

Table 1. Caustic and chlorine contents for registered detergent-sterilizer products on the Irish market (Teagasc, August, 2017. Product names in order of decreasing caustic content.

Product Name	PCS number	% Caustic	*Working solution (ppm)		% Chlorine	*Working solution (ppm)	
			Hot wash	Cold wash		Hot wash	Cold wash
These products are best used in a daily hot wash with option of re -using solution as a cold wash at the next milking.							
Megasant	96852	20.91	1394	1626	3.63	240	280
Turbosan Co-op Source	96861	20.84	1042	2084	2.85	143	285
LIR Agri Pipeline Steriliser	97824	20.50	1640	1948	2.83	226	269
Kilcosan	97355	20.00	1000	2000	3.4	170	340
Cryosan liquid	96895	18.67	1245	1867	3.45	230	345
Dairygold Hotwash XT	96461	18.34	1467	1651	2.61	209	235
Deosan Diamond	97351	18.02	901	901	2.61	131	131
Hydrosan Liquid	93608	17.69	1179	1769	3.05	203	305
Puresan line cleaner	96216	17.48	1165	1748	2.31	154	231
Unisan Liquid	96944	17.30	1151	1534	2.67	178	237
Parlorsan	96404	17.14	1371	1600	3.68	294	343
Aquasan	97375	16.80	1344	1493	3.26	261	290
Avalksan	96840	16.54	1286	1470	3.49	271	310
Multisan	93472	16.42	1314	1460	3.43	274	305
Supersan Extra	96574	16.12	1017		3.13	198	
Universan	96324	15.94	1275	1417	3.49	279	310
Geasan	97371	14.35	718	1435	3.07	154	307
Alkaklean	97873	14.44	722	1444	2.90	145	290
These products should be used with hot water daily and the solution not recycled.							
DX Auto Tank	98820	12.22	1222	x	2.97	297	x
Fullwood Morning Wash	98819	12.20	1220	x	2.97	297	x
Alkalex	96595	10.35	323		3.98	124	
CircoactionAF1	96147	10.09	505	x	6.96	348	x
C-Alka	97769	9.89	495	x	3.12	156	x
Autoklene	95652	9.34	467	x	2.65	133	x
Deosan TC86	94490	9.30	465	x	3.71	185	x
Chlorodex	95654	9.21	461	x	2.84	142	x
DM Cid Ultra*	98175	9.03	903	x	0.00		x
DeLaval Super	97770	8.95	716	x	2.84	227	x
Hyproclor ED	96263	8.75	486	x	4.49	249	x
Alkasan	95651	7.86	82	x	1.63	393	x
Dairy-Chlor	96845	7.26	227	454	3.48	109	218
DM Cid	98174	7.63	763	x	4.05	404	x
DeLaval Ultra	97768	6.36	318	636	2.55	128	255
CircopowerAFM	96148	5.43	190	x	6.13	215	x
Dairycleanse	96846	4.32	269	x	3.04	189	x

PCS number = Pesticide control service number, indicates that the product is registered with DAFM and therefore can be legally placed on the Irish market

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

- A minimum of 800 ppm of caustic in the working solution is recommended for hot cleaning where the product is reused cold for the afternoon wash. Higher working solutions are required if a hot wash is not used daily
 - Lower usage rates may be considered for products with high caustic % when used hot and the solution is not recycled
 - Detergents with a lower caustic working solution (<800ppm) will give satisfactory cleaning when used with hot water and the solution is not recycled.
 - Increasing the usage rate of products to achieve higher caustic levels may result in non-acceptable levels of chlorine in the working solution.
 - Choose products with a chlorine working solution less than 300 ppm.
 - * This product does not contain sodium hypochlorite. The disinfectant agent is Diamine .
- **Table 2. Caustic content in liquid detergent products on the Irish market (Teagasc, August, 2017).** Product names in order of decreasing caustic content in the working solution with cold washing. No PCS number required for these products.

Product Name	Hot wash		*Working solution (ppm)	Cold wash	
	% Caustic w/w	Usage rate (grams/litre)		Usage rate (grams/litre)	*Working solution (ppm)
LactivateClean	39.7	2.5	993	2.5	993
Lely Astri-Lin	29.88	5.0	1494	x	x
Fullwood AMS cleaner	29.36	5.0	2936	x	x
Alkadex Forte (bulk tank)	29.32	5.0	1466	5.0	1466
Hypral One	28.25	5.0	2825	-	-
Timac CIP	28.08	6.2	1747	8.9	2496
ParlosanNC**	24.34	10.0	2434	11.1	2704
Multisan CF**	25.42	6.7	1695	10.0	2542
Autoscan Blue Alkaline	23.66	5.0	1183	10.0	2366
Quantum x L	22.33	2.5	558	x	x
Autosan Blue	20.93	5.0	1047	10.0	2093
Cipton	20.73	?	?	?	?
Hypral SP	15.88	6.7	1059	x	x
Sanagard	10.48	5.0	524	x	x

- Working solutions are calculated based on manufactures recommended usage rates and % caustic measured in products
 - ** The addition of hydrogen peroxide to these products is recommended by manufacturers as part of a good cold/hot wash program
- An additional acid descale wash should be carried out at a minimum once weekly with all products

Table 3: Caustic content in powder detergent products on the Irish market (Teagasc, August, 2017). Products names are listed in alphabetical order

Product Name	PCS number	Usage rate (grams/litre)	*Working solution (ppm)
			Caustic
Alfasan Plus	N/A	5.6	4500
BFS cold wash	N/A	5.0	4700
Cipsan Plus	N/A	5.0	5100
CircodineP***	93464	5.0	2900
Circodine CF	N/A	5.0	2300
Cold Clean Plus	N/A	5.0	4400
Cold wash Evans	N/A	5.0	4300
Cold wash agroserve	N/A	5.0	2700
Cryosan Plus	N/A	5.0	4200
Crystal Powder cold cleaner	N/A	2.5	3600
Dairygold cold circulation cleaner	N/A	5.6	5300
Dairy-clean plus	N/A	5.6	3900
Dairy Cold Wash	N/A	5.0	4500
Dairy-san **	N/A	3.8	1600
De Laval RX5000-San	97349	3.8	1200
Deosan Farm Cold Cleaner	N/A	5.0	4200
DM Cid P	N/A	5.0	2700
Duosan50***	95667	3.1	800
Galvisan cold wash	N/A	5.0	4800
Hydrosan Plus	N/A	5.0	3500
Jet Star	N/A	5.0	3600
Kilco Clearway	N/A	5.0	3700
Koldosan	N/A	5.0	2000
Koldklene	N/A	5.0	3900
Locount Extra	N/A	5.0	3200
LIR AGRI Daily Clean	N/A	5.0	3000
Metron powder	N/A	3.8	2700
Muller cold detergent	N/A	5.0	4300
Polarsan Plus	N/A	5.6	4700
PureChem cold wash	N/A	5.0	3700
PureChem hot wash**	N/A	2.5	1100
Trisan Extra	N/A	3.8	2200
Turboclean	N/A	5.6	5000
Unisan Plus	N/A	5.0	5000

N/A = not applicable (as contains no chlorine)

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

- *** Products contain some chlorine
- Working solutions above 2000ppm are recommended for powder cold caustic cleaning products containing no chlorine. Lower working solutions (800ppm) of caustic may be used with products containing chlorine and with products recommended to be used with hot water**
- Some products contain high levels of sodium carbonate while other products contain high levels of non caustic alkaline detergents which have additional cleaning benefits.
- An additional acid descale wash should be carried out at a minimum once weekly with all products

Table 4: Chlorine content in registered steriliser products on the Irish market (Teagasc, August, 2017. Product names listed in alphabetical order

Product Name	PCS number	% Chlorine w/w	usage rate (mls/litre)	**Working solution (ppm)
Dairy Hypochlorite	96163	9.92	2.2	220
DairyChlor	96845	6.95	3.8	263
Deosan Red Label	94183	10.07	2.5	252
Galvichlor	96863	9.11	2.5	228
LIR Hypochlorite	97823	9.71	3.6	267
Mikro-Chlor	94992	9.33	2.5	233
Red Label	95409	7.80	2.5	195
Sodium Hypochlorite	96898	11.73	3.8	443