LIFE CLEAN

PFAS

LifeClean´s new unique method setting new global standard

Verified industrial solutions to eliminate pathogens and toxic substances based on patented and sustainable technology developed in Sweden

Human health

Animal health

Nature

Improving everyday challenges in billion dollar industries

Healthcare

High-level disinfection solutions to prevent antimicrobial resistance and minimise healthcare related infections.

Vertical focus
Disinfection of surfaces within hospital environments, focusing on intensive care and operation rooms

Agriculture

Cleaning and disinfecting solution to eliminate microbes with no toxic residues to improve productivity within the chicken industry and secure food production

Vertical focus
Cleaning and disinfecting process between production cycles of broilers

PFAS

Sanitising and processing solutions to remove PFAS to help industries minimise hazardous consequences of PFAS pollution

Vertical focus
Sanitising industrial systems used with firefighting foam before changing to new foam agents to comply with the new upcoming EU legislation

What is PFAS?

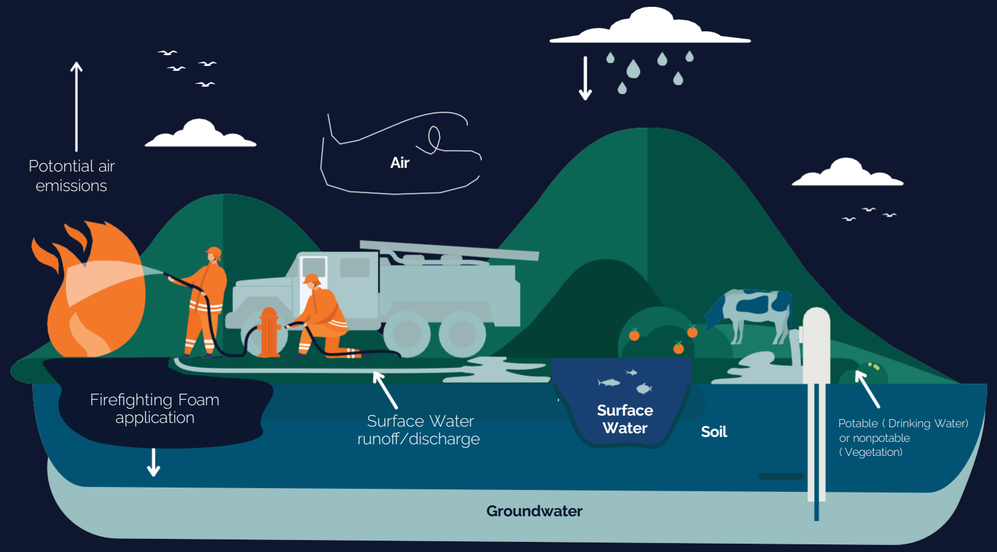
- A synthetically produced group of compounds with fluorinated carbon
- Consist of a strong carbon-fluorine bond making them resistant to heat, water and oil
- Many are also surfactants, making them useful for products such as paints, detergents, ski wax and cosmetics.
- PFAS is used in firefighting foam.

PFOS

PFOA

Two examples of often reoccurring and deemed as high health risks are PFOS and PFOA.

Consequences of PFAS waste



Human

Exposure to high levels of PFAS as a result of local water contamination has for example demonstrated a correlation with:

- Impaired immune system
- Changes in liver enzymes
- Increased cholesterol levels
- Increased risk of kidney and testicular cancer
- Increased risk of high blood pressure or pre-eclampsia in pregnant women

Studies has also shown that PFAS pass through the placenta from the mother to fetus tissues, so when the baby is born it already has built-up levels of PFAS in lungs, liver, brain and elsewhere in the body.

Nature

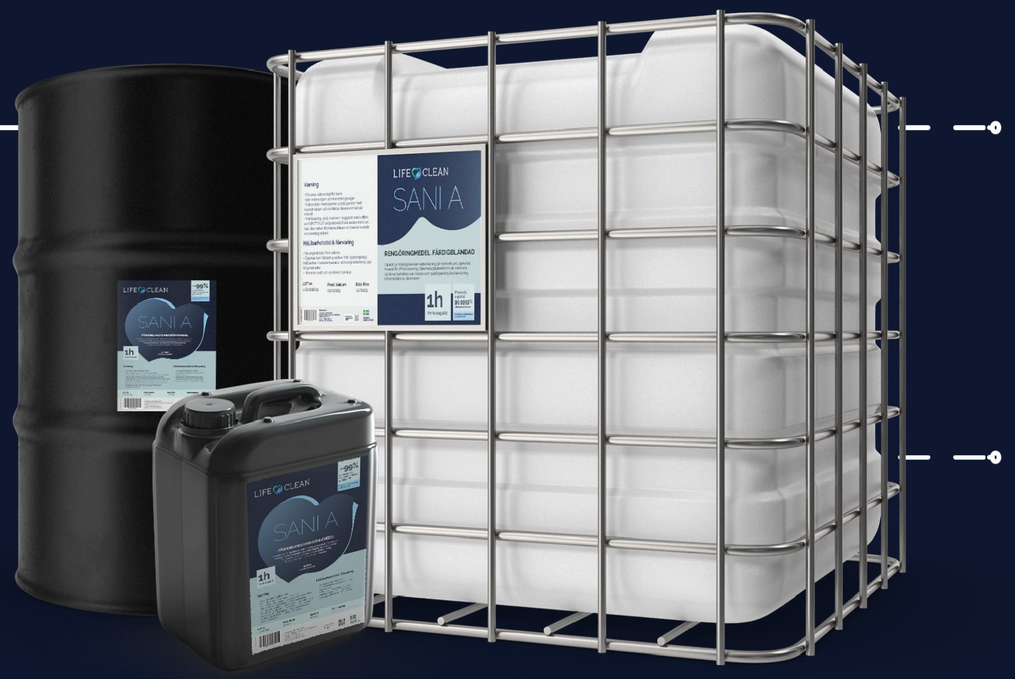
Soil may be contaminated with PFAS, leading to further contamination with everything in contact with the soil.

Air, PFAS can be emitted into the air as vapors or particles. PFAS travels in the atmosphere through adhesion to particulate matter.

Fish and wildlife, some PFAS are known to accumulate in exposed animals. It has also been shown to be a biomagnifier meaning the chemicals transfer up the food chain.

Patented solution

Revolutionary efficacy
Sani A together with the purpose-developed sanitation method effectively removes PFAS ~98% below ECHAs proposed restriction



Classified as non-hazardous waste
LifeClean is not classified as dangerous according to EG 1272/2008 (CLP). LifeClean reacts immediately, breaks down quickly and leaves no hazardous residuals or toxic compounds. Easily degradable and do not accumulate in nature.

Penetrates porous materials
LifeClean is not classified as dangerous according to EG 1272/2008 (CLP). LifeClean reacts immediately, breaks down quickly and leaves no hazardous residuals or toxic compounds. Easily degradable and do not accumulate in nature.

LifeClean Sani A – Industry sectors

New industry best practice for firetrucks, fire extinguishers and sprinkler systems

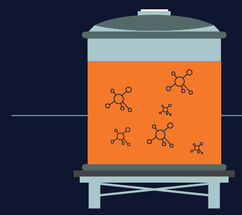
Firetrucks

Fire extinguishers

Sprinkler systems

Not classified as dangerous according to EG 1272/2008 (CLP)
LifeClean is easy degradable, reacts immediately and breaks down completely

PFAS - Decontamination Process



Prewash

Surfactants Regulator
30 minutes

Sanitize

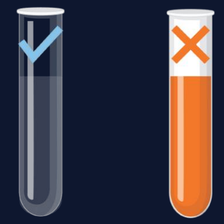
Run 1 hour
or more

Last wash

Reduction average
99,97%

Destruction

LifeClean Special Filter Solution



Clear water

Third-party validation to ensure compliance with regulatory requirements

LifeClean sanitation process is consistently validated through analysis conducted by accredited third-party laboratories. By partnering with globally renowned PFAS laboratory Eurofins, LifeClean guarantees documentation, rigorous testing, and a seamless process to meet and exceed regulatory compliance.

TESTING METHODS

PFAS35
ORGANIC FLUORINE
TOP ASSAY

Sanitation firefighting trucks

Objects: Firefighting trucks in regular use for municipal firefighting services

Volumes: 900 – 1100l

Ages: Varying, 15+ years

Media: PFOS contaminated.

Analysis	Sum PFAS TOP (average)	Sum PFAS TOP	Reduction Sum PFAS TOP	Sum PFAS "35"
	Pre-sanitation: [ng/l]	Post-sanitation: [ng/l]	Post-sanitation: [%]	Post-sanitation: [ng/l]
Tank 1	**~700 000 000**	65 000	99.99%	20 000
Tank 2	**~700 000 000**	40 000	99.99%	18 000
Tank 3	**~700 000 000**	82 000	99.99%	5 200

Sanitation industrial facility system

Objects: Tank, piping, and sprinklers

Age: System installed 30+ years, foam media introduced 20+ years

Media: No pre-test was conducted, the customer was positive it contained high levels of PFOS

Analysis	Sum PFAS TOP	Sum PFAS SLV11
	Post-sanitation: [ng/l]	Post-sanitation: [ng/l]
Pipes	65 000	52 000
Tank	5000	450

Sanitation commercial ferry

Objects: Tank, piping, and sprinklers

Age: Unknown, customer estimation 20+ years

Media: No pre-test was conducted, the customer was positive it contained high levels of PFOS

Comment: Difference in result between analysis methods motivating comprehensive testing methods

Object	Result:	Result:	Result:
	Estimated value pre-sanitation [ng/l]	Post-sanitation [ng/l]	Post-sanitation [ppm]
Sum PFAS 35	>300 000 000	4 400	0.0044
Sum PFAS SLV 11	>300 000 000	3 900	0.0039

Examples of the filter system's results

Results after one filtration process, additional processes can be performed

EXAMPLE OF ANALYS **AFTER FILTRATION**	**Objects:** Municipal firefighting truck **Pre-sanitation value:** ~ 200 000 000
Summa PFAS (TOP)	**9.5 ng/l**
Summa PFAS SLV 11	**0.49 ng/l**
Summa PFAS4	**ND**

EXAMPLE OF ANALYS **AFTER FILTRATION**	**Objects:** Firefighting truck, petrochemical facility **Pre-sanitation value:** ~ 500 000 000
Summa PFAS (TOP)	**49 ng/l**
Summa PFAS SLV 11	**10 ng/l**
Summa PFAS4	**18 ng/l**

How to collect water samples from tanks

Personnel: Two people should conduct the procedure to ensure accuracy, safety, and promote compliance.
System variability: The process may vary slightly depending on the design, but these practices should be consistent.

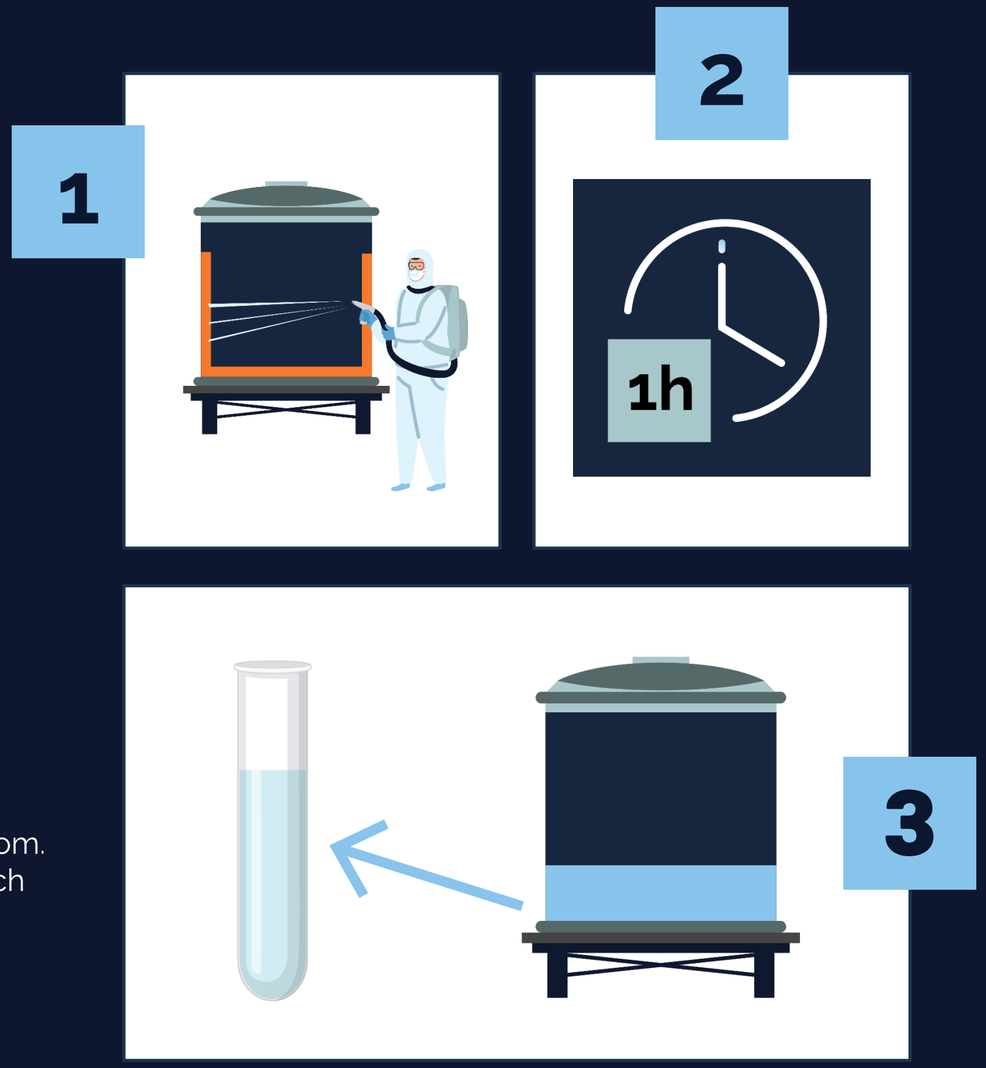
1.**Prepare for sampling**
Confirm that all outlets from the tank are properly closed to avoid leaks.

2.**Flush and fill the tank**
Thoroughly rinse all internal surfaces of the tank
Fill the tank to at least **10% of its total volume**.

3.**Allow water to settle**
Let the water remain in the tank for a minimum of **one hour** to ensure a representative sample.

4.**Collect sample from the bottom**
Retrieve the sample as close to the bottom as possible, as PFAS may settle at the bottom. Use clean bottles that are properly sealed and labeled with relevant information for each sample.

5.**Dispose of remaining water**
Empty the remaining water from the tank into a dedicated waste vessel.



How to collect water samples from piping and sprinkler systems

Personnel: Two people should conduct the procedure to ensure accuracy, safety, and promote compliance
System variability: The process may vary slightly depending on the design, but these practices should be consistent.

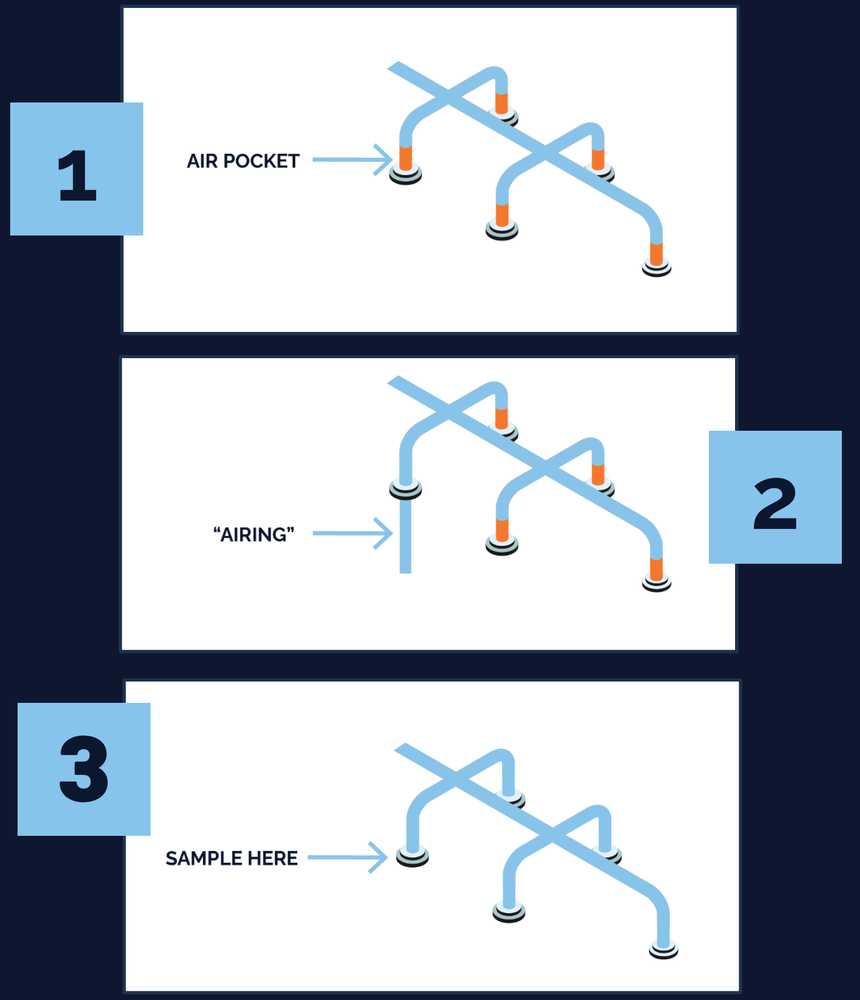
1. **Prepare the system**
Ensure all end outlets are properly sealed and closed before beginning.

2. **Fill the system completely**
Fill the entire system with water, ensuring that every section is completely filled and free of air pockets. “Air” each outlet by opening and draining it until water flows smoothly, then close it securely. Make sure the water is safely collected.

3. **Allow water to settle**
Let the water remain in the system for at least **one hour** to ensure accurate sample representation.

4. **Collect samples**
Open selected outlet and collect water samples individually, preferably from multiple end points to get a representative sample.
Use clean bottles that are properly sealed and labeled with relevant information for each sample.

5. **Drain the system**
Empty the remaining water from the system by opening all closed outlets and drain into a dedicated waste vessel.



Thank you !

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