

## Examples of Sanyo Chemical Nonionic Surfactants The List of their HLB

HLB (Hydrophile-Lipophile Balance) is a numerical value which represents a balance between hydrophilic groups and lipophilic groups in molecules of surfactants from 0 to 20.

The higher the HLB value, the more hydrophilic (water-soluble) the surfactant.

### How to see the table

The second line shows the trade names of products, and each product number is in the corresponding cell in the following lines after line 4. For example, the cell at column 3/line 11 represents NAROACTY ID-40. The cell at column 6/line 11 represents SANNONIC SS-30.

HLB	Synthetic Alcohol-based					Natural Alcohol-based				Fatty Acid Ester-based		Pluronic	
	NAROACTY		SANNONIC		SEDORAN		EMULMIN				IONET		NEWPOL
	Primary Alcohol		Primary Alcohol	Secondary Alcohol	Primary Alcohol	Secondary Alcohol	-C12-	C12-C14	-C16-	C16-C18	PEG Ester	Sorbitan	
1.8 - 2.0												S-85	PE-61 PE-71
4.0 - 4.3												S-80	PE-62
4.7												S-60V	
5.7		CL-20											
6.0 - 6.2						SF-506							
6.6										DL-200			
7.3										DS-300			
8.0 - 8.2	ID-40			SS-30					40	DS-400			PE-34 PE-64 PE-74
8.3 - 8.6										MO-200 DO-400	S-20		
8.9 - 9.0		CL-40							50				
10.0 - 10.2		CL-50											PE-75
10.5 - 10.6				SS-50						DO-600			
10.9									70				
11.7		CL-70	FN-80		FF-180					MO-400			
12.0				SS-70						MS-400			
12.3 - 12.4	ID-60				FF-200								
12.6		CL-85	FN-100										
12.9 - 13.0					FF-210					DO-1000			
13.1 - 13.2	ID-70	CL-95	DE-70	SS-90									
13.3 - 13.4		CL-100											
13.6													
13.8 - 14.0			FN-140		FF-220								
14.1 - 14.3		CL-120							140				
14.5				SS-120									
14.7 - 14.9		CL-140						CC-150			T-60V		
15.0 - 15.3		CL-160							180		T-80V	PE-108 PE-128	
15.5 - 15.7								CC-200		MS-1000		PE-68 PE-78	
16.0		CL-200							240				
16.6 - 16.7										DS-4000	T-20C		
17.8		CL-400											