

Labor

Verbund-Wasserwerk Witten Labor Ruhrstraße 110 58452 Witten	Unit	Waterworks Rohland	Waterworks Volmarstein	Waterworks Witten	Limit Drinking Water Ordinance
general parameters					
pH-value		8,29	7,77	7,88	6,50 - 9,50
electrical conductivity at 25°C	µS/cm	187	489	388	2790
turbidity	FNU	0,07	0,07	0,06	1,00
colouration (absorption of light at 436 nm)	1/m	0,03	0,02	0,07	0,50
UV-absorption (absorption of light at 254 nm)	1/m	1,72	1,40	1,99	
TOC (total organic carbon)	mg/l	1,21	1,19	1,31	
oxygen	mg/l	9,3	11,0	10,4	
base capacity up to pH 8,2	mmol/l	0,000	0,086	0,043	
free carbon dioxide	mg/l	0,00	0,00	0,00	
acid capacity up to pH 4,3	mmol/l	0,800	2,280	1,720	
carbonate hardness	°dH	2,2	6,4	4,8	
water hardness specified as					
total alkaline earths	mmol/l	0,674	1,920	1,280	
total hardness	°dH	3,78	10,76	7,18	
hardness range WRMG		soft	medium hard	soft	
bacteriological parameters					
bacterial count at 22°C	1/ml	1	0	0	100
bacterial count at 36°C	1/ml	1	1	1	100
coliform bacteria	1/100ml	0	0	0	0
escherichia coli (e. coli)	1/100ml	0	0	0	0
clostridium perfringens	1/100ml	0	0	0	0
enterococci	1/100ml	0	0	0	0
chlorine, free	mg/l	0,21	0,31	---	0,30
chlorine, total	mg/l	0,25	0,39	---	
chlorine dioxide	mg/l	0,09	---	---	0,20
chlorite	mg/l	0,12	---	---	0,20
organic parameters					
benzene	mg/l	<0,00025	<0,00025	<0,00025	0,00100
benzo(a)pyrene	mg/l	<0,0000010	<0,0000010	<0,0000010	0,0000100
1,2-dichloroethane	mg/l	<0,0003	<0,0003	<0,0003	0,0030
dichloromethane	mg/l	<0,001	<0,001	<0,001	
tetrachloromethane	mg/l	<0,0001	<0,0001	<0,0001	
total tri- und tetrachloroethylene	mg/l	<0,0001	<0,0001	<0,0001	0,0100
total trihalomethanes	mg/l	0,001	<0,0001	n.n.	0,0100
total PAH (polycyclic aromatic hydrocarbons)	mg/l	n.n.	n.n.	n.n.	0,0001
total plant protection products & pesticides	mg/l	n.n.	n.n.	n.n.	0,0005
total PFOA and PFOS	ng/l	n.n.	<10	12	300
total PFT	ng/l	n.n.	<10	22	

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Mineral Components					
Anionen					
hydrogen carbonate	mg/l	48,8	139,1	104,9	
chloride	mg/l	15,3	32,4	34,9	250,0
nitrate	mg/l	12,0	14,1	11,5	50,0
sulphate	mg/l	12,7	62,8	34,4	250,0
phosphate, total	mg/l	<0,010	0,081	0,136	
nitrite	mg/l	<0,01	<0,01	<0,01	0,10
fluoride	mg/l	0,04	0,16	0,11	1,50
cyanide	mg/l	<0,01	<0,01	<0,01	0,05
bromate	mg/l	<0,003	<0,003	<0,003	0,010
silicates	mg/l	3,50	9,00	2,73	
cations					
sodium	mg/l	7,7	22,8	23,8	200,0
potassium	mg/l	1,5	5,5	3,5	
magnesium	mg/l	3,4	13,0	6,8	
calcium	mg/l	21,4	55,5	40,1	
iron	mg/l	0,001	0,003	0,001	0,20
manganese	mg/l	<0,001	<0,001	<0,001	0,05
boron	mg/l	<0,050	0,1	0,1	1,00
aluminium	mg/l	0,0	0,0	0,0	0,200
ammonium	mg/l	<0,01	<0,01	<0,01	0,50
micro elements					
antimony	mg/l	<0,001	<0,001	<0,001	0,005
arsenic	mg/l	<0,001	<0,001	<0,001	0,010
lead	mg/l	<0,001	<0,001	<0,001	0,010
cadmium	mg/l	<0,0001	<0,0001	<0,0001	0,0030
chromium	mg/l	<0,001	<0,001	<0,001	0,050
nickel	mg/l	<0,001	<0,001	0,002	0,020
mercury	mg/l	<0,0001	<0,0001	<0,0001	0,0010
copper	mg/l	0,004	0,004	0,01	2,00
selenium	mg/l	<0,001	0,001	0,001	0,010
zinc	mg/l	0,003	0,004	0,005	
uranium	mg/l	<0,0001	<0,0001	0,0001	0,0100

"n.n." - "below detection limit"

"<" - "lower than limit of quantification"

"Limit Drinking Water Ordinance"

= limit of the German Trinkwasserverordnung (TrinkwV 10.03.2016)

"total PFOA and PFOS"

= sum of the perfluorinated tensides PFOA and PFOS

"total PFT"

= sum of all detected perfluorinated tensides

"hardness range WRMG"

The German law "Wasch- und Reinigungsmittelgesetz" (WRMG 17.07.2013) defines three ranges of water hardness:

• „weich“ = soft

lower than 1,5 millimol calciumcarbonat per litre

• „mittel“ = medium hard

between 1,5 and 2,5 millimol calciumcarbonat per litre

• „hart“ = hard

more than 2,5 millimol calciumcarbonat per litre

• „1 °dH“ = 10 mg CaCO₃ dissolved in 1 liter water are equivalent to 1 °dH (one degree german water hardness)

In case of questions to our drinking water report please contact VWW - laboratory:

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