

| | |
|--|-----------|
| INTRODUCTION | 6 |
| Introduction to the 2022 revision..... | 6 |
| GENERAL NOTES ON MAKING PRODUCTS | 8 |
| ANTI-OXIDANTS & PRESERVATIVES | 11 |
| CHOOSING PRESERVATIVES | 12 |
| PRESERVATIVE COMPARISON CHART..... | 12 |
| QUICK NOTE ON ELECTRICAL CHARGES | 14 |
| HOW TO MAKE PRODUCTS MORE ORGANIC OR NATURALLY COMPLIANT? | 15 |
| LINK TO A SERIES ON MY SITE ABOUT USING FRAGRANCE OILS IN OUR PRODUCTS!..... | 15 |
| A FEW THOUGHTS ON EQUIPMENT AND PROCESS..... | 16 |
| WHAT'S A SURFACTANT? | 17 |
| WHAT'S SURFACE TENSION? | 17 |
| WHAT ARE MICELLES?..... | 18 |
| BUBBLES, FOAM, AND LATHER..... | 19 |
| CLEANSING..... | 22 |
| ACTIVE SURFACTANT MATTER..... | 23 |
| OTHER THINGS TO THINK ABOUT..... | 25 |
| DESCRIPTIONS OF FOAMS AND SUCH..... | 25 |
| PRIMARY AND SECONDARY SURFACTANTS..... | 25 |
| FOAM MODIFIERS | 26 |
| FOAM BOOSTERS: AMINE OXIDES | 27 |
| INCORPORATING MILDNESS INTO OUR PRODUCTS (AN OVERVIEW) | 31 |
| HERE'S THE QUICK SUMMARY ABOUT INCREASING MILDNESS..... | 34 |
| AN ASIDE: COCO- VERSUS LAUR-..... | 34 |
| THINGS TO NOTE WHEN WORKING WITH LIQUID SURFACTANTS | 35 |
| THINGS TO NOTE WHEN WORKING WITH SOLID SURFACTANTS..... | 37 |
| A NOTE ON USING BLENDS OF SURFACTANTS | 39 |
| WHY IS pH SO IMPORTANT IN THESE KINDS OF PRODUCTS?..... | 40 |
| MEASURING PH | 41 |

| | |
|---|-----------|
| ADJUSTING pH | 41 |
| AN ASIDE: WHAT CAUSES SKIN TIGHTNESS AFTER WASHING? | 43 |
| VISCOSITY | 44 |
| BUILDING VISCOSITY: INCREASING SURFACTANT CONCENTRATION | 46 |
| AN ASIDE: WHAT ARE ELECTROLYTES? AND ARE THEY REALLY WHAT PLANTS CRAVE?..... | 47 |
| BUILDING VISCOSITY: INCREASING MICELLE SIZE | 48 |
| BUILDING VISCOSITY: CREATING GELS AND THICKENING WATER..... | 49 |
| THICKENERS..... | 51 |
| ACACIA GUM (GUM ARABIC) - anionic | 51 |
| CROTHIX (PEG-150 pentaerythrityl tetrastearate (and) PEG-6 caprylic/capric triglycerides (and) water) - NON-IONIC | 52 |
| GLYCOL DISTEARATE - NON-IONIC | 54 |
| HYDROXYETHYLCELLULOSE (HEC) - NON-IONIC..... | 54 |
| HYDROXYLPROPYL METHYL CELLULOSE (HPMC) - NON-IONIC | 56 |
| LAMESOFT® PO 65 (INCI: Coco glucoside and glyceryl oleate)..... | 58 |
| PEARLIZER (INCI: Sodium Laureth Sulfate, Glycol Distearate, Cocamide MEA, Laureth-10) | 62 |
| PEG-150 DISTEARATE - NON-IONIC..... | 63 |
| RHEOMER 33T (INCI: Polyacrylate-33) | 63 |
| RITATHIX DOE aka SURFTHIX™ DOE (INCI: PEG-120 Methyl Glucose Dioleate (and) Methyl Gluceth-10) - NON-IONIC..... | 66 |
| SEPIMAX ZEN (INCI: Polyacrylate Crosspolymer-6) - ANIONIC | 67 |
| SEPINOV EMT 10 (INCI: Hydroxyethyl Acrylate / Sodium Acryloyldimethyl Taurate Copolymer) - ANIONIC | 68 |
| SILIGEL (INCI: Xanthan Gum (and) Lecithin (and) Sclerotium Gum (and) Pullulan) - ANIONIC..... | 69 |
| SOLAGUM AX (INCI: Acacia senegal gum and xanthan gum) - ANIONIC..... | 70 |
| XANTHAN GUM - ANIONIC..... | 71 |
| AN ASIDE: USING EDTA IN SURFACTANT BASED PRODUCTS | 73 |
| GENERAL CHECKLIST FOR EACH SURFACTANT..... | 74 |
| ANIONIC (NEGATIVELY CHARGED) surfactants | 76 |
| DISODIUM LAURETH SULFOSUCCINATE (DLS) - LIQUID | 76 |

| | |
|--|------------|
| DISODIUM LAURETH SULFOSUCCINATE (DLS) - POWDER | 77 |
| FOAMING PROTEINS (OVERVIEW) | 78 |
| FOAMING AMARANTH PROTEIN PET OR ECT | 79 |
| FOAMING APPLE SURFACTANT..... | 80 |
| FOAMING OAT PROTEIN | 81 |
| FOAMING RICE | 83 |
| FOAMING SILK..... | 84 |
| FOAMING SOY..... | 85 |
| SODIUM C14-16 OLEFIN SULFONATE (liquid) | 87 |
| SODIUM C14-16 OLEFIN SULFONATE (POWDER) | 88 |
| SODIUM COCO SULFATE (POWDER) | 90 |
| SODIUM COCOYL GLUTAMATE..... | 91 |
| SODIUM COCOYL GLYCINATE | 92 |
| SODIUM COCOYL ISETHIONATE (solid) | 93 |
| SODIUM COCOYL METHYL ISETHIONATE (solid, FLAKES) | 94 |
| SODIUM COCOYL ISETHIONATE (SCI) AND DISODIUM COCOYL GLUTAMATE (POWDER) | 96 |
| SODIUM COCOYL SARCOSINATE | 98 |
| SODIUM LAURETH SULFATE (SLeS)..... | 99 |
| SODIUM LAURYL GLUCOSE CARBOXYLATE..... | 100 |
| SODIUM LAURYL GLUCOSIDES HYDROXYPROPYL SULFONATE..... | 101 |
| SODIUM LAURYL SULFOACETATE (SLSa) - SOLID | 102 |
| SODIUM METHYL COCOYL TAURATE (paste) | 103 |
| SODIUM METHYL COCOYL TAURATE (powder) | 104 |
| SODIUM TRIDECETH SULFATE..... | 105 |
| SUGA®NATE 160 DRY (INCI: Sodium laurylglucosides hydroxypropylsulfonate and silica) | 106 |
| NON-IONIC SURFACTANTS | 108 |
| COCO GLUCOSIDE..... | 108 |
| DECYL GLUCOSIDE | 109 |
| DECYL GLUCOSIDE & SODIUM LAUROYL LACTYLATE (liquid) | 110 |
| LAURYL GLUCOSIDE | 112 |
| AMPHOTERIC SURFACTANTS | 113 |

| | |
|--|------------|
| BABASSUAMIDOPROPYL BETAINE | 113 |
| COCAMIDOPROPYL BETAINE (CAPB)..... | 114 |
| COCAMIDOPROPYL HYDROXSULTAINE | 115 |
| DISODIUM COCOAMPHODIACETATE | 116 |
| LAURAMIDOPROPYL BETAINE..... | 117 |
| SHEA BUTTERAMIDOPROPYL BETAINE | 118 |
| SODIUM BIS-HYDROXYETHYLGLYCINATE COCO GLUCOSIDES CROSS POLYMER.. | 120 |
| SODIUM COCOAMPHOACETATE | 121 |
| SODIUM LAUROAMPHOACETATE | 122 |
| SURFACTANT BLENDS..... | 123 |
| CLEANSING BLEND WF | 123 |
| ISELUX ULTRA MILD | 124 |
| MIRACARE SOFT 313 (BLEND)..... | 125 |
| PLANTAPON SF or COCO GLUCOSE..... | 126 |
| PLANTAPON TF | 127 |
| STEPAN-MILD BSB..... | 128 |
| STEPAN-MILD LSB SURFACTANT..... | 129 |
| SUGA®DET MILD | 131 |
| A FEW EXAMPLES OF HOW WE MIGHT BLEND SURFACTANTS | 132 |
| Formulating a bubble bath..... | 132 |
| Formulating a foaming facial cleanser | 132 |
| Formulating a gentle hand wash..... | 133 |
| CONCLUSION | 135 |
| SUPPLIERS' INFORMATION | 136 |

Written by Susan Barclay Nichols, better known as SwiftCraftyMonkey, blogger and formulator for the blog Point of Interest (<http://swiftcraftymonkey.blog>).

© 2022 by Susan Barclay Nichols. All rights reserved. This e-book or any portion thereof may not be reproduced in any form without the express written permission of the author, except as permitted by Canadian copyright law. The products you make from formulas contained in this e-book can be used by you for personal or commercial purposes, but please don't copy and paste the text or share this entire e-book on sites like Scribd or forward to your friends who aren't subscribers to the blog. Instead, please refer them to my shop or refer them to the site. Have fun formulating!