

MONSTER FLESH

A form of play dough

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The Mad Scientist Monster Lab from Mattel, Inc., allows the user to “make disgusting, gross monsters...then sizzle the flesh off their bones!” The set includes a plastic Monster Vat, plastic monster “Bones”, Green Monster Flesh, and Secret Froth formula for Dissolving Monsters.

The green Monster Flesh Compound is a clay-like material made from silica gel, similar in texture to Play Doh (manufactured by Kenner Products), but not as water soluble. The Monster Flesh is mixed with Secret Froth Formula (sodium bicarbonate or baking soda) and molded onto a monster skeleton. The monster is then placed in a plastic tank containing a water solution of Monster Flesh Remover (citric acid, commonly sold as sour salt in the supermarket). The reaction between the sodium bicarbonate and citric acid produces sodium citrate and carbon dioxide resulting in bubbles of gas (“sizzle”) and breaking apart of the Monster Flesh into small pieces. Lemon juice or vinegar can be substituted for the citric acid.

The material made in this investigation is actually a play dough material. It can be used as a modeling material by itself or mixed with baking soda and used like Monster Flesh.

PROCEDURE

1. Materials needed:

Materials to prepare Monster Flesh, a form of play dough

1 cup flour

½ cup salt (sodium chloride, NaCl)

1 teaspoon alum (available from drugs stores. This may be ammonium alum, potassium alum, or sodium alum)

2 tablespoons vegetable oil

½ cup water

food coloring

large bowl or beaker (1000-mL) for mixing

plastic zip lock bag

Materials to use this as Monster Flesh

baking soda (sodium bicarbonate, Na₂CO₃)

citric acid (sour salt), or lemon juice, or vinegar

water

plastic cup or glass

plastic bone, popsicle stick, or waterproof toy figure

2. Safety Precautions

Alums are irritants. Wash your hands after handling it. Small amounts are not toxic. If ingested, contact a physician or a Poison Control Center.

Citric acid is an irritant. Wash your hands after handling it.

All other materials used in this experiment are not toxic. You should make it a practice to wash you hands after handing the Monster Flesh.

3. Experimental Procedure

A. Making Monster Flesh

Mix the flour, salt, and alum together in the mixing bowl or beaker. Add the vegetable oil and mix well.

Add 8 to 10 drops of food coloring to the water and stir.

Add the water a little bit at a time, mixing well between additions. Continue to add water until the material feels like dough. Don't worry if you do not use all the water.

Store the Monster Flesh in the plastic bag. It will keep longer if refrigerated.

B. Using Monster Flesh

To make a monster and then dissolve the flesh off its bones, take some monster flesh and mix it with some baking soda. Knead it well to get everything well mixed (If the mixture gets too dry, add a small amount of water). Take a small toy figure, toy skeleton, plastic dog bone, or a popsicle stick and apply the monster flesh to it molding it into a monster (or other creature).

To dissolve the flesh off the "monster", measure a teaspoon of citric acid and add it to a cup (8 ounces) of water. (You can use 3-4 tablespoons of lemon juice or vinegar.) Stir well. Add the monster and watch it sizzle.

You can also dissolve monster flesh by holding the monster flesh-baking soda mixture in your hand over a sink and pouring some vinegar onto it.

All liquids used can safely be poured down the drain. Throw all solid waste into the trash.

4. Disposal

Monster flesh may become moldy after a week or more. It can be disposed of in the trash without any special precautions.