St. Joseph County 4-H

Soap Making

(Be sure to read "Soap Making Safety Precautions" on page 3 for soaps made using "lye".)

General Rules:

1. The purpose of this project is to provide 4-H members with an opportunity to learn how various types of soap are made, then experiment with making soaps they enjoy using and/or giving as gifts.

2. It is very important that everyone involved with the project (members, leaders and parents) read the soap making **"Safety Precautions"** listed on page 3 before starting this project.

3. Exhibit must include the required number of samples of different types of soap made, plus a Soap Making Project **notebook**. The notebook must be added to each year, with each year's information separated by a tabbed divider. Notebook must include a ***Soap Recipe Sheet*** for soap made with "Lye" (Section ZG) and for each different "basic" recipe used in a given project year (effective with the 2001 4-H program year). For example, if you use the same basic recipe to create two or more different types of soaps (i.e. you add different fragrances/beneficial ingredients to create different "types" of soap from one batch of soap), you only need to complete one "Soap Recipe Sheet" to cover the different types of soap made with the same basic recipe. **Optional:** You may also include additional soap making-related information in your notebook, if desired, on topics such as soap making procedures, ingredient sources/costs, "enhancement" options/costs, the history of soap making, etc.

4. Samples of the different soaps made must be displayed on a cardboard cake decorating "round" or "square" of appropriate size to attractively accommodate the soaps made. The round/square must be covered with a white paper doily. Each soap sample must be clearly and neatly labeled with the type and/or name of the soap.

5. Exhibit (including soaps made and project notebook) must show improvement in skills/increase in knowledge over previous year's work.

6. Soap "enhancements" include any ingredient that has been added to a basic soap recipe to provide color, fragrance and/or beneficial properties. Examples of "enhancement" ingredients include natural/synthetic colorants, essential oils, fragrant oils, "texturizers" (i.e. oatmeal, cornmeal, etc.) and ingredients such as rose hips, herbs, wheat germ oil, vitamin E, etc. that add beneficial properties to soap (i.e. soften skin, nourish skin, etc.) **Note:** "Essential" oils are oils obtained from plants and are usually fairly expensive, however, just a little goes a long way! "Fragrant" oils are synthetic versions of essential oils, and are significantly less expensive. Other fragrance options include "fun scents" such as peach, raspberry, chocolate, etc. ***Very Important!*** Make sure that any and all colorants, essential oils, fragrant oils and/or other "enhancements" you add to your soap are cosmetically safe! Many soap making books include a list of safe ingredients that can be added to soap.

7. Work on coming up with different soap "mold" shapes from year to year as you progress through the project. There are many inexpensive mold shapes you can come up with using "containers" that have held other household items such as plastic cookie/cracker trays, etc. Use your imagination!

Section A – Melt and Pour Soaps

1. This section is open to exhibitors of all ages.

2. Exhibit to include sample of 3-5 different types of soap made by exhibitor, plus Soap Making Project notebook.

3. Members are encouraged to experiment with different cosmetically safe "enhancements", plus different soap molds.

4. Examples of different types of "melt and pour" soaps include, but are not limited to, transparent (clear) or opaque (white) "base" soaps to which you have added one or more "enhancements".

Section B – Soaps Made with "Lye" (Sodium Hydroxide [A] or Potassium Hydroxide [B])

1. This section applies to soaps that are made with recipes that require the use of either sodium hydroxide or potassium hydroxide, which when combined with water during the soap making procedure, result in a chemical reaction called saponification (pronounced "sa-pon-if-i-ca-tion") that converts fats/oils into soap.

2. Please be aware that both sodium hydroxide and potassium hydroxide are caustic chemicals that can cause chemical burns if not handled properly. It is very important that you read the "Safety Precautions" on page 3 before starting to work with a recipe that requires either of these ingredients.

3. Exhibit to include number of samples of different types of soap as required for age level, plus Soap Making Project notebook.

4. Members are encouraged to experiment with different cosmetically safe "enhancements", plus different soap molds.

5. Examples of different types of fats that may be used to make soap using either a sodium hydroxide or potassium hydroxide saponification process include, but are not limited to, animal fat (tallow, lard), vegetable shortening/oil, olive oil, coconut oil and palm oil. Fats/oils may be used either individually or in combination depending on the recipe.

6. This section is divided into three age levels for competition at fair. The three age levels and the exhibit requirements for each are as follows:

   - **Beginner** (9-11 year olds by January 1 of current project year) - Exhibit sample of two (2) different types of soap made by exhibitor, plus Soap Making Project notebook.
   - **Intermediate** (12-14 year olds by January 1 of current project year) - Exhibit sample of 3 - 5 different types of soap made by exhibitor, plus Soap Making Project notebook.
   - **Advanced** (15-19) year olds by January 1 of current project year) - Exhibit sample of 3 - 5 different types of soap made by exhibitor, plus Soap Making Project notebook.

References:

"Soap: Making It, Enjoying It" by Ann Bramson
"The Soapmaker's Companion" by Susan Miller-Cavitch
"Making Soap for Fun & Profit" by Linda Inlow

[A] Sodium Hydroxide – used in making bar-type soaps

[B] Potassium Hydroxide – used in making "soft" and liquid soaps (i.e. hand soap, shampoo, etc.)

Attention! **See page 3 for "Soap Making Safety Precautions" for soaps made with "lye" ➔ ➔ ➔**

Soap Making Safety Precautions

For Soaps Made with "Lye" (Sodium Hydroxide or Potassium Hydroxide)

Sodium hydroxide and potassium hydroxide (both classified as forms of "lye") are caustic chemicals that can cause chemical burns if not handled properly. Be sure to follow these safety precautions when working with either of these chemicals in a soap making process:

1. **ALWAYS wear eye protection (goggles) and rubber gloves.** Clothing should consist of long sleeve shirt, long pants and socks and shoes.

2. **AVOID breathing the dust released and fumes created** when adding either sodium hydroxide or potassium hydroxide to water. **ALWAYS work in a well-ventilated area!**

3. **DO NOT use aluminum pans, utensils, or foil with soap recipes that require the use of sodium hydroxide or potassium hydroxide**, since these chemicals will react with aluminum. Stainless steel is the container/holding vessel of choice when using either of these caustic chemicals in a soap making process.

4. **ALWAYS add the sodium hydroxide or potassium hydroxide slowly to water. NEVER add water to either of these chemicals!**

5. **"CURE" SOAPS made using sodium hydroxide or potassium hydroxide 3 - 6 weeks before using.** If in doubt whether the soap is properly "cured" test the "pH" of the soap. A "pH" test measures the relative acidity or alkalinity of a substance. The pH scale ranges from 0 to 14, with 7.0 being "neutral" (neither acidic nor alkaline), and numbers less than 7.0 representing "acidic" substances, and numbers greater than 7.0 representing "basic" substances. Soaps that are properly cured and safe to use should have a pH in the range of 5.5 - 8.0.