixed with a feed, such as molasses, and water, the microbes activate and quickly expand in population. So, from 1 bottle, you can make 22 bottles. However, because they've been activated, they soon dissipate in numbers and should be used within 45 days. Therefore, you should make only as much as you will use and repeat the process every month or so.

How to Make Activated EM

Preparations

- **Water** - preferably warm tap water.
- **Implements** - bowl or bucket to mix in, measuring cup, PET plastic bottle(s), and (optional) a funnel.
- **Ingredients** - see list below.

Ingredients

- **1 part EM-1**
- **1 part molasses** (blackstrap, unsulfured sugarcane molasses, or other such high sugar material)
- **20 parts water** (*optional: heated to 100-120°F to make it easier to dissolve the molasses; otherwise, simply dissolve the molasses with a clean hand*)

Example for making 1 quart

For the above ratio of 1:1:20,

1 part EM-1, 1.5 fl oz of EM-1

1 part molasses, 1.5 fl oz of molasses

20 parts water, 30 fl oz

Go to How To Mix on next page.

For Making Enough To Fill Any Volume Size Bottle

1. Determine the **volume size** of your bottle (either from it's label or use a measuring cup). [Example: 320 fl oz]
2. **Divide** the volume size **by 22** (1 part + 1 part + 20 parts = 22 parts). Dividing the total volume by 22 will give you the amount of each part.
[Example: 320 fl oz ÷ 22 parts = 14.5 fl oz for each part]
3. Fill the bottle only about 1/4 full with water; add first 1 part molasses [14.5 fl oz] and swirl the bottle to get the molasses to fully dissolve; add 1 part EM-1 [14.5 fl oz]; fill the rest of the bottle with water; go to number 3 of How To Mix on next page.

How To Mix

1. Using a bowl or bucket that holds at least 1.5 quarts or more, mix in the EM-1 and molasses; make sure to dissolve all of the molasses (if by hand, rub inside the bowl or bucket until it's all gone, i.e., you don't feel the thick molasses on the bottom anymore).
2. Pour the mixture into a quart (or liter) size PET bottle, such as, a soda bottle which can handle any gas pressure buildup. A funnel would be helpful to pour into the bottle.
3. Let ferment for about 2 weeks. Store out of direct sunlight.
Optionally, you can use a pH meter or pH paper; when the pH is 3.7 or below, it is ready.

Daily check for gas build-up; release by very slightly opening cap; do so over a sink.

When ready, apply as suggested below, and use within 45 days. Store out of sunlight. Keep airtight and at room temperature.

Applications of Activated EM

The oz/gallon refers to fluid ounce of Activated EM per 1 gallon of water.

1. Use 1 oz/gallon for watering your garden and houseplants.
You can apply with every watering or at least once a week.
2. Use 0.5 oz/gallon for foliar feeding (spraying to the plant leaves),
or about 1 teaspoon/quart of water. Spray every other week or once a month.
3. For your regular laundry, use half the amount of your laundry detergent and the other half with Activated EM.
4. Use 10 oz/gallon for tough stains, especially on grime, greasy or oily stains or buildup, including ovens, oven hoods, drains, etc. For best results, let soak for several minutes.
5. Use 2 oz/gallon (2-3 teaspoons/quart) for odor problems, including urine, as well as for general cleaning (floors, windows, etc.). Use a spray bottle where useful.

The peak period within which Activated EM is most active is 15 to 30 days. Most of the microbes may still be viable within 45 days and most likely not beyond 60 days.

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Reference

EM Research Organization (EMRO) emro.co.jp (English version: emrojapan.com)
TeraGanix (teraganix.com) dba EM America

EM-I is OMRI Listed (Organic Materials Review Institute), omri.org, and can be used by certified organic operations.