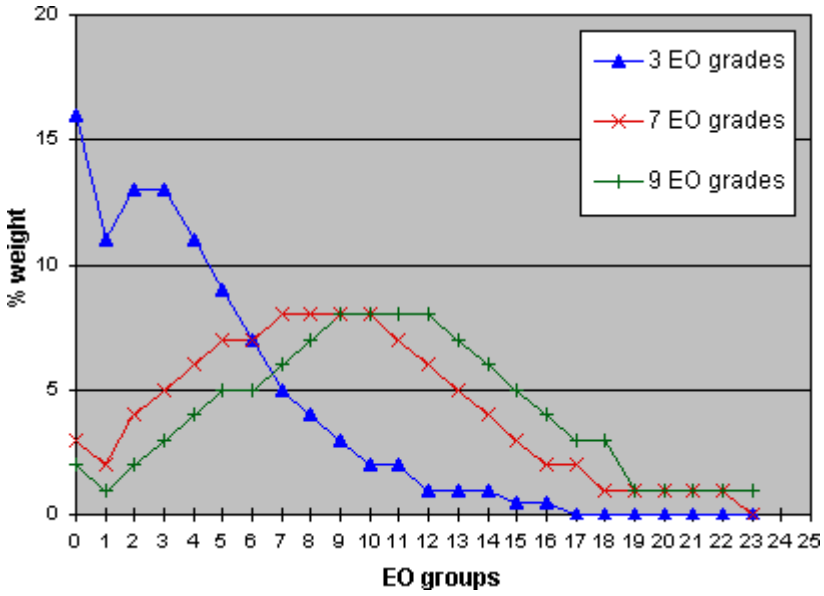
Typical distributions of NEODOL™ ethoxylate adducts

NEODOL ethoxylates are produced in a base-catalysed condensation reaction of ethylene oxide (EO) with an alcohol (ROH), giving a mixture of ethylene oxide adducts of varying chain length plus an amount of unreacted/free alcohol [EO =0]. The composition of the mixture follows a standard distribution curve, generally peaking at the average EO.

NEODOL ethoxylates - typical distributions, %m/m of ethoxylate adducts of each EO chain length

NEODOL products	23-1	23-2	91-2.5 25-2.5	23-3 25-3	91-6 23-6.5	25-7 45-7	91-8	1-9 25-9
EO/ROH	1	2	2.5	3	6, 6.5	7	8	9
EO chain length								
0	42	22	16	15	3	3	2	2
1	21	14	13	11	2	2	1	1
2	15	15	14	13	4	4	2	2
3	9	13	13	13	5	5	3	3
4	5	10	11	11	6	6	4	4
5	3	7	8	9	8	7	5	5
6	2	5	6	7	8	8	6	5
7	1	4	5	5	9	9	8	6
8	1	3	4	4	9	9	9	7
9	1	2	3	3	9	8	9	8
10	-	1	2	2	8	8	9	9
11	-	1	2	2	7	7	8	8
12	-	1	1	1	6	6	8	8
13	-	1	1	1	5	5	7	7
14	-	1	1	1	4	4	6	6
15	-	-	-	1	3	3	4	5
16	-	-	-	-	2	2	3	4
17	-	-	-	-	1	2	3	3
18	-	-	-	-	1	1	2	2
Higher	-	-	-	-	-	1	1	5

Typical EO distributions NEODOL ethoxylates



Shell Chemicals

Shell Chemical LP
PO Box 4407
Houston
Texas 77210
USA
Tel +1 866 897 4355
Internet http://www.shell.com/chemicals