



Schill+Seilacher

Struktol®

AMINO ACID
BASED SURFACTANTS

PERLASTAN®

COSMETICS

CLEANING

HYGIENE



PERLASTAN®

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Range of Products

PERLASTAN® Glutamate Surfactants

Product Name*	PERLASTAN® SC 25 NKW	PERLASTAN® SC	PERLASTAN® SC 25 NK	PERLASTAN® SL
CTFA/INCI Name	Disodium/ Sodium Cocoyl Glutamate	Disodium/ Sodium Cocoyl Glutamate	Disodium Cocoyl Glutamate	Sodium Lauroyl Glutamate
Dry Substance at 105°C [%]	24.0 - 26.0	24.0 - 26.0	24.0 - 26.0	24.0 - 26.0
pH, 10 % Solution	6.0 - 7.0	7.5 - 9.5	9.5 - 10.5	7.5 - 9.5
Appearance	slightly yellowish clear liquid	slightly yellowish clear liquid	slightly yellowish clear liquid	slightly yellowish clear liquid
Sodium Chloride [%]	< 0.5	< 0.5	< 0.5	< 0.5
Confirms to	ECO-CERT, BDIH, NaTrue, ECO-Label	ECO-CERT, BDIH, NaTrue, ECO-Label	ECO-CERT, BDIH, NaTrue, ECO-Label	ECO-CERT, BDIH, NaTrue

PERLASTAN® Glutamate Surfactants

Product Name*	PERLASTAN® SCG 35	PERLASTAN® SCG 50	PERLASTAN® SLG 38	PERLASTAN® TCG 30
CTFA/INCI Name	Disodium Cocoyl Glutamate	Disodium Cocoyl Glutamate	Sodium Lauroyl Glutamate	TEA Cocoyl Glutamate
Dry Substance at 105°C [%]	32.6 - 38.0	49.0 - 51.0	36.0 - 40.0	28.0 - 32.0
pH, 10 % Solution	9.5 - 10.5	9.5 - 10.5	9.0 - 10.0	5.0 - 6.5
Appearance	slightly yellowish clear liquid	slightly yellowish clear liquid	colourless to light yellowish liquid	colourless to light yellowish liquid
1,2-Propylene Glycol [%]	4.0 - 6.0	6.0 - 9.0	4.0 - 6.0	none
Sodium Chloride[%]	4.0 - 5.5	5.7 - 7.8	3.0 - 4.5	< 0.5
Confirms to	ECO-Label	ECO-Label		

*Products are free of preservatives

PERLASTAN® Sarcosinate Surfactants

Product Name*	PERLASTAN® ** L 30	PERLASTAN® CH 30	PERLASTAN® M 30	PERLASTAN® AI 30
CTFA/INCI Name	Sodium Lauroyl Sarcosinate	Sodium Cocoyl Sarcosinate	Sodium Myristoyl Sarcosinate	Ammonium Lauroyl Sarcosinate
Active Ingredient [%]	29 - 31	29 - 31	29 - 31	29 - 31
pH, 10 % solution	8.0 - 9.3	8.0 - 9.3	8.0 - 9.3	7.5 - 8.5
Fatty Acid Salt max. [%]	2	2	2	2
Colour, APHA	60 max.	100 max.	200 max.	200 max.
Appearance @ 20°C	colourless clear liquid	pale yellow clear liquid	clear to slightly turbid liquid	pale yellow clear liquid
Density @ 20 °C [g/ml]	1.03	1.02	1.02	1.01
Confirms to	ECO-Label			ECO-Label

** also available as powder

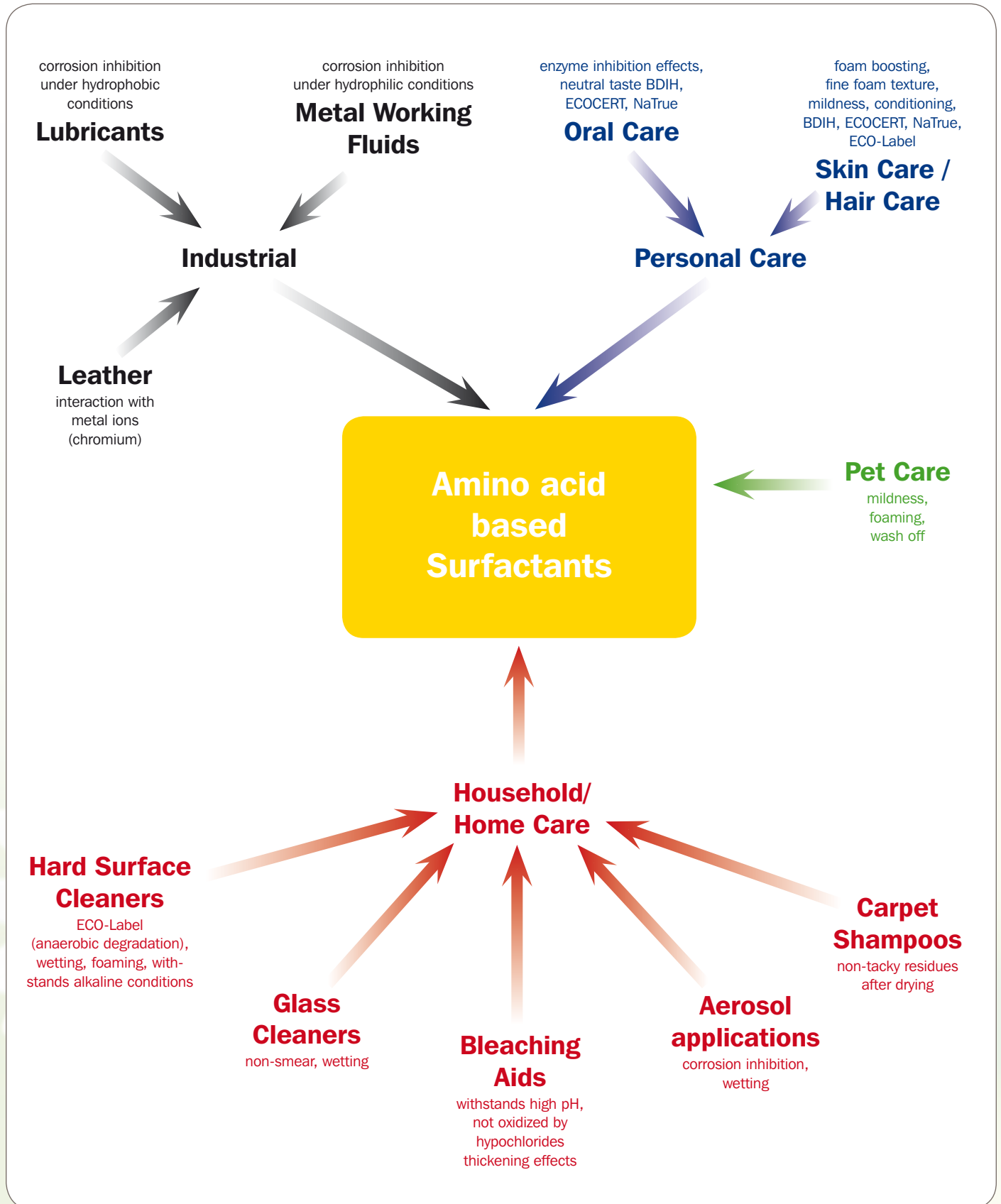
PERLASTAN® Sarcosine Acids

Product Name*	PERLASTAN® L	PERLASTAN® C	PERLASTAN® OCP
CTFA/INCI Name	Lauroyl Sarcosine	Cocoyl Sarcosine	Oleoyl Sarcosine
Active Ingredient [%] min.	94	94	90
Fatty Acid max. [%]	6	6	10
Colour, Gardner max.	2	4	8
Appearance @ 25 °C	white to yellowish wax	pale yellow liquid	yellow bown liquid
Solidif. Point [°C]	30 - 37	0	< 0
Acid Number[mg KOH/g]	190 - 220	180 - 210	153 - 163

*Products are free of presevatives

Amino Acid Based Surfactants

Applications and Benefits



Attributes

• Sarcosinate and Glutamate surfactants

- Very mild to skin and eyes
- Buffer capacity at pH of skin
- Lowers irritation potential of severe surfactants
- Improves moisture retention of skin
- Provides fine lather and smooth skin feel
- Skin and hair maintain its softness and lubricity
- Compatible with cationic surfactants
- Environmentally friendly, aerobic and anaerobic biodegradable

• Glutamate surfactants

- Hypo-allergenic
- Non-comedogenic
- Tolerant to hard water
- Ingredients for »Certified Natural Cosmetics«

• Sarcosinate surfactants

- Capable of inhibiting metal corrosion
- Outstanding lather building, even at higher pH
- High resistance to sebum delathering
- Compatible with oxidizing agents

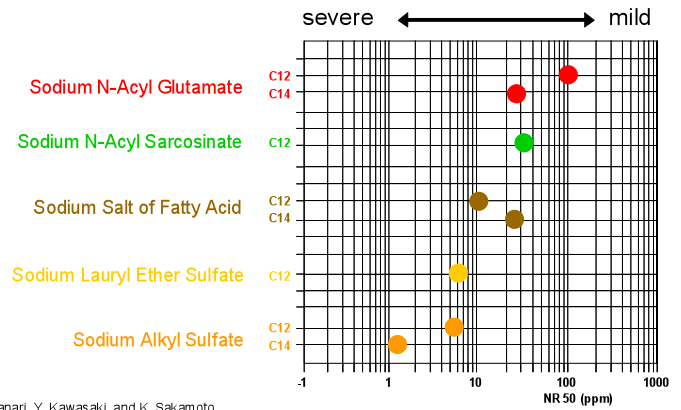


Amino Acid Based Surfactants

Attributes

Mildness to skin and eyes

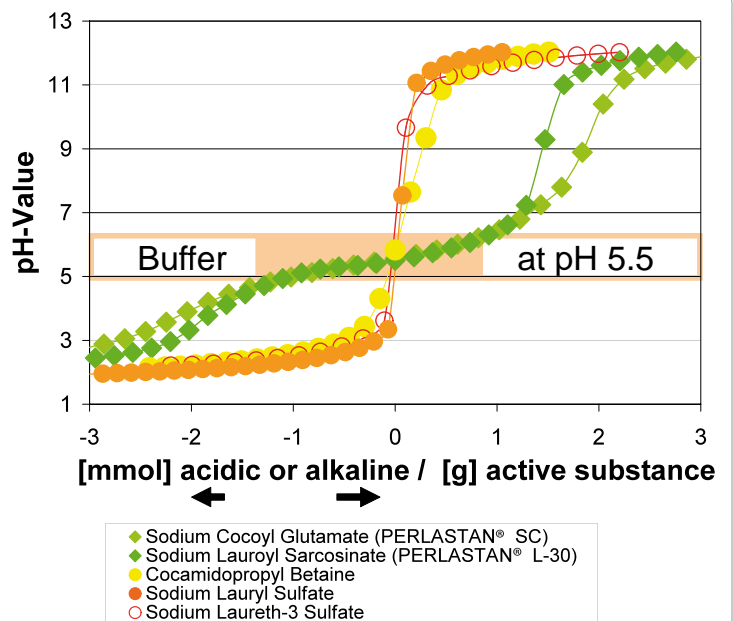
It was found by cytotoxicity tests that N-acyl amino acids achieve low toxicity for cultured human skin cells. The shorter the fatty acid chain part of amino acid surfactant the milder it behaves to human skin cells.



M. Kanari, Y. Kawasaki, and K. Sakamoto, J. Soc. Cosmet. Chem., 27, 498 (1993)

Buffer capacity at pH of skin

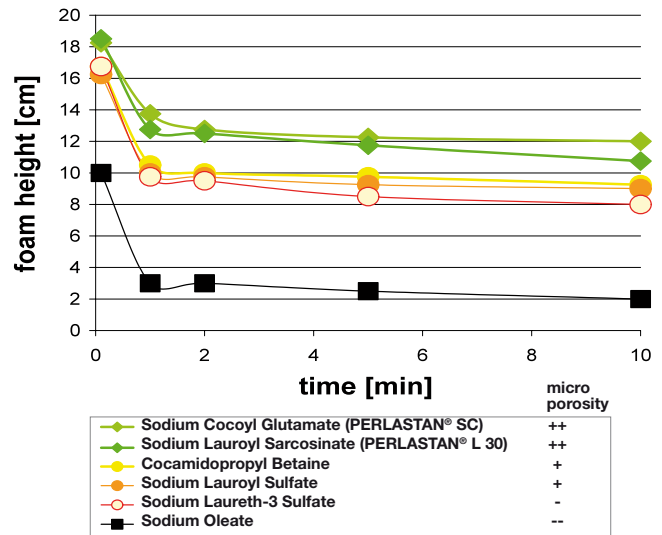
Perlastan surfactants generally show at pH of 5 to 6.5 the buffer capacity of an unneutralized carboxylic acid. Especially the pH = 5.5 of the skin is supported during cleansing processes.



Attributes

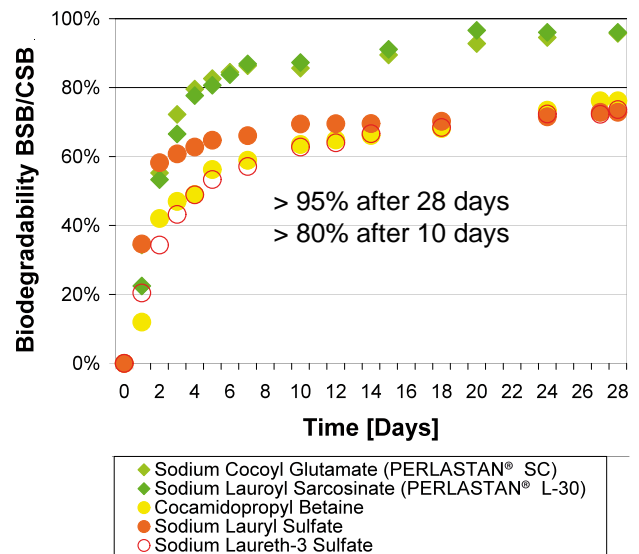
Promotes fine lather

Foam height and stability is comparable to extremely good foaming surfactants like sulfate and betaine surfactants. Most important factor is that the amino acid based surfactants provides very fine porous, mousse-like foam.



Environmentally friendly, highly and rapidly biodegradable

Bacterial decomposition (like in a manometric respirometry test; OECD 301F) takes place faster than with most other types of commercially available anionic surfactants. Sarcosinate and glutamate surfactants reach extremely high degradation values close to 100%.



PERLASTAN® Glutamate Surfactants

Attributes

- **Remarkably low irritation potential and anti-irritating effect**

- The Glutamate Surfactants are known for being amongst the mildest surface active agents available on the market. Many studies have shown that they are hypoallergenic and non-comedogenic.

- **Comfortable and soft feeling of the skin during and after use**

- Due to strong adsorption tendencies on proteinaceous surfaces, Glutamate Surfactants contribute to a prolonged comfortable and soft feeling to the skin.

- **Gentle cleanser for hair**

Glutamate Surfactants are very gentle cleansers for hair. They give hair a soft and silky feel.

- **Excellent foaming power and good detergency**

- Especially at the skin pH Glutamate Surfactants show excellent foaming power. Optimum foam results with sodium cocoyl glutamate.

- **Buffer capacity at weakly acidic conditions**

- Monosodium salts of Glutamate Surfactants generally show a pH of 5-6.5 and provide the buffer capacity of an unneutralized carboxylic acid. The disodium salts show a pH of 8-9, which is the same value as for a sodium salt of carboxylic acid.

- **Hard water tolerance**

- Glutamate Surfactants maintain their excellent cleansing and foaming power even in hard water.

- **Environmentally friendly**

- All Glutamate Surfactants are readily biodegradable and meet regulation (EC) No 648/2004 of the European Parliament regarding biodegradability of detergents.

Application

Personal Care Products

- **Facial and body cleansers**

- shampoos
- liquid facial cleansers
- shower gels
- cream soaps
- make-up removers

- **Hair shampoos**

- **Syndet bars and combination bars**

- **Body care and dermatological products**

- **Allergen-controlled medical cleansers**



PERLASTAN® Glutamate Surfactants

Formulary

Skin Cleansing Shampoo » Certified Natural Cosmetics «

Solve B into A at 50°C and take care about bubble formation. Add C in listed order and mix slowly until preparation appears homogeneous at room temperature. Adjust pH = 5.5 with D; add E

	Ingredients	Weight %
A	Aqua	qs to 100%
B	Xanthan Gum	0.50
C	Glyceryl Oleate	0.60
C	Glycerin	5.0
C	Sodium/Disodium Cocoyl Glutamate PERLASTAN® SC 25 NKW	17.5
C	Coco Glucoside (50%)	10.0
D	Citric Acid or Lactic Acid	qs to pH = 6.0
E	Preservatives, Fragrances, Chelating agents etc	qs

Clear Facial Cleansing Gel

Mix all ingredients together, heat to about 50°C until clear, cool, adjust rheological behaviour with additional water.

	Ingredients	Weight %
	Sodium Cocoyl Glutamate, PERLASTAN® SC	40.0
	Sodium Lauroyl Sarcosinate, PERLASTAN® L 30	10.0
	Cocamide DEA	10.0
	Glycerin	5.0
	Perfume	q.s
	Preservative	q.s
	Water	qs to 100

Formulary

Baby Bubble Bath

Dissolve B in A while heating slightly. Stir components of C one after another into A. Adjust viscosity with D and pH with E.

	Ingredients	Weight %
A	Water	10.0
B	Allantoin	0.1
C	Sodium Cocoamphoacetate	15.0
C	Disodium Cocoyl Glutamate, PERLASTAN® SCG 35	23.0
C	Fragrance	0.5
C	Water	31.15
C	Extrapon chamomile spezial	2.0
C	Laureth-3	2.75
C	Cocamidopropyl Betaine	15.0
C	Dye, Preservative	qs
D	PEG-120 Methyl Glucose Dioleate	0.5
E	Citric Acid	qs to pH = 6.0



PERLASTAN® Sarcosinate Surfactants

Sarcosine Acids

Attributes

• Mildness to skin and eyes

- Sarcosinate Surfactants are mild to skin and eyes at typical usage levels of primary and secondary surfactants. A protective layer is formed on the skin and this reduces the irritancy of other surfactants as well as moisture loss.

• Foam boosting

- Sarcosinates are excellent foamers and form a particularly creamy lather, especially when used between pH 5 and pH 6. They provide excellent foam boosting effects even at higher pH. Stable and rich foam can be observed even in the presence of sebum and hard water.

• Substantivity on proteinaceous surfaces

- Sarcosinates adsorb substantively to proteinaceous and cellulosic surfaces. This property imparts good feel, softness and lubricity to skin and eyes.

• Hair conditioning

- Sarcosinate Surfactants condition hair by adsorbing strongly to the surface as a monolayer. Static reduction and substantivity provides hair with a soft and silky feel.

• Resistance to sebum delathering

- Foam formation in the presence of sebum can even be improved under conditions when other types of surfactants usually fail.

• Environmentally friendly

- All Sarcosinate Surfactants are readily biodegradable and meet regulation (EC) No 648/2004 of the European Parliament regarding biodegradability of detergents.

• Static reduction

- The anionic character of Sarcosinate Surfactants is useful for increasing surface conductivity on various surfaces.

• Alkaline tolerance

- Sarcosinate Surfactants withstand high alkalinity and can also be used as a foam booster even at high pH-value conditions that make many other surfactants lose efficiency.

• Enzyme inhibition

- Inhibits the enzyme hexokinase which is responsible for dental decay. Due to its adsorption onto dental plaque it remains active for a long period of time.

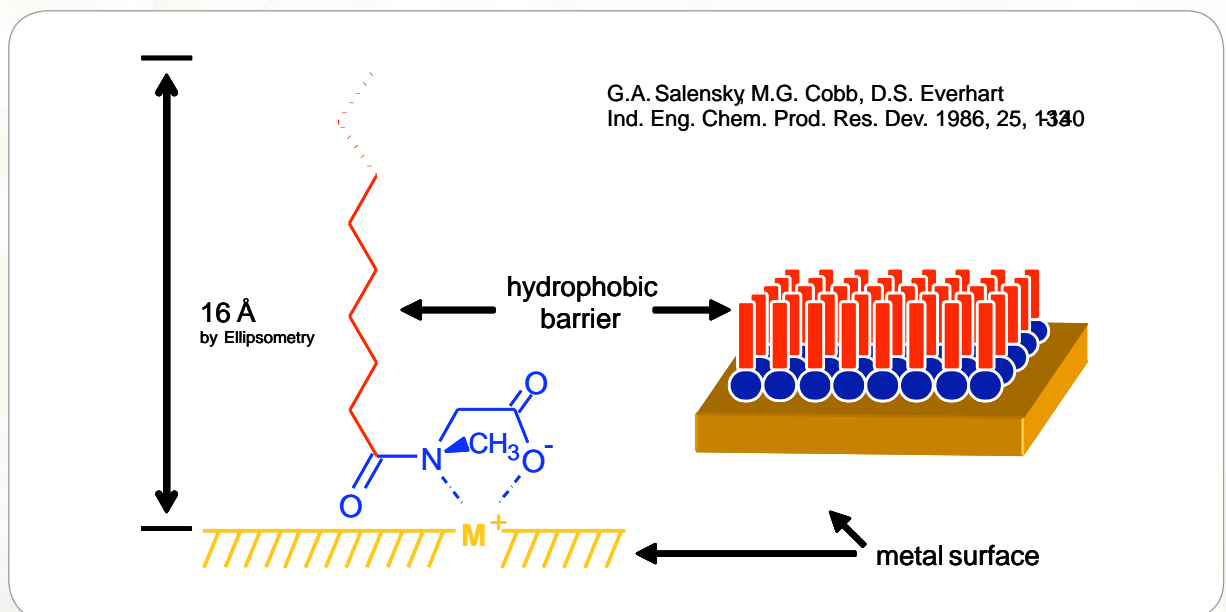
Attributes

- **Compatible with oxidizing agents**

- Sarcosinates are compatible with oxidizing agents such as peroxides and hypochlorides. This is the result of chemical stability and the absence of any heavy metal residues which could lead to catalytical degradation of peroxides or hypochlorides.

- **Metal corrosion inhibition effect**

- Is achieved on metal surfaces even at very low use levels down to few ppm in formulations. An outstanding property of the sarcosine structure imparts the possibility of chelating effects. Strong adsorption on metal surfaces is originated by a five membered chelating ring where metal ions of the surface are coordinated through nitrogen and oxygen atoms of sarcosinate.



PERLASTAN® Sarcosinate Surfactants

Sarcosine Acids

Application

Personal Care Products

• Skin care

- Body wash
- Aerosol shampoos
- Toilet soaps
- Baby bath soaps
- Hand soaps
- Cleansing wipes
- Shaving gels
- Syndet soap bars
- Surgical scrubs

• Hair care

- Hair shampoos
- Hair conditioners

• Dental and oral hygiene

- Toothpastes
- Mouth wash

• Eye care

- Eye drops
- Contact lense cleansers

Household and I&I Products

• Cleaners

- Carpet shampoos
- Alkaline cleaners
- Waste pipe cleaners
- Aerosol shampoos
- Bleach formulations
- Window cleaners
- Steel wool soap pads
- Laundry detergents

• Others

- Lubricants
- Cutting and grinding oils
- Film packaging
- Fuel oil
- Textiles
- Leather water proofing

Personal Care Formulary

Silkening Shower Gel

Mix the ingredients of Part A in the order listed, proceeding after each addition is clear and uniform. Premix the **PERLASTAN® L-30** and the Polyquanterium-7 and add as Part B. Continue mixing and add Part C. Adjust the pH to 6.0 with Citric Acid.

	Ingredients	Weight %
A	Water	qs to 100
A	Sodium Laureth Sulfate	35.0
A	Cocamidopropyl Betaine	10.0
A	Cocamidopropyl Hydroxysultaine	10.0
B	Sodium Lauroyl Sarcosinate, PERLASTAN® L-30	5.0
B	Polyquanterium-7	4.0
C	Tetrasodium EDTA	0.2
C	Fragrance	qs
C	Preservative	qs
C	Citric Acid	qs to pH = 6.0

Skin Cleansing Preparation For a Foam Pump Dispenser

Solve B into A; add C; adjust pH = 6.0 with D; add E

	Ingredients	Weight %
A	Aqua	qs to 100
A	Glycerin	5.0
B	Xanthan Gum	0.1
C	Coco Glucoside (50%)	3.0
C	Sodium Cocoyl Sarcosinate, PERLASTAN® C-30	5.0
C	Sodium Laureth Sulfate (56%)	13.0
D	Citric Acid	qs to pH = 6.0
E	Triethylene Glycol, Imidazolidinyl Urea, Methylparaben, Propylparaben, Dehydroacetic Acid	0.5

PERLASTAN® Sarcosinate Surfactants

Sarcosine Acids

Personal Care Formulary

Clear Facial Cleanser

Add Acrylates Copolymer to deionized water. Add rest of ingredients with gentle mixing. Neutralize to pH 6.5 with sodium hydroxide solution (Part A).

Pre-mix Menthyl Lactate with polysorbate 20 (Part C), and deionized water with EDTA and Aloe Barbadensis Gel (Part C). Add remaining ingredients in order with gentle mixing. Adjust pH (if necessary) to 6.5 for optimal clarity.

	Ingredients	Weight %
A	Deionized Water	40.30
A	Acrylates Copolymer (30%)	10.00
A	Sodium Laureth Sulfate (2 mole, 27%)	12.00
A	Sodium Lauroyl Sarcosinate, PERLASTAN® L 30	12.00
A	Sodium Hydroxide (18%)	qs to pH = 6.0
B	Sodium Hydroxide (18%)	5.00
B	PEG-7 Glyceryl Cocoate	2.00
B	Glycerin	5.00
C	Menthyl Lactate	1.00
C	Polysorbate 20	1.00
D	Deionized Water	5.00
D	Disodium EDTA	0.10
D	Aloe Barbadensis Gel	4.00
D	Preservative	qs
D	Sodium Hydroxide (18%)	qs to pH = 6.0

Mouthwash

	Ingredients	Weight %
	Sodium Lauroyl Sarcosinate, PERLASTAN® L 30	12.1
	Ethyl Alcohol	10.0
	Flavor	0.15
	Saccharin	0.01
	Water	qs to pH = 6.0

HI&I Formulary

Self foaming chlorinated heavy-duty cleaner

This Formulation is a heavy-duty high foam cleaner intended for use in food processing plants. The surfactant combination provides a thick lather with small bubble structure that readily adheres to vertical surfaces when applied via foam generation devices. SODIUM LAUROYL SARCOSINATE (**PERLASTAN® L 30**) promotes a fine lather, imparts corrosion inhibition and provides overall stability to the formulation.

Ingredients	Weight %
Water	56.0
Sodium triphosphate	2.5
Sodium Lauroyl Sarcosinate, PERLASTAN® L 30	5.0
Lauramine oxide	4.0
Potassium hydroxide, 45%	12.5
Sodium hypochloride, 15%	20.0

Glass & Hard Surface Cleaner (Concentrate)

Preparation provides formulators a cost effective system for glass and hard surface cleaners.

The combination of **SODIUM LAUROYL SARCOSINATE (PERLASTAN® L-30)** and Lauramine oxide at low use levels allows for excellent wetting and soil removal while leaving a streak free surface. This low viscosity formulation can be readily sprayed from a trigger dispenser.

Ingredients	Weight %
Water	93.5 (33)
Isopropyl alcohol, 99.5%	4.0 (40)
Propylene glycol n-butyl ether	2.0 (20)
Sodium Lauroyl Sarcosinate, PERLASTAN® L 30	0.25 (2.5)
Laurylamine oxide	0.25 (2.5)
Fragrance, dye, preservatives	q.s

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