

Table 1. Caustic content in liquid detergent products on the Irish market (Teagasc, December, 2021). Product names in order of decreasing caustic content in the working solution with cold washing. No PCS number required for these products.

Product Name	% Caustic w/w	Hot Working solution (ppm)	Cold Working solution (ppm)
AseptoActive*	36.0	3600	-
DM Clean Super (CF)	30.0	3000	-
Lely Astri-Lin	29.88	1494	-
Purchem Puresan	29.81	2319	2981
Fullwood AMS cleaner	29.36	2936	X
Evans	29.36	1469	-
Alkadex Forte (bulk tank)	29.32	1466	1466
Deosan Liquid CIP	28.9	1445	-
Hypral One	28.25	2825	-
Timac CIP	28.08	1747	2496
CircoPure AFM	27.60	1380	-
Coop Source Turbosan CF	26.4	1760	2493
BFS XTreme-clean	25.9	1727	2590
Universan CF	25.4	1693	2540
Cipsan Liquid CF	25.4	1693	2540
Fourtress Dairy CIP	24.06	2406	-
ParlosanNC**	24.34	2434	2704
Multisan CF**	25.42	1695	2542
Fourtress Dairy CIP	24.06	2406	-
Autoscan Blue Alkaline	23.66	1183	2366
Dairy Eco Cleanse	22.36	1391	2087
Quantum x L	22.33	558	-
Aquasan	22.3	2230	2230
Cryosan CF	21.5	2150	1433
Arkaline-LCF	21.02	1051	2102
Alkalex CF	21.5	2150	2389
Super-Sil	22.4	?	?
Autosan Blue	20.93	1047	2093
ArkAline-LCF	20.78	1039	2309
Cipton	20.73	?	?
Liquid Detergent CF XT	19.8	990	1980
Altradet	19.55	1086	1955
CFD100 DeLaval	19.50	970	1940
Avalksan CF	19.34	1504	1719
Dairy-master Liquid Gold CF	18.8	1044	1880
DM Clean Forte***	18.47	924	924
Hypral SP	15.88	1059	-
LIR AGRIC Hydra Mil	11.47	1147	1376
Sanagard	10.48	524	-

- Working solutions are calculated based on manufactures recommended usage rates and % caustic measured in products

- * Also contains high levels of Potassium hydroxide. ** The addition of hydrogen peroxide to these products is recommended by manufacturers as part of a good cold/hot wash program. *** Contains high levels of sodium carbonate (12.0%) as an aid to cleaning. ? no usage rates available

Table 2: Caustic content in chlorine-free powder detergent products on the Irish market (Teagasc, December, 2021). Products names are listed in alphabetical order

Product Name	*Working solution (ppm)
	Caustic
Alfasan Plus	4500
AseptoPowder	6100
BFS cold wash	4700
Biosan	5400
Cipsan Plus	5100
Circodine CF	2300
Cold Clean Plus	4400
Cold wash Evans	4300
Cold wash agroserve	2700
Cryosan Plus	4200
Crystal Powder cold cleaner	3600
Dairygold cold circulation cleaner	5300
Dairy-clean plus	3900
Dairy Cold Wash	4500
Dairy-san **	1600
DeLaval RX5000	5050
Deosan Farm Cold Cleaner	4200
DM Cid P	2700
Galvisan cold wash	4800
Hydrosan Plus	3500
Jet Star	3600
Chlorine-Free Kleen Top Hygiene	4130
Kilco Clearway	3700
Koldosan	2000
Koldklene	3900
Locount Extra	3200
LIR AGRI Daily Clean	3000
Metron powder	2700
Muller cold detergent	4300
Polarsan Plus	4700
Pulver A CF	1000
PureChem cold wash	3700
PureChem hot wash**	1100
Trisan Extra	2200
Turboclean	5000
Unisan Plus	5000

*Working solutions are calculated based on manufactures recommended usage rates and chemical content of products

- Working solutions above 2000ppm are recommended for powder cold caustic cleaning

Table 3: Acid based cleaning products used for ‘one for all’ cleaning (Cleaning, sterilizing and descaling) of milking equipment (Teagasc, December, 2021). *These products are both chlorine and * chlorate free.

Product Name	PCS number	Content	Distributor
Divosan OSA-N	97240	Acid-Nitric, Glycolic, octanoic, octenylsuccinic	Diversey
Hypracid-One	98182	Acid-Methanesulfonic	Grassland Agro
CircoPure NSFМ	98557	Sulphuric acid, Methanesulphonic acid, Hydrogen Peroxide	GEA