

# GAK

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Nickelodeon™ Gak™ Splat, a product of Mattel, Inc., is a non-Newtonian fluid made from guar gum, that has properties between Silly Putty® and Slime®. Gak™ is thick and will stretch and break like Silly Putty®, but it will flow and is cold to the touch like Slime®. The Gak™ can be twisted and squeezed and different colors can be mixed. Gak™ is stored in an amoeba shaped plastic container called a “Splat” and will make rude noises when stuffed in the Splat.

There were several Gak™ toys available. A Gak™ Inflator which is used pump Gak™ up into bubbles and then burst it. A Gak™ Vac which sucks Gak™ up and spits it out. A Gak™ Copier in which Gak™ is used to transfer drawing made with a water soluble felt-tip pen from paper to itself and then to another sheet of paper. A make-it-yourself Gak™ kit.

A variation of Gak™, called Flubber™ was available from Cap Toys. Slightly stiffer than Gak™, Flubber™ appears to be marketed specifically for producing loud, gross, anti-social noises when it is pushed into its container.

Gak™ and Flubber™ will dry out during use. To extend the life of these materials, dip them in water before storing them overnight in their air-tight containers.

This procedure also includes a procedure to prepare a glow-in-the-dark Gak, called GlowGak (marketed under the name of Solar Gak) by the addition of phosphorescent zinc sulfide.



# ELMER'S GLUE GAK

## PROCEDURE:

### 1. Materials needed:

Elmer's white glue  
talcum powder (Baby powder)  
water  
saturated borax solution, sodium borate,  $\text{Na}_2\text{B}_4\text{O}_7 \cdot 10\text{H}_2\text{O}$ . Use 20 Mule Team Borax or equivalent, from the Grocery Store, do not use Borateem. (Prepare solution by mixing borax with water until no more dissolves)  
stirring rod or popsicle stick  
5 oz plastic or paper cup  
1 teaspoon measure  
food color  
Zip-loc bag for storing Gak

### 2. Safety Precautions

Borax, sodium borate, is moderately toxic in quantities of more than one gram per 1000 g of body weight. Wash any borax from the hands with water. Wash hands after handling the Slime.

Do not allow Gak to remain on clothing, upholstery, or wood surfaces. The Gak will stain or mar the surface. Clean up any spilled Gak immediately.

### 3. Removing Gak from Clothing, Furniture, or Rugs

Gak can be removed from carpets, furniture, and clothing by washing with soap and water.

### 4. Experimental Procedure

Measure 1 level teaspoon (5 mL) of talcum powder and place it in a 5 oz paper cup.

Add 25 mL (5 teaspoons) Elmer's glue, and 20 mL (4 teaspoons) water. Stir well to mix all ingredients.

Add up to 5 drops of food color to the materials in the paper cup and stir well.

Add 5 mL (1 teaspoon) of borax solution (use 1 level tablespoon borax for each one cup water) and stir well.

Remove the Gak from the cup. Pull the solid off the stirrer. The Gak may be sticky at first but will become less sticky after handling. Dispose of the paper cup and any remaining liquid in the trash.

The Gak should stretch and flow easily, but it will tear if pulled hard.

The Gak will dry out and become less stretchy after handling. It can be re-hydrated by mixing with a small amount of water before storage.

Store the Gak in a plastic bag.

# GUAR GUM GAK

## PROCEDURE:

### 1. Materials needed:

guar gum, powder, available at some health food or natural food stores  
talcum powder (Baby powder)  
glycerin, available at drug stores  
water  
saturated borax solution, sodium borate,  $\text{Na}_2\text{B}_4\text{O}_7 \cdot 10\text{H}_2\text{O}$ . Use 20 Mule Team Borax or equivalent, from the Grocery Store, do not use Borateem. (Prepare solution by mixing borax with water until no more dissolves)  
stirring rod or popsicle stick  
5 oz plastic or paper cup  
1 teaspoon measure  
food color  
Zip-loc bag for storing Gak

### 2. Safety Precautions

Borax, sodium borate, is moderately toxic in quantities of more than one gram per 1000 g of body weight. Wash any borax from the hands with water. Wash hands after handling the Slime.

Do not allow Gak to remain on clothing, upholstery, or wood surfaces. The Gak will stain or mar the surface. Clean up any spilled Gak immediately.

If the Gak gets moldy. dispose of it in the trash.

### 3. Removing Gak from Clothing, Furniture, or Rugs

Gak can be removed from carpets, furniture, and clothing by -washing with soap and water.

### 4. Experimental Procedure

Measure 1 level tablespoon (15 mL) of talcum powder and place it in a 5 oz paper cup.

Add 100 mL (a little less than 1/2 cup) water and 5 mL (1 teaspoon) glycerin. Stir well to mix all ingredients.

Add up to 5 drops of food color to the materials in the paper cup and stir well.

Add 1/2 teaspoon of guar gum and stir well.

Add 10 mL (2 teaspoons) of borax solution (use 1 level tablespoon borax for each one cup water) and stir well.

Remove the Gak from the cup. Pull the solid off the stirrer. The Gak may be sticky at first but will become less sticky after -handling. Dispose of the paper cup and any remaining liquid in the trash.

The Gak should stretch and flow easily, but it will tear if pulled hard.

The Gak will dry out and become less stretchy after handling. It can be re-hydrated by mixing with a small amount of water before storage.

Store the Gak in a plastic bag.

## GLOW GAK

### PROCEDURE

#### 1. Materials needed:

Elmer's white glue  
talcum powder (Baby powder)  
zinc sulfide, ZnS, phosphorescent powder (Flinn Scientific no. Z0015)  
water  
saturated borax solution, sodium borate,  $\text{Na}_2\text{B}_4\text{O}_7 \cdot 10\text{H}_2\text{O}$ . Use 20 Mule Team Borax or equivalent, from the Grocery Store, do not use Borateem. (Prepare solution by mixing borax with water until no more dissolves)  
stirring rod or popsicle stick  
5 oz plastic or paper cup  
1 teaspoon measure  
food color  
Zip-loc bag for storing Gak

#### 2. Safety Precautions

Borax, sodium borate, is moderately toxic in quantities of more than one gram per 1000 g of body weight. Wash any borax from the hands with water. Wash hands after handling the Gak.

Zinc sulfide is not toxic. In contact with acids, zinc sulfide will produce hydrogen sulfide, a toxic gas.

Do not allow Gak to remain on clothing, upholstery, or wood surfaces. The Gak will stain or mar the surface. Clean up any spilled Gak immediately.

#### 3. Removing Gak from Clothing, Furniture, or Rugs

Gak can be removed from carpets, furniture, and clothing by -washing with soap and water.

#### 4. Experimental Procedure

Measure 1 level teaspoon (5 mL) of talcum powder and place it in a 5 oz paper cup.

Add 1 g (a level 1/8 teaspoon measure) phosphorescent zinc sulfide. Stir to mix.

Add 25 mL (5 teaspoons) Elmer's glue, and 20 mL (4 teaspoons) water. Stir well to mix all ingredients.

Add 1 or 2 drops of food color to the materials in the paper cup and stir well. Avoid an excess of food color (see note below).

Add 5 mL (1 teaspoon) of borax solution (use 1 level tablespoon borax for each one cup water) and stir well.

Remove the GlowGak from the cup. Pull the solid off the stirrer. The GlowGak may be sticky at first but will become less sticky after -handling. Dispose of the paper cup and any remaining liquid in the trash.

The GlowGak should stretch and flow easily, but it will tear if pulled hard.

Expose the GlowGak to a bright light, then take it into a dark room. What do you observe?

The GlowGak will dry out and become less stretchy after handling. It can be re-hydrated by mixing with a small amount of water before storage.

Store the GlowGak in a plastic bag.

**Note:** Food color tends to mask the phosphorescent glow of the zinc sulfide. If more than 3 drops of food color is used, increase the zinc sulfide to 1.5 or 2 g.