

The Brand New Approach for Rich-Foam

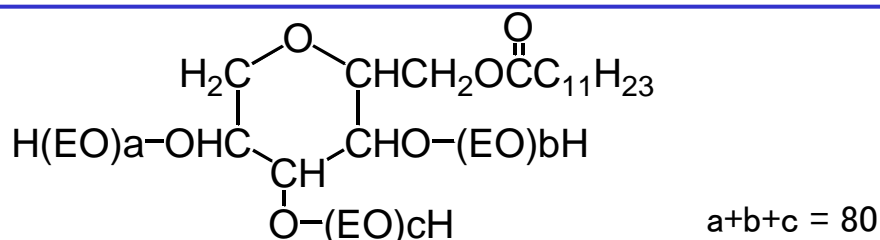
NOF CORPORATION

NONION LT-280/LT-280W

Compliant with JSQI

1 What is NONION LT-280?

Chemical



* **NONION LT-280W** ... 60% LT-280 aqueous solution

Concept

The Brand New Approach for Rich-Foam

INCI

PEG-80 SORBITAN LAURATE

Chinese INCI

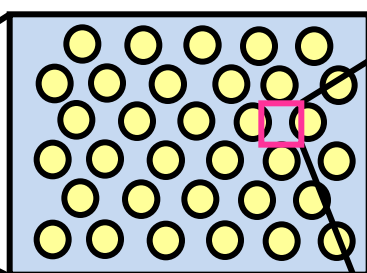
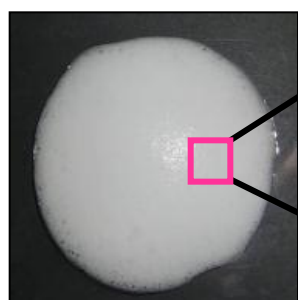
PEG-80 失水山梨醇月桂酸酯

2 Characteristics

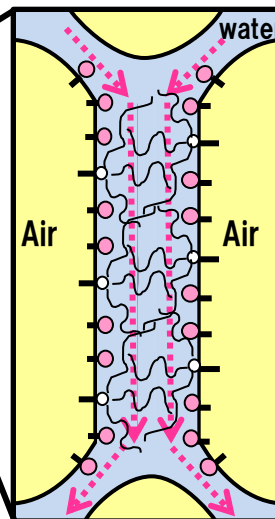
- ① Provides rich & creamy foam
- ② Suit for pump-foamer formulation
- ③ No Irritative



Mechanism of rich & creamy foam

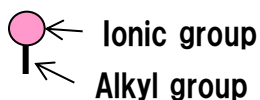


Model of foam film

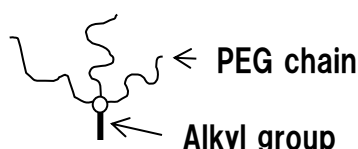


↓ : Flow of drainage

Anionic surfactant



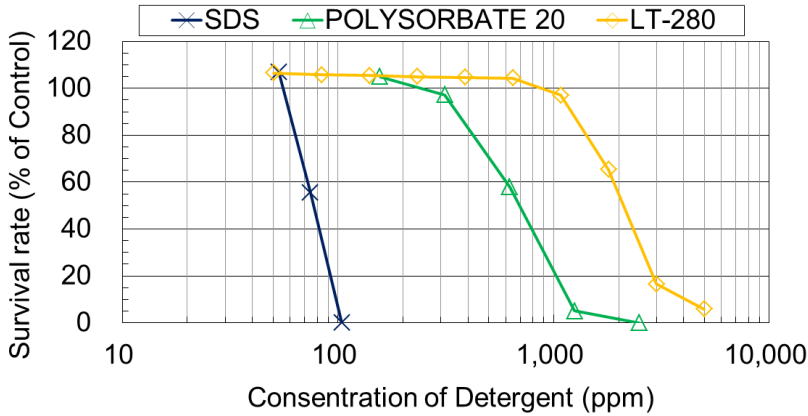
LT-280



Speed of drainage is slowed by NONION LT-280!

3 Safety data

① Cytotoxicity test using rabbit corneal cells



Medium: DMEM + 10%FBS,
Seeding density:
20,000cells/well, Exposure
time:70hrs

② Human patch testing : Negative

(10%aq., 34 adults, occlusive patch 24hours)

4 Foam Viscosity

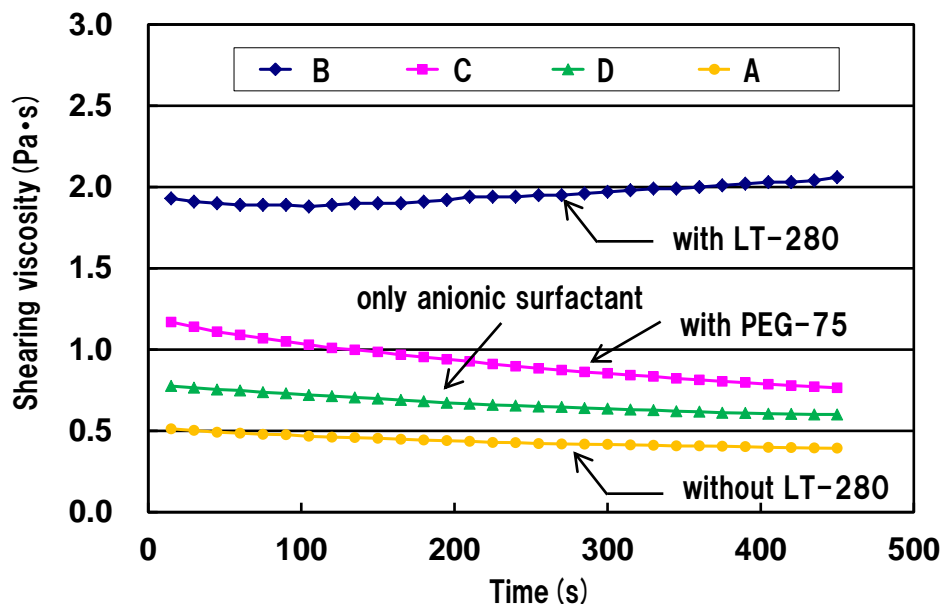
Condition

Test samples were poured into the foamer pump. Then the viscosity of foam which was pushed from foamer pump was measured by rheometer (Instrument: Paar Physica MCR-300, Share rate: 1 S-1, Temperature: 25 °C, cone-plate: dia.50 mm, 2°)

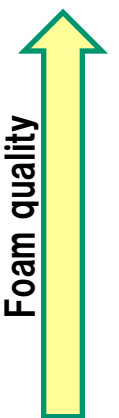
Product Name	INCI (active wt%)	(wt%)			
		A	B	C	D
NONION LT-280W	PEG-80 SORBITAN LAURATE	-	8.0	-	-
PEG-4000	PEG-75	-	-	8.0	-
DIAPON® K-SF	30%SODIUM METHYL COCOYL TAURATE	1.2	1.2	1.2	5.1
NISSAN ANON® GLM-R-LV	30%SODIUM COCOAMPHOACETATE	1.2	1.2	1.2	5.1
-	GLYECRIN	10.0	10.0	10.0	10.0
Buffer Solution*	-	blance	blance	blance	blance
Total		100	100	100	100

* : Citric acid 0.1%, Sodium Citrate 0.9%, Water 99.0% : pH=5.9

Result



good

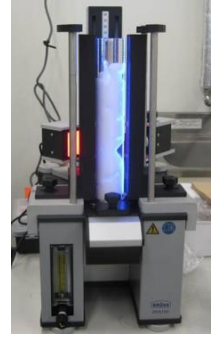


5 Measurement of foam stability ①

Condition

- ① The foam discharged from the pump foamer filled the glass cylinder.
- ② Two-dimensional size of the foams reflected in a prism of glass cylinders are monitored over time.

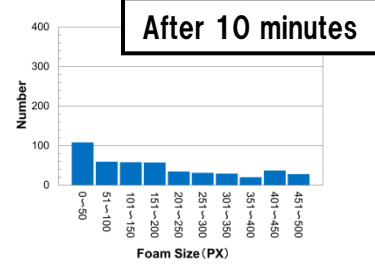
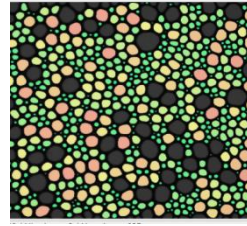
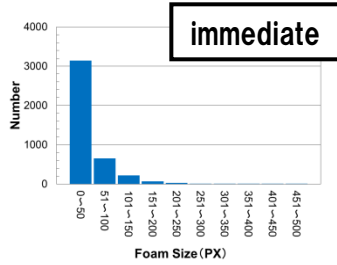
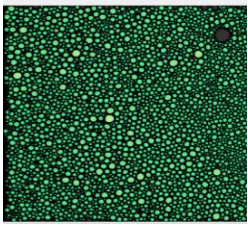
Instrument: : DYNAMIC FOAM ANALYZER DFA100 (KRUSS)



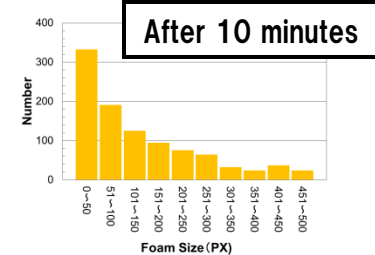
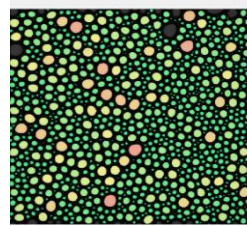
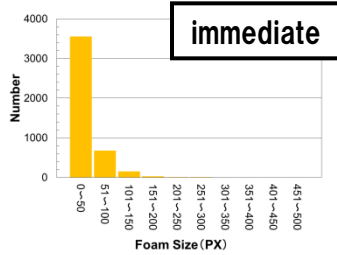
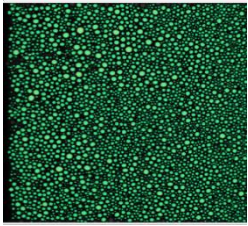
DFA100

Result

Formulation A ··· LT-280: 0%



Formulation B ··· LT-280: 8%



NONION LT-280 Improves foam stability!

6 Measurement of foam stability ②

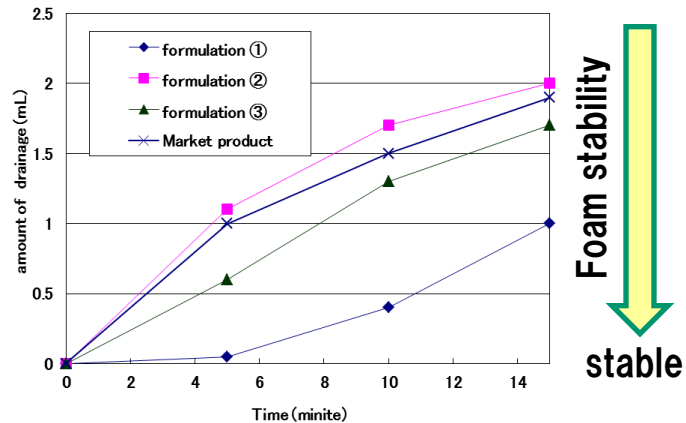
Method

- ① Inserted the foam to 30mL volumetric flask.
- ② Measured the drainage amount of each sample after 5, 10, 15 minutes.



Drainage

Result



Product Name	INCI	①	②	③
NONION LT-280	PEG-80 SORBITAN LAURATE	10	-	10
DIAPON K-SF	30% SODIUM METHYL COCOYL TAURATE	1.2	1.2	-
-	GLYCERIN	8	8	8
-	WATER	blance	blance	blance

Combination of LT-280 and K-SF ⇒ Significantly reduce the drainage rate !

Foamy facial wash

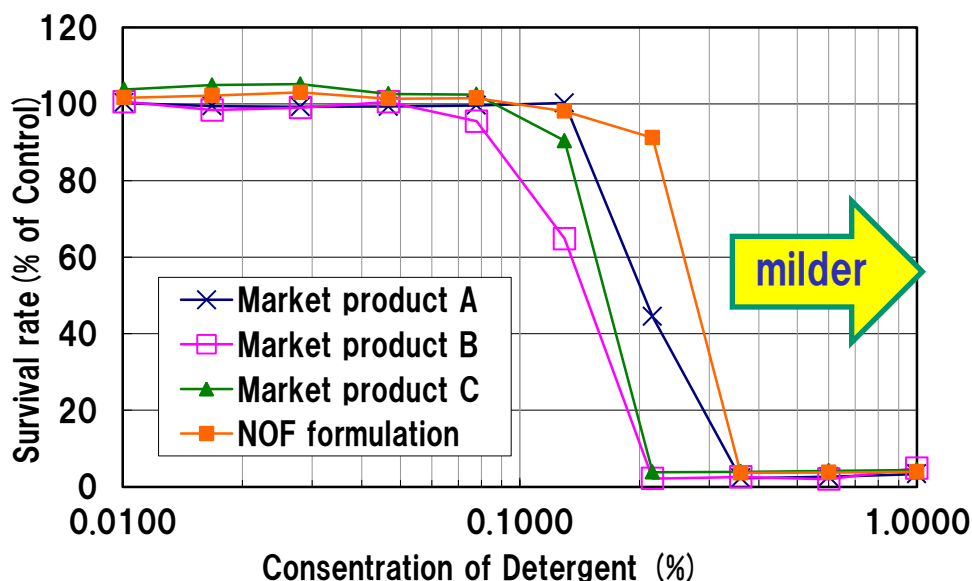
INCI (active)	NOF Products	wt%
PEG-80 SORBITAN LAURATE	NONION LT-280	6.0
GLYCERIN	-	10.0
30% SODIUM METHYL COCOYL TAURATE	DIAPON® K-SF	8.0
30% COCAMIDOPROPYL BETAINE	NISSAN ANON® BDF-R	6.0
COCAMIDE DEA / GLYCERIN	STAFOAM™ DFC	2.0
Preservatives, pH adjuster	-	q.s.
WATER	-	blance

Put all ingredients into the beaker and stir to homogeneously at R.T.

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Safety Test

Cytotoxicity test using rabbit corneal cells of above formulation



Medium: DMEM + 10%FBS, Seeding density: 20,000cells/well, Exposure time:72hrs



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