

SURFACE ACTIVE AMIDES

TABLE 4

Lime-Soap Dispersing Requirement (LSDR) of Amides (IIIa-f) and Reference Compounds at 20°C

Amide	(m,R ₂)	LSDR	Reference compound	LSDR
IIIa	(10, H ₂)	14.0	Linear alkylbenzene sulfonate ^a	40
IIIb	(10, Me ₂)	15.2	Sodium dodecyl sulfate	30.0
IIIc	(10, O)	13.4	C ₁₀ H ₂₁ O(CH ₂ CH ₂ O) ₆ H	26.5
IIId	(12, H ₂)	6.5	RC(=O)N[(CH ₂ CH ₂ O) ₇ H] ₂ ^b	2
IIIe	(12, Me ₂)	6.0		
IIIf	(12, O)	6.0		

^aSee (17).^bSee (2); R refers to a tallow-derived alkyl group.

with a decyl group. In each compound, the A value in hard water was almost the same or a little smaller than that in pure water. The A values of the acylmorpholines (IIIc,f) were larger than other amides, probably because of the bulkiness of the hydrophilic terminal group.

The foaming properties determined by the semi-micro TK method (16) both in pure water and in hard water are given in Table 3. The foaming ability and foam stability of III in both solution systems were almost the same. Unexpectedly, the foaming properties of acylmorpholine with a dodecyl group (IIIf) were inferior to those of IIIc with a decyl group. But, overall, the foaming properties of these amides are judged as medium for a series of our prepared alcohol ethoxylate derivatives (9,11).

Finally, results of the LSDR of III and some reference compounds are listed in Table 4. Because the LSDR of amides with a decyl group was about 14 and that of amides with a dodecyl group was about 6, it was found that III had better lime-soap dispersing ability than LAS, SDS and a normal alcohol ethoxylate. But our results were not beyond the LSDR of an oxyethylated fatty amide with a tallow-derived alkyl group. Linfield et al. have reported that the LSDR of oxyethylated fatty amides decreased with an increase in the number of oxyethylene units (6). Therefore, there is a possibility that our type of compounds with longer alkyl and oxyethylene groups may show smaller LSDR values.

Amide compounds (III) in this work showed excellent surface active properties, not only in pure water but also in hard water, and had good lime-soap dispersing ability. Though many other factors, such as detergency, dispersing ability and so on, must be considered

for practical use, these amides may be applied to an active ingredient in phosphate-free detergents.

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ERRATA

In the article "Evaluation of Turkish Sulphur Olive Oil as an Alternative Diesel Fuel" by Aksoy *et al.*, which appeared in the June 1988 issue of *JAACS* (65:936-938), the term "Fusel oil" incorrectly appeared nine times as "fuel oil." "Fusel oil" should have appeared in the seventh and ninth lines of the abstract, the 13th line of the second paragraph and the 12th line of the fourth paragraph in the "Materials and Methods" section; in the headings for Tables 4 and 5, and the sixth line of the sixth paragraph, the third line of the seventh paragraph, and the fourth line of the final paragraph of the "Results and Discussions" section.