

Emissions into water

TOC emissions

Roche records organic emissions into water as total organic carbon (TOC) after treatment in a wastewater treatment plant. At above 90%, the elimination rates in Roche's wastewater treatment plants are really very high.

592 metric tons of TOC were discharged into surface waters in 2008. Roche's ongoing efforts to reduce environmental impact as part of its sustainable development program are reflected in the 93.5% reduction in TOC emissions in metric tons per CHF 1 million of sales since 1992.

Heavy metals emissions

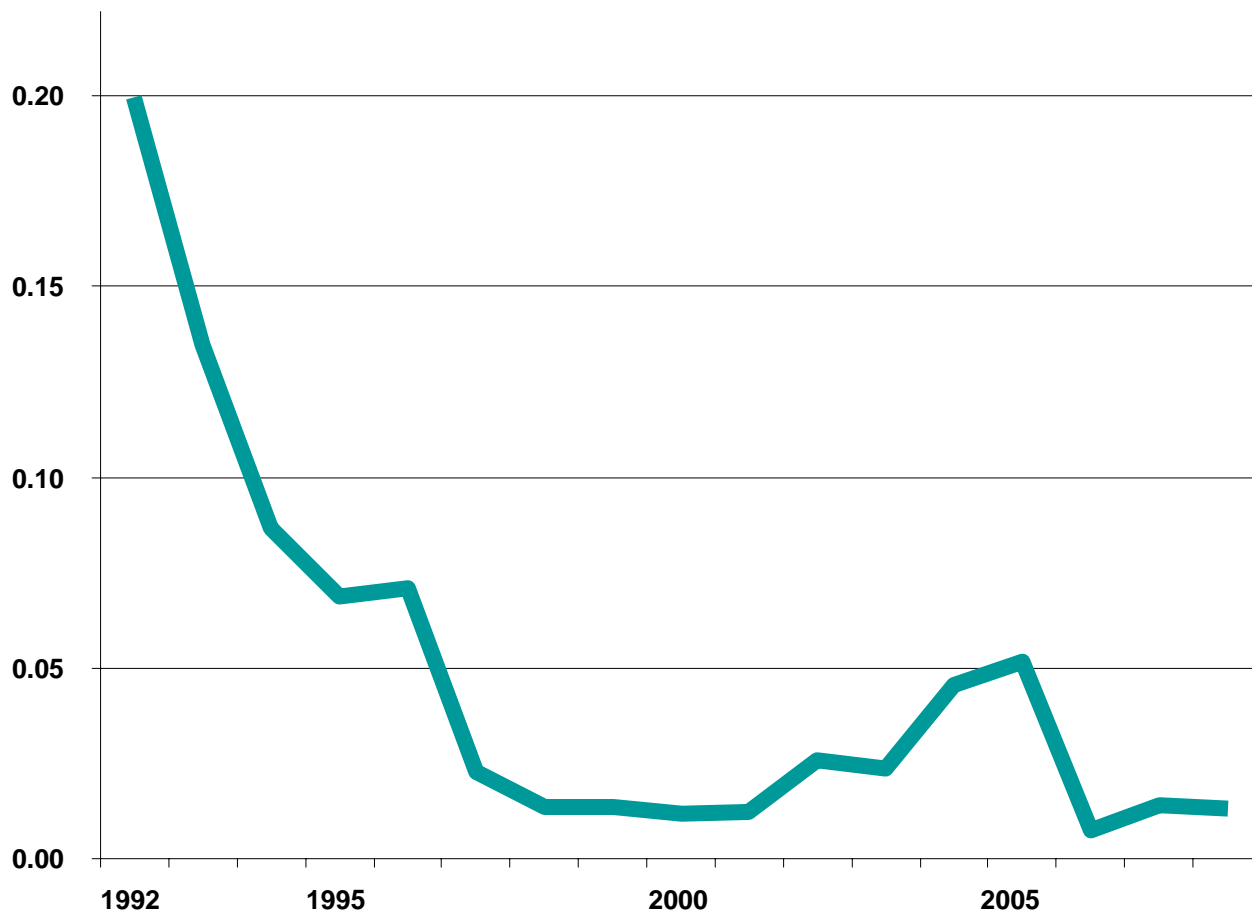
Heavy metal compounds in wastewater are not biodegradable and, depending on their concentration, are harmful to animals and plants in natural waters. They can accumulate in the food chain or be deposited in sediments.

Roche Group emissions fluctuate around a very low level. 90% of the total load consists of copper, zinc, cobalt, nickel and lead, which predominantly originate from catalysts used in research, development and manufacturing. A small proportion of the heavy metals is leached out of piping (copper, zinc, chromium) by wastewater and emitted in this way.

Roche does not, however, discharge any toxicologically significant metals such as cadmium or mercury into wastewater.

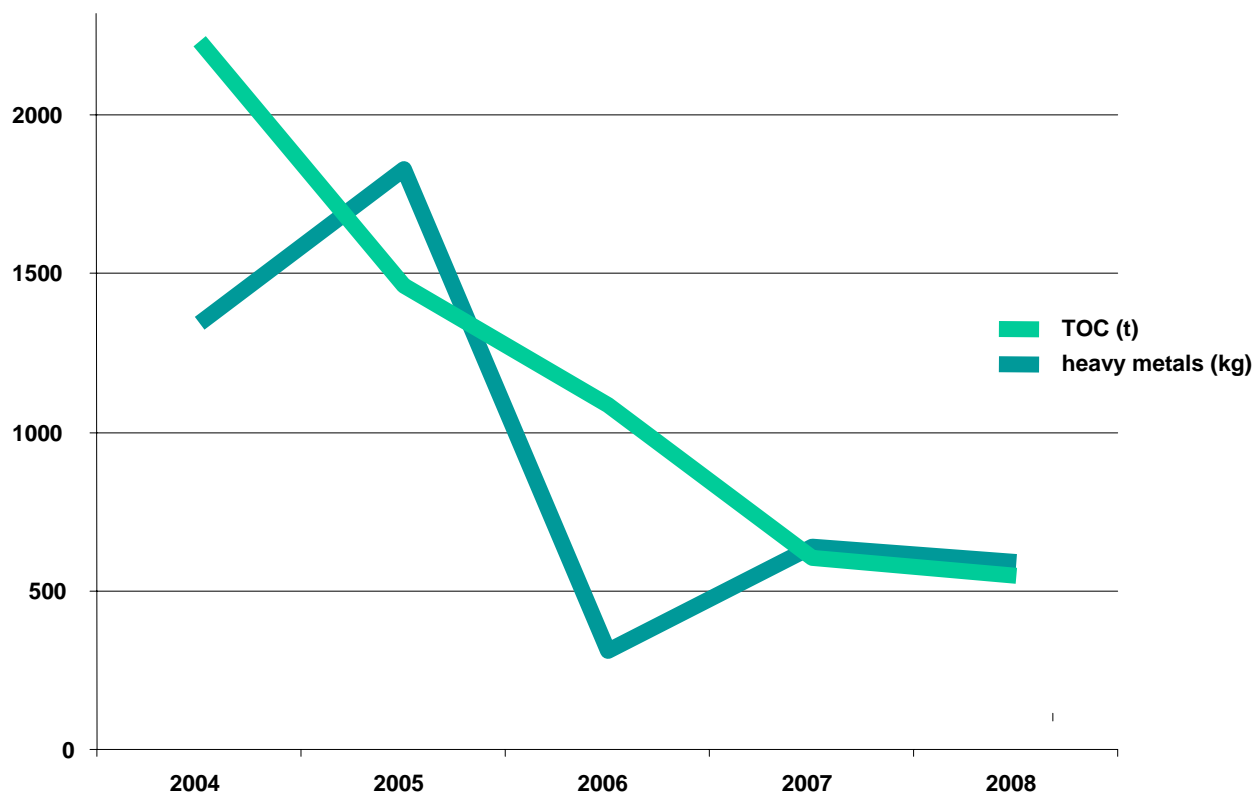
After wastewater purification, total heavy metal emissions into water were 545 kg in 2008, a decrease of 9.9% relative to the previous year.

TOC emissionen (t) into water per CHF a million sales



Year	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
t TOC/ 1 mio CHF	0.200	0.135	0.087	0.069	0.071	0.023	0.013	0.014	0.012	0.012	0.026	0.024	0.046	0.052
Year	2006	2007	2008											
t TOC/ 1 mio CHF	0.007	0.014	0.013											

Emissions into water



Year	2004	2005	2006	2007	2008
t TOC	1344	1830	313	641	592
kg heavy metals	2231	1463	1086	605	545

The strong decrease in TOC emissions in 2006 is mainly due to corrective measures of a main emitter who overreported emissions before.