

Neuthox for disinfection of drinkingwater in Germany

Producer:

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Generator:

Product : Generator for production of elektrolyzed disinfection liquid
Type : DCW T10 und T25
Disinfection liquid : Neuthox

Hereby Danish Clean Water declare, that the disinfection liquid Neuthox, onsite produced by af DCW-generator, the requirements listed underneath.

Technische Regel DVGW-Arbeitsblatt W 229, Mai 2008:

Verfahren zur Desinfektion von Trinkwasser mit Chlor und Hypochloriten
(Method for disinfection of drinkingwater with Chlor, hypochlorous acid and hypochlorite)

Technische Regel DVGW-Merkblatt W 296, Februar 2002:

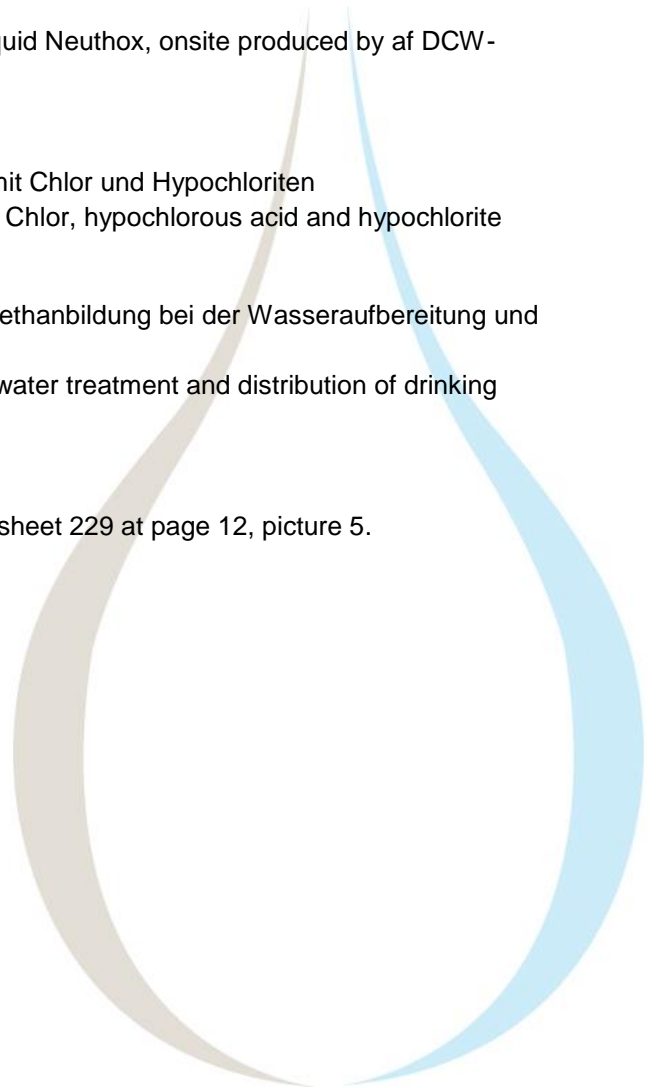
Vermindern oder Vermeiden der Trihalogenmethanbildung bei der Wasseraufbereitung und
Trinkwasserverteilung
(Reduce or avoid the trihalogenmethanes by water treatment and distribution of drinking
water)

The process of the DCW-generator is shown in DVGW worksheet 229 at page 12, picture 5.

Nordborg, 18. Juni 2012



Hardy Jepsen
CEO, Danish Clean Water



Documentation for the DCW-generator

Chemical compounds made from the electrochemical process

Parameters	Unit	Neuthox 100
Chlor	mg/l	430
Hypochlorite	mg/l	390
Hypochlorous acid	mg/l	40
Chlorate	mg/l	41
Chloride	mg/l	1700
Perchlorate	mg/l	< 10
Sodium	mg/l	1400
pH	-	8,5
Natriumhydroxide	mg/l	0,12

Parameter	Unit	Neuthox 75	Cathox 25
Chlor	mg/l	700	< 1
Hypochlorite	mg/l	550	< 1
Hypochlorous acid	mg/l	380	< 0,1
Chlorate	mg/l	75	< 10
Chloride	mg/l	1800	1800
Perchlorate	mg/l	< 10	< 10
Sodium	mg/l	1400	1900
pH	-	6,5	12,1
Natriumhydroxide	mg/l	0	400

Parameter	Unit	Neuthox 50	Cathox 50
Chlor	mg/l	800	< 1
Hypochlorite	mg/l	730	< 1
Hypochlorous acid	mg/l	640	< 0,1
Chlorate	mg/l	73	< 10
Chloride	mg/l	1700	1800
Perchlorate	mg/l	< 10	< 10
Sodium	mg/l	1400	1900
pH	-	3,6	12,1
Natriumhydroxide	mg/l	0	400

Metall	Unit	Neuthox100
Lead (Pb)	µg/l	1,2
Cadmium (Cd)	µg/l	< 0,1
Chrome (Cr)	µg/l	1,0
Copper (Cu)	µg/l	2,6
Nickel (Ni)	µg/l	< 1
Zinc (Zn)	µg/l	< 5
Iron (Fe)	mg/l	0,02
Manganese (Mn)	mg/l	< 0,05
Iridium (Ir)	µg/l	40
Ruthenium (Ru)	µg/l	< 1
Tin (Sn)	µg/l	< 1
Titanium (Ti)	µg/l	< 5

These results are stated with reference to DVGW W229.

The analyses were made by Eurofins Product Testing Denmark. For more precise results the Eurofins reports can be requested.

Halocarbons

Parameter	Unit	FAC - 1,2 ppm
1,1,1-Trichlormethane	µg/l	1,07
Trichlorethene	µg/l	1,07
Tetrachlorethene	µg/l	1,30
Dichlormethane	µg/l	12,64
Tetrachlormethane	µg/l	1,27
Chloroforme	µg/l	1,19
Dichlorbromethane	µg/l	1,60
Dibrommethane	µg/l	1,96
Bromoforme	µg/l	2,31

The values for halocarbons are below under the requirements in DVGW W296.

The analyses were made by Institute for Hygiene and environment, Lollar, Germany for the manufacture of the electrolysis cell that DCW use. For more information the full report can be required.