LEE S. MCDONALD, INC. est. 1976
THE SOURCE FOR THE PAPER ARTS

SODA ASH Sodium Carbonate, Na_2CO_3

Soda Ash is used by hand papermakers to break down various cellulose materials to prepare them for beating. It is the most common chemical used for cooking fibers and is less harsh in its effects than caustic soda. Soda Ash should be used at the rate of 18 to 20 gms for every 100 gms of dry fiber. For more complete instructions, see our cooking instructions handout.

COOKING INSTRUCTIONS FOR ORIENTAL FIBERS

The Kozo, Mitsumata, and Gampi we sell have been cleaned and are ready to be cooked. Some additional cleaning will be necessary at various stages of the process, such as after cooking and during beating.

Cooking with Soda Ash

Soak the fiber overnight in warm water to soften the fibers, then drain. The fiber must be cooked in a caustic solution. (1/4 lb. of dry fiber to 1 tablespoon of Soda Ash-or a proportion of up to 20% to the weight of dry fiber is suggested as an average.)

Add one tablespoon of Soda Ash slowly to one quart of cold water. (Do not use aluminum pots and/or pans.) Bring to a slow boil, add 1/4 lb. of fiber to boiling water, turn heat to low simmer, cover and cook for two to three hours. The longer you cook the fibers, will result in softer paper.
Rinse cooked fibers in a colander until water runoff is clear. After the fiber is cooked long enough for the fibers to be easily pulled apart, it can be cleaned again to remove impurities, and hand beaten until the fibers shred willingly. Good fiber feels like silk or matted hair after washing. To determine when the fiber is ready for the vat, try a dispersion test of fiber and water in a clear jar, and shake well. If clumps are not visible, it is ready for the vat.

Health Hazards Information:

KEEP OUT OF REACH OF CHILDREN !!!!
Inhalation of soda ash dust may irritate throat and lungs. Use a respirator approved by NIOSH for product dusts. Get medical attention for irritation or discomfort as a result of inhalation. INGESTION can be harmful. Drink large quantities of water to dilute the material. DO NOT INDUCE VOMITING. Consult a physician immediately.
SKIN CONTACT: Prolonged contact may cause skin irritation. Wear long sleeves, trousers, and gloves when making stock solutions. Avoid splashes. Gloves should be impervious to solutions of soda ash (most rubber gloves will work). If contact with skin is made, wash with plenty of water.
EYES: May irritate or burn eyes. Goggles or other eye protection should be worn . Do not wear contact lenses. If contact with the eyes is made, flush with plenty of water for at least 15 minutes and get medical attention.

Precautions and Procedures:

Use local exhaust if dusty conditions prevail. In normal handling, avoid eye contact or prolonged skin contact. Avoid breathing dust. When dissolving, add to water cautiously while stirring. Avoid splashing. Solution may get hot.
STORAGE: Store in a cool, dry place away from acids. Prolonged storage may cause product to cake from atmospheric moisture.
SPILLS: Spills of dry soda ash should be shoveled into an empty container. Flush residue with plenty of water.
DISPOSAL: Dissolve in water using caution, as solution can get hot. Neutralize with acid and flush to sewer with plenty of water.

Special Precautions:

- Avoid simultaneous exposure to soda ash and lime dust. In the presence of moisture, the two materials combine to form caustic soda (NaOH), which may cause burns.
- Contact with acids releases carbon dioxide gas.

LSM, INC. PO BOX 290264 CHARLESTOWN, MA 02129 TEL: 617 242-2505 FAX: 617 242-8825 **MCPAPER@AOL.COM**

Please read for your protection: Warranty information
All information and suggestions in this product handout is only the opinion of Lee S. McDonald Inc. Since each artist has their own personal technique, and other numerous factors are involved, we cannot guarantee that the products will perform to each individuals' satisfaction. Testing of our products should be undertaken by the consumer to determine whether the product meets the intended needs. The user is responsible for final determination of suitability. Lee S. McDonald Inc. makes no warranty of any kind, express or implied, other than that the material conforms to its applicable current Standard Specifications. The responsibility of Lee S. McDonald Inc. for claims arising out of breach of warranty, negligence, strict liability, or otherwise, is limited to the purchase price of the material or product. We cannot be liable for the occurence of incidental or consequential damages.

*For more health information contact the product safety line:#1-800-631-8050 or your local poison control center. Data safety sheets on this product are on file. For more information on art hazards and safety, consult the Center for Occupational Hazards, 5 Beekman St. New York, NY 10038.

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Measurement Table

Fluid Measures:

			1Tbsp	=	3 tsp.			
	1 fl. oz	=	2 Tbsp					
	8 fl.oz	=	1 cup					
	16 oz.	=	2 cup	=	1 pint			
	32 oz.	=	4 cup	=	2 pt.	=	1 quart	
	128 oz	=	16 c	=	8 pt.	=	4 qt.	= 1gal.
	1 milliliter	=	.0338 oz.					
	15 ml.	=	1 tbs.					
	29.57 ml.	=	1 oz.					
	.03 liter	=	1 oz.					
	1 liter	=	33.81 oz.		2.11 pt.	=	1.06 qt.= .26 gal.	
	.473 liter=	1 pt.						
	.946 liter=	1 qt.						
	3.785 liters	=	1 gal.					

Apothecary Measures:

fluid	1 fl. dram	=	.125 oz.		
	8 fl. dram	=	1 oz.		
	128 fl. dram	=	16 oz.	=	1 pt.

Weight Measures:

dry	1 gram	=	.0353 oz.		
	28.35 grams	=	1 oz.		
	453.6 grams	=	16 oz.	=	1 lb.
	.45 kg.	=	16 oz.	=	1 lb.
	1 kg.	=	35.27 oz.	=	2.3 lb.

1 Gallon of water at room temp. weighs approx. 8 1/3 lb.

1 pint " 1 lb.

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