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### **Drinking Water in Stockholm – Certification of Quality**

The drinking water in Stockholm City is produced by Stockholm Vatten och Avfall (Stockholm Water and Waste) and is certified by ISO 9001 and ISO 14001.

The drinking water in Stockholm City is of a high and consistent quality, and is produced by treating water from the Lake Mälaren in our two water works, Lovö and Norsborg.

The control of the production and distribution of drinking water is regulated by the Swedish National Food Administration (Statens Livsmedelsverk) and the national directive SLV 2001:30 and changes in legislation LIVSFS 2017:2 (based on the European drinking water directive, 98/83/EG).

The drinking water quality and the quality control performed by Stockholm Water and Waste, is in full compliance to existing regulations and guidelines.

Lake Mälaren is by any standard a pure lake and well suited for the production of drinking water. The drinking water can therefore be produced by simple and robust processes.

A quality declaration (based on average water quality data 2020 from our two water works Lovö and Norsborg) is enclosed with this document.

Sincerely,

STOCKHOLM VATTEN OCH AVFALL

Markus Möller  
Adviser  
Drinking Water Quality

## Drinking Water Quality at the Norsborg and Lovö Water Work in Stockholm 2020

Parameter	Unit	Drinking water Norsborg <i>mean</i>	Drinking water Lovö <i>mean</i>	<i>Limits</i> <sup>1)</sup>
Temperature	° C	<b>9,3</b>	<b>7,2</b>	20
Colour	Pt	<b>&lt;5</b>	<b>5</b>	15
Turbidity	FNU	<b>0,05</b>	<b>0,06</b>	0,5
Conductivity, 25 °C	mS/m	<b>24</b>	<b>27</b>	250 <sup>4)</sup>
Total organic carbon	TOC	<b>3,3</b>	<b>3,7</b>	5,5 <sup>3)4)</sup>
Odour		<b>none</b>	<b>none</b>	<i>weak</i> <sup>4)</sup>
Taste		<b>none</b>	<b>none</b>	<i>weak</i> <sup>4)</sup>
pH		<b>8,4</b>	<b>8,4</b>	<i>should be 6,5 - 9,5</i> <sup>4)</sup>
Alkalinity	HCO <sub>3</sub>	<b>0,89</b>	<b>1,1</b>	-
Total hardness	CaCO <sub>3</sub>	<b>79,6</b>	<b>96,4</b>	279 <sup>4)</sup>
Calcium	Ca	<b>25</b>	<b>31</b>	100 <sup>4)</sup>
Magnesium	Mg	<b>4,3</b>	<b>4,9</b>	30 <sup>4)</sup>
Sodium	Na	<b>13</b>	<b>14</b>	100 <sup>4)</sup>
Potassium	K	<b>2,4</b>	<b>2,5</b>	-
Iron	Fe	<b>&lt; 0,01</b>	<b>&lt; 0,01</b>	0,100
Manganese	Mn	<b>&lt; 0,001</b>	<b>&lt; 0,001</b>	0,050 <sup>4)</sup>
Aluminium	Al	<b>0,02</b>	<b>0,02</b>	0,100 <sup>4)</sup>
Copper	Cu	<b>0,001</b>	<b>0,001</b>	0,20 <sup>4)</sup>
Lead	Pb	<b>&lt; 0,0005</b>	<b>&lt; 0,0005</b>	0,010 <sup>4)</sup>
Cadmium	Cd	<b>&lt; 0,0001</b>	<b>&lt; 0,0001</b>	0,0050 <sup>4)</sup>
Mercury	Hg	<b>&lt; 0,0002</b>	<b>&lt; 0,0002</b>	0,0010 <sup>4)</sup>
Arsenic	As	<b>&lt; 0,001</b>	<b>&lt; 0,001</b>	0,010 <sup>4)</sup>
Pesticides, total		<b>&lt; report limit</b> <sup>5)</sup>	<b>&lt; report limit</b> <sup>5)</sup>	0,00050 <sup>4)</sup>
Polyaromatic hydrocarbons totalt	PAH	<b>&lt; 0,00005</b>	<b>&lt; 0,00005</b>	0,00010 <sup>4)</sup>
Trihalomethanes, totalt	THM	<b>&lt; 0,004</b>	<b>&lt; 0,004</b>	0,050 <sup>4)</sup>
Sulphate	SO <sub>4</sub>	<b>43</b>	<b>47</b>	100 <sup>4)</sup>
Chloride	Cl	<b>16</b>	<b>18</b>	100 <sup>4)</sup>
Fluoride	F	<b>&lt; 0,2</b>	<b>&lt; 0,2</b>	1,5 <sup>4)</sup>
Ammonia	NH <sub>4</sub>	<b>0,07</b>	<b>0,08</b>	0,50 <sup>4)</sup>
Nitrite	NO <sub>2</sub>	<b>&lt; 0,007</b>	<b>&lt; 0,007</b>	0,10
Total chlorine residual <sup>2)</sup>	Cl <sub>2</sub>	<b>0,27</b>	<b>0,26</b>	0,4
Microorganisms, 22 °C, 3 diurnal	per ml	<b>1</b>	<b>1</b>	10
Slow-growing bacteria, 22 °C, 7 diurnal	per ml	<b>1</b>	<b>2</b>	5000 <sup>4)</sup>
Coliform bacteria, 35 °C	per 100 ml	<b>&lt; 1</b>	<b>&lt; 1</b>	<i>detected</i>
Escherichia coli	per 100 ml	<b>&lt; 1</b>	<b>&lt; 1</b>	<i>detected</i>
Clostridium perfringens	per 100 ml	<b>&lt; 1</b>	<b>&lt; 1</b>	<i>detected</i> <sup>4)</sup>

The results are mean annual values. Basic analyses are made several times a week. Additional analysis are carried out two times a year. The analysis has been performed on accredited laboratory. The sign "<" is used to illustrate "smaller than".

1) Limits for acceptable values water without remarks in drinking, according to the Swedish regulation SLV FS 2001: 30 and changes in legislation LIVSFS 2017:2.

2) During the colder part of the year a smaller dosage disinfectant is used, giving a chlorine residual in the outgoing drinking water on 0,2 mg Cl<sub>2</sub>/l. During the warmer part on the other hand, chlorine residual is made 0,3 mg Cl<sub>2</sub>/l.

3) Based on the relationship between TOC and oxidizability. Corresponds to a oxidizability of 4,0 mg O<sub>2</sub>/l, which is the limit value in Swedish regulation.

4) Limit value for user. No limit value is applied by the water work.

5) The report limit is with a good margin below the limit value.