

Chemicals used for treatment of drinking water supplies (1989)

The NHMRC has examined a wide range of chemicals for treating water in Australia and has recommended those listed for use. To be acceptable, a chemical must have practical application (eg clarify dirty water or removing harmful microorganisms) and none must be toxic when ingested in small doses in drinking water.

<i>Chemical</i>	<i>Formula</i>	<i>Reference</i>
Aluminium sulfate	$Al_2(SO_4)_3$	AWWA B403-82
Ammonia (ammonium hydroxide)	$NH_3(aq)$	FCC p20-21
Ammonium sulfate	$(NH_4)_2SO_4$	AWWA B302-81
Calcium hydroxide	$Ca(OH)_2$	AWWA B202-83
Calcium hypochlorite	$Ca(OCl)_2$	AWWA B300-80
Calcium oxide	CaO	AWWA B202-83
Calcium/sodium poly-phosphate silicate	—	NHMRC 1980 (90 th Session p22)
Carbon, powdered activated	C	AWWA B600-78
Chlorine	Cl_2	AWWA B301-81
Copper sulfate	$CuSO_4 \cdot 5H_2O$	AWWA B602-80
Ferric chloride	$FeCl_3 \cdot 6H_2O$	AWWA B407-83
Ferric sulfate	$Fe_2(SO_4)_3$	NHMRC 1983 (95 th Session p27)
Hydrofluorosilicic acid (Fluorosilicic acid)	H_2SiF_6	AWWA B703-84
Hydrogen peroxide	H_2O_2	FCC p 146-147
Magnetite	Fe_3O_4	-
Polyaluminium chloride	$Al_8(OH)_{10}SO_4Cl_{12}$	NHMRC 1979 (88 th Session p 17-18)
Polydimethyldiallyl ammonium chloride	-	NHMRC 1982 (93 rd Session p 19-20)
Polyacrylamides and acrylic acid (polymers and copolymers)	$(CH_2CHCONH_2)_n$ and $(CH_2CHCOOH)_n$	NHMRC 1977, 1979 (84 th Session p22 and 88 th Session p21)
Potassium permanganate	$KMnO_4$	AWWA B603-83
Silver hydrogen peroxide	$Ag^+ \cdot H_2O_2$	NHMRC 1989 (107 th Session p17)
Sodium alginate	-	FCC p274

Sodium aluminate	NaAlO_2	AWWA B405-83
Sodium bicarbonate	NaHCO_3	FCC p278
Sodium carbonate	Na_2CO_3	AWWA B201-80
Sodium chloride	NaCl	AWWA B200-78
Sodium fluoride	NaF	AWWA B701-84
Sodium fluorosilicate (Sodium silicofluoride)	Na_2SiF_6	AWWA B702-84
Sodium hexametaphosphate	$(\text{NaPO}_3)_6$	AWWA B502-83
Sodium hydroxide	NaOH	AWWA B501-80
Sodium hypochlorite	NaOCl	AWWA B300-80
Sodium silicate	$\text{Na}_2\text{O} \cdot x\text{SiO}_2$ ($x = 3 - 5$)	AWWA B404-80
Sulphuric acid	H_2SO_4	FCC p 317-318
Zinc ortho-phosphate	$\text{Zn}_3(\text{PO}_4)_2$	NHMRC 1987 (104 th Session p32)

* NHMRC – National Health and Medical Research Council
 AWWA – American Water Works Association Standards
 FCC – Food Chemicals Codex, 3rd Edition, 1981