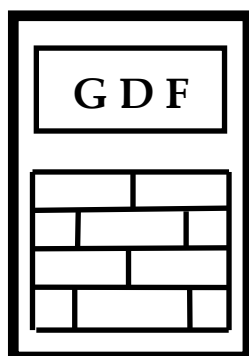


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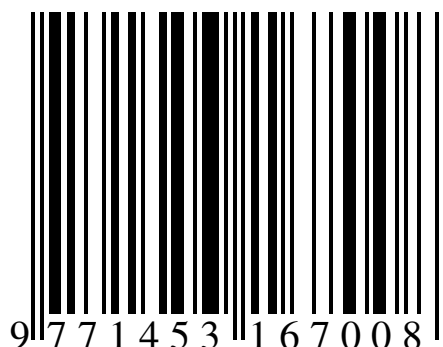
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Good quality home made soap in high efficient conditions

Detergents are extensively used in a wide variety of fields and have more and more powerful cleaning effect, but side effects connected with traces on object surface affects our health for long time. These traces are organic staff allowing development of pathogen germs more and more resistant to antibiotics and representing a major risk especially for public places: hospitals, kindergartens, schools, restaurants, abodes, etc. Even cosmetic soaps eliminated progressively the classic formula of natural fats of animal and/or vegetal origin becoming simply detergent products with synthetic additives having harmful effects on the skin.

Classic soap based on animal fats and vegetal oils according to receipts concerning both a large variety of ingredients and procedures most of them are applied at small scale especially in one family houses. Unfortunately, almost of these receipts have the following drawbacks: (i) are based on long time boiling of ingredients; (ii) plenty of energy, water, time and big working space; (iii) the resulted mixture needs further processing in view to separate clean soap from impurities.

In the present note an original reactor and procedure are described for obtaining clean and high quality classic soap in high efficient conditions: short time, small working space, with low energy consumption, the resulted soap is clean and does not need additional separations and the clear lye can be recycled.

The saponification assembly (reactor) is shown in Figures 1 and 2. The reactor mainly consists in a plastic pipe with the overall capacity of approximately 30 L, thermally and chemically resistant at around 100 °C and heavy alkaline medium, respectively, in vertical position and thermally insulated in which the ingredients are mixed up according to a special receipt by using a pestle (Figure 3).

Materials and additional tools:

- 2 stainless steel cooking vessels of 9-10 L capacity each;
- 2-3 plastic buckets of 10-15 L each (recommended made from polypropylene, PP or high density polyethylene, HDPE);
- a long tale stainless steel spoon used for mixing in the above mentioned vessels;
- 2 plastic washing basins of approximately 5 L;
- 1 plastic (PP) cup with handle of approximately 1 L capacity to transfer hot and cold water;
- 1 long knife (250-300 mm);
- Rubber/plastic protection gloves also resistant to heavy alkaline/caustic medium.

Ingredients for 1 dose of soap:

- 1 kg pellets of pure and anhydrous caustic soda;
- 0.5 kg washing soda in powder;
- approximately 2 L of vegetable oil and/or animal fats carefully collected from kitchen activities.

Working procedure:

- the mixture of oil and fat is added with tap water and/or recycled lye up to 7-8 L in a cooking vessel and put on the fire to boil. It is necessary to watch and to mix up especially near to boil in view to not boil over;
- 7-8 L of tap water in a second vessel to boil;
- In the meanwhile the reactor is fixed to a fence, poll or wall in view to be stable during vigorous mixing (see Figure 2);
- When the liquids in the two vessels begin to boil are poured in the reactor;
- The mixture is permanently and vigorously agitated with pestle adding the caustic soda. The mixture will be heated up caused by a violent exothermal reaction between caustic soda and water.

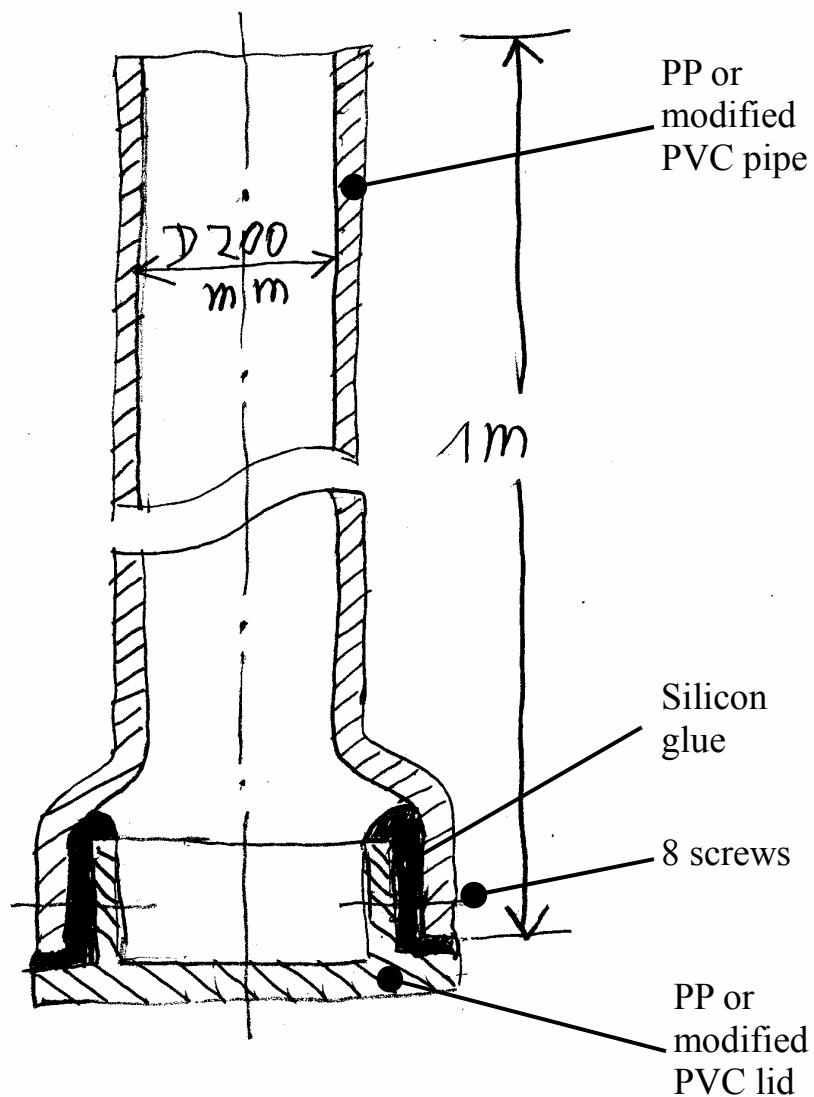


Figure 1. Cross section of the reaction tube.

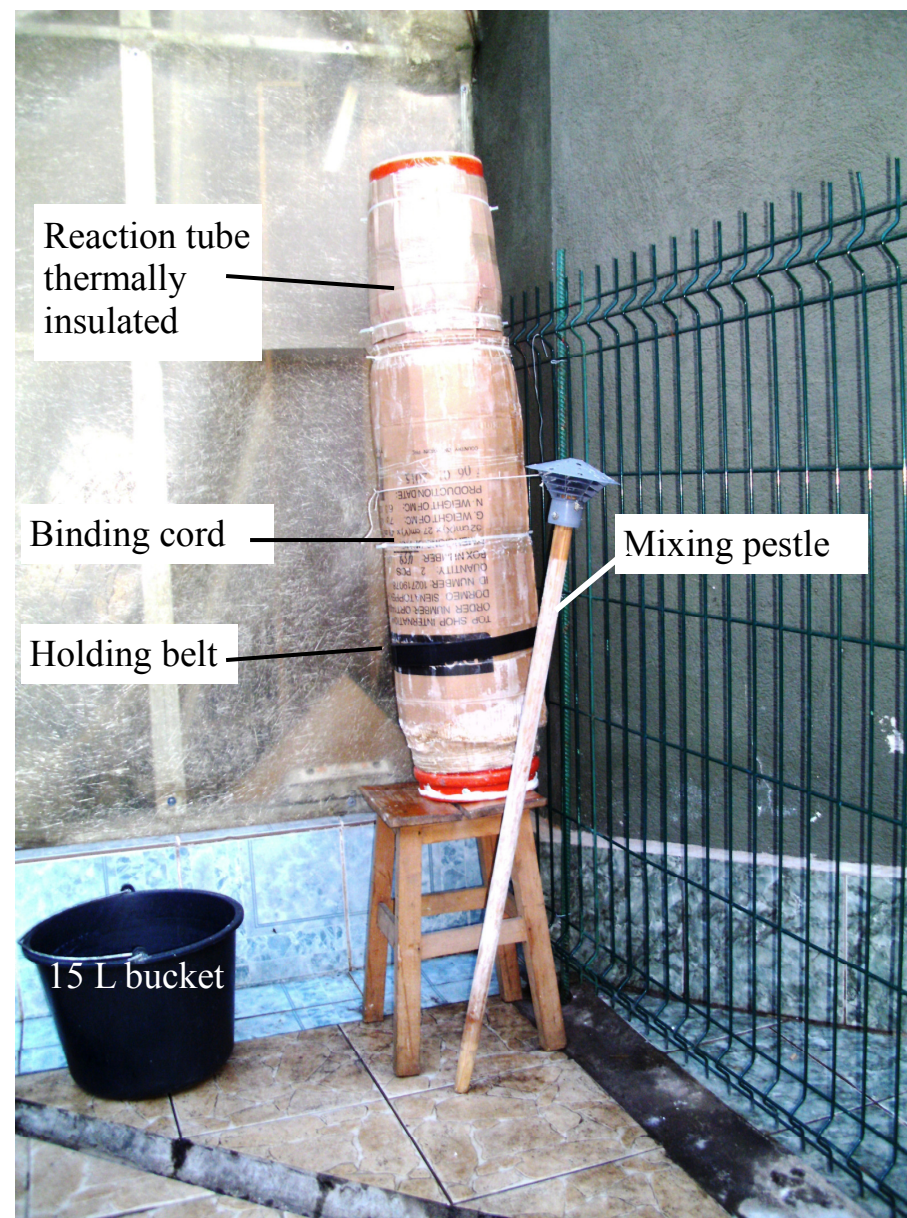


Figure 2. Picture of operating assembly.

- The vigorous mixing must be continued approximately 15-20 minutes, but the saponification reaction is evident immediate after addition of caustic soda. After mixing interruptions the white and clean soap appears at the surface of reaction mixture, but the vigorous mixing must be continued in rounds of 1-3 minutes with same interruption periods up to 1-2 hours by progressively adding 100-500 g powder of washing soda. The amount of washing soda depends on the nature and composition of initial mixture of oil and fat and the desired consistency of the resulted soap.

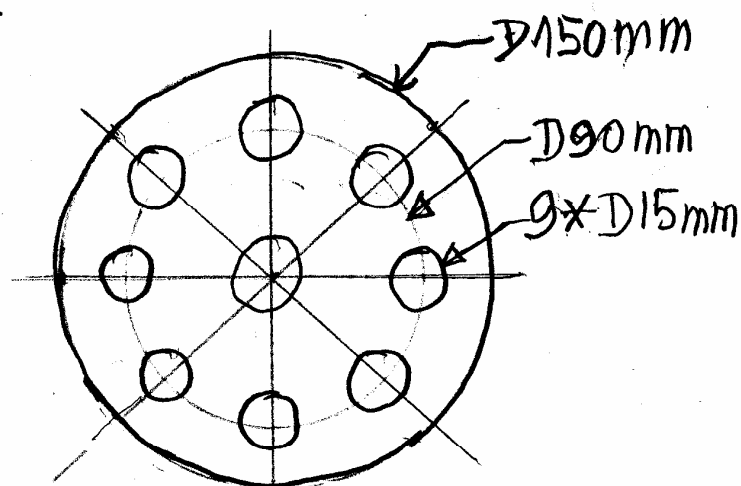


Figure 3. End view of the pestle with 9 holes for efficient mixing.

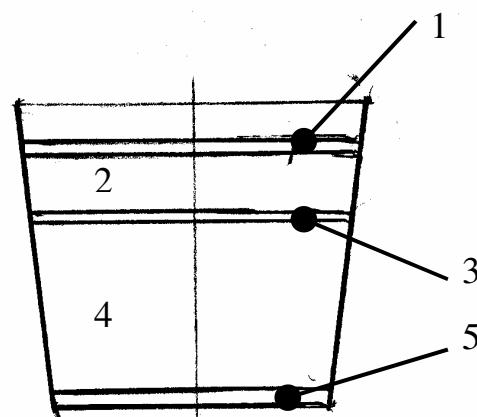


Figure 4. Cross section of the bucket with the resulted reacted mass after at least of 24 hrs. 1– partially reacted grease; 2– clean soap; 3– light dirt; 4– clear lye; 5– heavy dirt.

- Finally the mixture is poured in one or two buckets (the amount is good to be equally distributed) and kept covered at least for 24 hours at ambient temperature.
- The reactor and pestle do not need to be cleaned.
- The reacted mixture is separated as is shown in Figure 4. The dirty components and the purity of lye depends on the quality of initial oils and fats. Important fact is that these impurities are already separated from the clean soap and can be removed easily. By keeping the exact procedure there will not result unreacted layer (1, Figure 4).
- The clean solid soap is removed from the buckets by using the knife, plastic wash basins and gloves. Its surface must be cleaned with knife, washed with tap warm water and put on a plastic foil to get dry. I recommend using flakes and/ or liquid soap by dissolving it in hot water and kept in PET bottles. The solid clean soap resulted as a dose becomes finally up to 10 L of liquid soap easy to use.

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Previous issues of GDF DATABANKS BULLETIN

Year	VOL	NO	Content (titles)	(\$*)
1997	1	1	Editorial: Databanks – the compulsory language. LOGKOW – a Databank of evaluated octanol-water partition coefficients (James Sangster). Solubility behavior introducing topoenergetic working principles. Comments on 1-octanol-water partition of several n-alkane related series.	F
1997	1	2	Guide of good practice in metrology (Romanian)	AFI
1998	2	1	Editorial: socio-psychological implications in creation and utilization of a databank (Ioan-Bradul Iamandescu); Behavior in vapor-liquid equilibria (VLE): I. Structural aspects; Behavior in vapor-liquid equilibria: II. Several structures in databanks; Symposium on VDC-4 held on 30 October 1997 at Lubrifin-SA, Brasov (Romania).	F
1998	2	2	Practical course of metrology (Romanian)	AFI
1998	2	3	DIFFUTOR-01: Thermally driven diffusion in pure metals	AFI
1998	2	4	VAPORSAT-01: Databanks of thermally driven VLE. The first 100 simple molecules	AFI
1999	3	1	Editorial: New trends in material science: nanostructures (Dan Donescu) DIFFUTOR: Databanks of diffusion kinetics. VAPORSAT: Databanks of vapor-liquid separation kinetics.	F
1999	3	2	Discussions on Applied Metrology	AFI
2000	4	1	Editorial: Laboratory accreditation and inter-laboratory comparisons (Virgil Badescu) Doctoral Theses – important data banks. GDF intends to open new series of experiments on thermo-physical properties. Some comments on uncertainty: global budget and DFT analysis. Events: The 9 th International Metrology Congress, Bordeaux, France, 18-21 October 1999.	F
2000	4	2	Measurement and Calibration.	AFI
2001	5	1	Editorial: Metrology ensures moral and technological progress. Topoenergetic aspects of amorphous-crystalline coupling. I. Composite behavior of water and aqueous solutions (paper presented at nanotubes and Nanostructures 2001, LNF, Frascati, Rome Italy, 17-27 October 2001). Events: Nanotubes and nanostructures 2000.School and workshop, 24 September – 4 October 2000, Cagliari, Italy.	F
2001	5	2	Editorial: Viscosity – a symptomatic problem of actual metrology. Visco-Dens Calorimeter: general features on density and viscosity measurements. New vision on the calibration of thermometers: ISOCALT® MOSATOR: Topoenergetic databanks on molten salts properties driven by temperature and composition.	F
2002	6	1	MOSATOR-01: Topoenergetic databanks for one component molten salts; thermally driven viscosity and electrical conductance.	AFI
2002	6	2	Editorial: HuPoTest - Operator calibration or temporal scale psychic test. MOSATOR: topoenergetic databanks of one component molten salts; thermally driven viscosity and electrical conductance.	F
2002	6	3	Editorial: Quo vadis Earth experiment? ISOCALT® : Report on metrological tests	F
2003	7	1	Editorial: Time – an instrument of the selfish thinking. 1 st NOTE: Homoeopathy: upon some efficient physical tests revealing structural modifications of water and aqueous solutions. I. Mixing experiments.	F
2004	8	1	Metrological verification and calibration of thermometers using thermostats type ISOCALT® 21/70/2. Metrological verification and calibration of thermometers using thermostats type ISOCALT® 2.2R.	F
2004	8	2	Aspects of correct measurements of temperature. I. measurement of a fixed point according to ITS-90. Physics and Homoeopathy: some physical requirements for homoeopathic	F

			practice.(Plenary lecture at the 19 th SRH National Congress, 21-22 September 2004, Bucharest, Romania)	
2005	9	1	AWARD for ISOCALT® at the International Fair TIB-2004, October 2004, Bucharest. ISOCALT® 3/70/21 was awarded in a selection of 20 products by a commission of experts from the Polytechnic University of Bucharest. Upon some aspects of temperature measurements. (12 th International Metrology Congress, 20-23 June 2005, Lyon, France)	F
2005	9	2	A new technique for temperature measurement and calibration. National Society of Measurements (NSM). Important warning for T-calibrator users: MSA has chose metrology well calibrators from Fluke (Hart Scientific).	F
2005	9	3	Universal representation of Cancer Diseases. 1. First sight on NSW-2003 report. Universal representation of Cancer Diseases. 2. UK cancer registrations on 1999-2002. Vital Potential can estimate our predisposition for cancer diseases.	F
2006	10	1	NTC – thermistors -1	AFI
2007	11	1	HuPoTest - 40 years of continuous research Basic rules for preventing and vanishing cancer diseases Climate change = change of mentality Hot nuclear fusion – a project of actual mentality	F
2007	11	2	MT – Introduction to Mental Technology HuPoTest – general procedure, assignments of results, specimen of complete test, order and obtain your complete HuPoTest report	F
2007	11	3	TRESISTOR© - data banks of materials with thermally driven electric and magnetic properties TRESISTOR© - NTC -1 - data bank of NTC thermistors	AFI
2008	12	1	Australian population: life, death and cancer	F
2008	12	2	Pattern of Cancer Diseases	F
2008	12	3	Adiabatic calorimetry – summary description of the demo prototype	F
2008	12	4	Flight QF 30 and even more... Temperature calibration of NTC-thermistors. 1.Preliminary results.	F
2009	13	1	Proposal for interlaboratory comparisons. Calibration of NTC-thermistors (The 14 th International Metrology Congress, Paris, France, 22-25 June 2009).	F
2009	13	2	Sudoku – un algoritm de rezolvare. (Sudoku – an algorithm for solution).	AFI
2009	13	3	Cancer and Diabetes – as social diseases. (Open letter to all whom it may concern).	F
2010	14	1	Studies on cement hydration by High Resolution Mixing Calorimetry (HRMC).	F
2010	14	2	Measuring tools for subtle potentials; pas-LED: an efficient measuring tool for subtle potentials.	F
2010	14	3	Upon some features of cancer in Australia: 1982 – 2006.	F
2010	14	4	Cancer as an erosion process in human society.	F
2010	14	5	Cancer erosion in Australian human society: 1982 – 2006.	F
2010	14	6	Cancer erosion in German human society:1980-2008.	F
2011	15	1	Procedures and devices for energy and water saving. (I) (in Romanian).	F
2011	15	2	Structural and relativistic aspects in transforming systems. I. Arrhenius and Universal representations of thermally driven processes.	F
2011	15	3	Topoenergetic aspects of water structuring as revealed by ac electric conductivity.	F
2011	15	4	Topoenergetic aspects of human body	F
2011	15	5	HuPoTest: four month study of a case	F
2012	16	1	DTA study of water freezing. I. Upon some aspects of repeatability.	F
2012	16	2	DTA study of water freezing. II. Statistical features on one week of experiments.	F
2012	16	3	DTA study of water freezing. III. New facts on daily mental field.	F
2012	16	4	Mental field and state of health. Câmpul mental și starea de sănătate.	F

2013	17	1	DTA study of water freezing. IV. New facts on energy circuits.	F
2013	17	2	DTA study of water freezing. V. Effect of a mental antenna	F
2013	17	3	AC electric conductivity of untreated and mentally treated electrolyte aqueous solutions.	F
2013	17	4	DTA study of water freezing. VI. Mental field in a working day.	F
2013	17	5	DTA study of water freezing. VII. More statistical features on one week of experiments.	F
2013	17	6	HuPoTest: New measurements and results	F
2013	17	7	Time as unique base quantity. (Proceedings of the 16th International Congress of Metrology, 7-10 October 2013, Paris, France).	F
2013	17	8	Eurovision song contest. I. Basic social aspects	F
2013	17	9	Mental field-water interaction as evidenced by Isothermal Convection Flow Calorimetry (ICFC). I. ICFC description and preliminary results.	F
2013	17	10	1. Procedure for defining standard liquids for viscosity based on topoenergetic principles. 2. Topological aspects of flow and deformation in polymer composites, The VIII-th International Congress on Rheology, 1-5 September 1980, Naples, Italy, pp. 375-376. 3. Universal representation of flow behavior based on topoenergetic principles, The IX-th International Congress on Rheology, 8-13 October 1984, Accapulco, Gro. Mexico, pp.369-376. 4. Comments on "Universal representation of flow behavior based on topoenergetic principles", The IX-th International Congress on Rheology, 8-13 October 1984, Accapulco, Gro. Mexico, pp. 369-376. 5. Open letter to BRML and INM.	F
2014	18	1	Adiabatic calorimeter as high accuracy T-calibrator	F
2014	18	2	Mental field-water interaction as evidenced by Isothermal Convection Flow Calorimetry (ICFC). II. Effect of convection flow power.	F
2014	18	3	Eurovision song contest. II. Copenhagen, Denmark 2014 and some more features on social mentality.	F
2014	18	4	The 38 th Congress of American-Romanian Academy (ARA) of Arts and Sciences, 23-27 July 2014, Pasadena, California, USA	F
2015	19	1	Gold versus money. 1. An overview on main financial figures of world countries.	F
2015	19	2	Gold versus money. 2. Rich, middle and poor countries.	F
2015	19	3	High Resolution Mixing Calorimetry (HRMC) redivivus. 1. General presentation and heat capacity measurements.	F
2015	19	4	High Resolution Mixing Calorimetry (HRMC) redivivus. 2. Structure developing of aqueous solutions by mixing experiments.	F
2015	19	5	High Resolution Mixing Calorimetry (HRMC) redivivus. 3. Calibration	F
2015	19	6	Evidence of human mental field by ac-electric conductivity in electrolyte solutions. 1. Bio-energy.	F
2015	19	7	High resolution mixing calorimetry redivivus.IV. Specific heat of crystalline phase of water. WPA2015: International Congress of World Psychiatric Association, Primary care mental health: innovation and transdisciplinarity, Bucharest, 24-27 June 2015, ROMANIA	F
2016	20	1	Quo vadis population growth on planet Earth: more details	F
2016	20	2	Structural aspects revealed by topoenergetic view on ac electric conductivity in HCl/(water + organic solvent)	F
2016	20	3	Stability of amorphous-crystalline coupling in electrolyte aqueous solutions in relation to interaction with bio-fields	F
2016	20	4	Efficient, simple and cheap outdoor extension of exhausting system using Bernoulli and thermal convection effects applied for air forced boilers on natural gas	F

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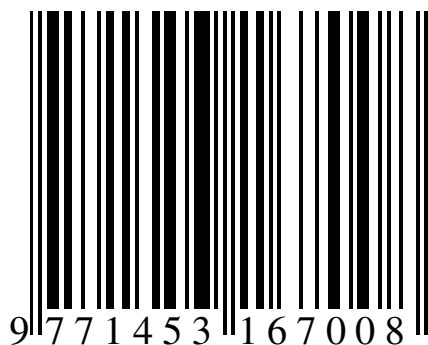
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