List of chemicals used in the wastewater treatment process







PREVOR GROUP



This file accompanies our article on <u>wastewater treatment</u>, which can be found on our Chemical Risks Portal.

Each of these chemicals can pose specific risks, particularly the risk of chemical damage through skin or eye contact, depending on the concentration and duration of exposure to the chemical. Below is a non-exhaustive list of products used in wastewater treatment.

ΝΑΜΕ	Step(s) concerned	PICTOGRAM(S)	Risk(s)
Hydrochloric acid- HCl (>= 25%)	pH adjustment		H314 – Causes severe skin burns and eye damage. H335 – May cause respiratory irritation.
Nitric acid – HNO ₃	pH adjustment		H272 – May intensify fire; oxidizer. H314 – Causes severe skin burns and eye damage. H330 – Fatal if inhaled. EUH 071 – Corrosive to the respiratory tract.
Sulphuric acid – H ₂ SO ₄ (>= 15%)	pH adjustment		H314 – Causes severe skin burns and eye damage.
Calcium carbonate - CaCO3 (>94%)	pH adjustment	Not relevant (not classified)	Does not present any hazardous effects.
Chlore – Cl ₂	Disinfection (water)		 H270 - May cause or intensify fire; oxidizer. H315 - Causes skin irritation. H319 - Causes serious eye irritation. H331 - Toxic if inhaled. H335 - May cause respiratory irritation. H400 - Very toxic to aquatic life.
Aluminium chloride – AlCl ₃	Physico-chemical treatment (dephosphatation) Delivered in liquid form - Al(OH)xCly		H314 – Causes severe skin burns and eye damage. EUH014 – Reacts violently with water. EUH071 – Corrosive to the respiratory tract.
Ferric chloride – FeCl ₃ (40%)	Physico-chemical + biological treatment (dephosphatation) Supplied in powder form (water soluble)		 H302 – Harmful if swallowed. H315 – Causes skin irritation. H317 – May cause an allergic skin reaction. H318 – Causes serious eye damage.





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Carbon dioxide – CO ₂	pH adjustment	Not relevant (not classified)	Does not present any hazardous effects.
Chlorine dioxide – ClO ₂	Disinfection (water)		H301 – Toxic if swallowed. H314 – Causes severe skin burns and eye damage. H400 – Very toxic to aquatic life.
Calcium hydroxide (use as milk of lime) – (Ca(OH) ₂)	Physico-chemical treatment (pH adjustment– used to increase the pH in water)		H315 – Causes skin irritation. H318 – Causes serious eye damage. H335 – May cause respiratory irritation.
Sodium hydroxide- NaOH (caustic soda)	 * Disinfection (water + air) * pH adjustment 	A REAL	H314 – Causes severe skin burns and eye damage.
Sodium hypochlorite–NaOCl (bleach)	 * Cleaning and maintenance * Disinfection (air) 		H314 – Causes severe skin burns and eye damage. H400 – Very toxic to aquatic life. EUH 031 – Contact with acids liberates toxic gas.
Methanol – CH₄O	Biological treatment (denitrification phase)		H225 – Highly Flammable liquid and vapor. H331 – Toxic if inhaled . H311 –Toxic in contact with skin. H301–Toxic if swallowed. H370 – Causes damage to organs.
Calcium oxide – CaO (quicklime) Supplied in powder form	 * pH adjustment (for making milk of lime) * Sludge treatment (thickening + dewatering) 		H315 – Causes skin irritation. H318 – Causes serious eye damage. H335 – May cause respiratory irritation.
Ozone – O ₃	* Disinfection (water)	Not relevant (not classified)	Does not present any hazardous effects.





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Hydrogen peroxide – H ₂ O ₂ (>= 70%)	Disinfection (air)	 H271 – May cause fire or explosion; strong Oxidizer. H302 – Harmful if swallowed. H314 - Causes severe skin burns and eye damage. H332 – Harmful if inhaled. H335 – May cause respiratory irritation.
Hydrogen Sulphide – H ₂ S	Sludge receiving stations	H220 – Extremely flammable gas. H330 – Fatal if inhaled . H400 – Very toxic to aquatic life.

If you would like more information on the risks associated with the use of flocculants and on existing decontamination methods, you can refer to our page dedicated to the subject on our <u>Prevor Environnement</u> <u>website</u>.



