

## PFAS

'PFAS' stands for **per- and polyfluoroalkyl substances**, a group of human-made chemicals that have been used in various industries around the world since the 1940s. These chemicals are known for their ability to resist heat, oil & water.

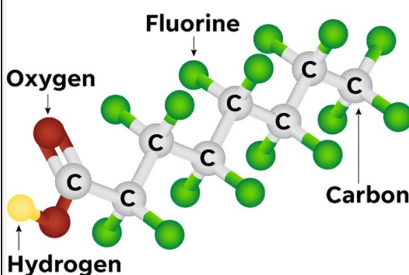
Often referred to a 'forever chemicals' as they do not break down easily in the environment, or, in living organisms, leading to bio-accumulative properties.

Exposure to PFAS has been linked to many health issues such as immune system effects, increased risk of cancers, and changes in cholesterol levels.

PFAS are found in many every day products and fire fighting foams.

Treatment of PFAS in water is still regarded as complex.

PFAS are now known to be in the blood of most animals on the planet.



## What is PerfluorAd?

A simple water treatment for removal of PFAS.



### A 3 step approach to PFAS treatment

- 1—Review of water analysis
- 2—Bench testing with PerfluorAd
- 3—Delivery of treatment plant & commissioning (or addition of PerfluorAd to your existing system).

Cornelsen developed PerfluorAd from 2010 to 2013; with full scale use from 2014, making it a tried and proven method for over 10 yrs, placing Cornelsen as one of the most experienced PFAS treatment providers on the market.

### Sustainable:

Safe –based on chemistry found in nature.

Low waste—the PFAS sludge is very low volume.

Biodegradable—PerfluorAd breaks down biologically to harmless chemicals according to OECD 301B

### Versatile:

Effective in High PFAS concentration waters & waters with a complex background.

### Shelf Life & storage:

PerfluorAd can be stored in closed containers for 6 months.

Stirring before use may be required as the raw material can separate.

Storage over 40°C will result in discolouration.

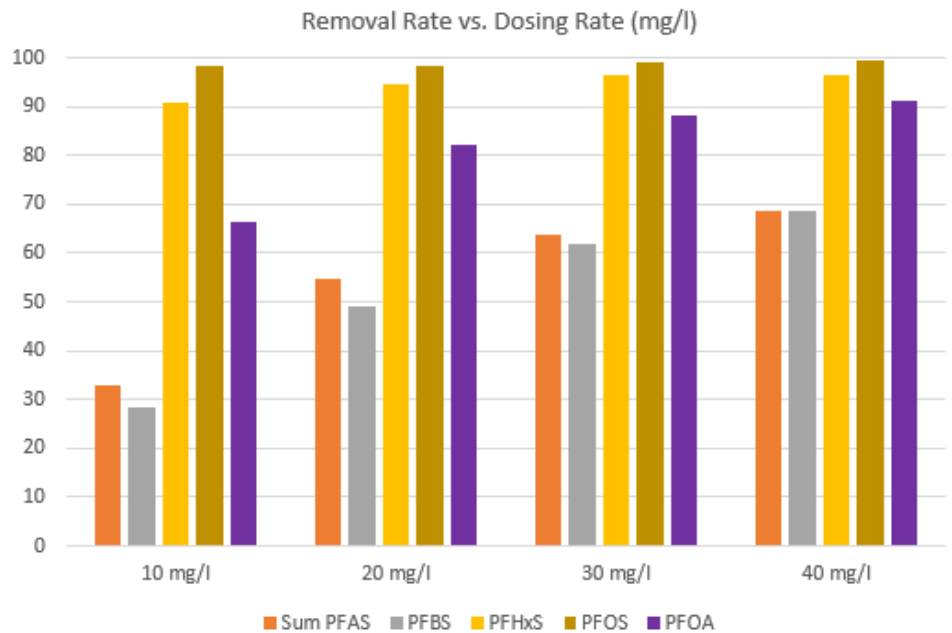
### International:

Listed with the following Registries:

Australia (AIIC), Canada (DSL), EU (EINECS/ELINCS), USA (TSCA)

## PerfluorAd PFAS treatment

### Simple & effective PFAS treatment



### Conditions

### Effect on performance

|                                |                             |
|--------------------------------|-----------------------------|
| <b>pH low or high</b>          | No detrimental effect       |
| <b>High salinity</b>           | Minor negative influence    |
| <b>High organic background</b> | No effect                   |
| <b>High surfactant loading</b> | No effect to slight benefit |

PerfluorAd can be supplied for use in existing water treatment plant and easily combines with common separation equipment such as DAF (Dissolved Air Flotation) or lamella settlers / clarifiers and belt filters.

Cornelsen can also provide a complete package plant solution to include PFAS treatment with PerfluorAd as well as treatment of other compounds in your wastewater. Very often, the PFAS treatment becomes a simpler part of the overall waste water treatment.