

Explosives

The destruction of ammunition and explosives releases substances that can be harmful to health and environment. These substances are also found at locations where ammunition was produced in the past. Even when unexploded explosives are removed, harmful substances may have been released that remain in the soil and groundwater.

Environmental hazard

Ammunition and explosives are often cleared by detonating it. The released chemicals could have a negative impact on the environment. For example, strong pollution can occur locally, potentially leading the vegetation unable to sustain itself and die. Clearance personnel face health risks from skin contact or inhalation of the substance.

Ammunition and other remnants of war

Harmful explosive substances can not only be found during the detonation of munitions. Other locations where these substances can be found are, for example, old ammunition production factories, training locations of the navy and army, former storage depots, places where bombings have taken place, places where planes have crashed, places where unexploded explosives have been found, and places where defense lines were present. Although these activities stopped 20 – 50 years ago, high levels of contamination can be found due to their persistence.

The dangers of explosives in the environment

The presence of explosives in the environment is of concern because of both acute and chronic toxicity to humans, and the potential for ecological damage. For example, acute toxicity has been demonstrated for 2,4,6-TNT in the adult bullfrog. In addition, explosive residues from the soil of a military site have leached into underlying groundwater, creating the potential for environmental problems.

The analysis of explosive residues in groundwater and soil samples is increasingly challenging. Due to the production of military weapons, there is an increasing need for accurate detection of explosive compounds and their breakdown products. Both military testing for life installations and local municipalities around these installations are concerned about these hazardous substances entering water supplies.

Legislation

In addition to the safety guidelines of the Explosives Clearance Service (EOD), environmental regulations also apply at a destruction location for explosives.

Article 13 of the Soil Protection Act includes the duty of care for the soil. If the soil becomes contaminated by certain (historical) activities, that soil contamination must be completely cleaned up. This also means that, when it comes to a permanent destruction location, a permit obligation under the Environmental Management Act must be taken into account and that an environmental permit is required.

Since there is a possibility that chemical contamination will remain in the soil after clearing of undetonated explosives, it is wise, in the context of the duty of care, to investigate the soil further. Some of these substances are also classified as Substances of Very High Concern according to the EU hazard classification, such as 2,3-dinitrotoluene, 2,4-dinitrotoluene, 2,6-dinitrotoluene and 3,4-dinitrotoluene.)

Offerings Eurofins

The extensive range of components that can be analyzed at the Eurofins laboratories are:

1-chloor-2/4-nitrobenzeen (sum)	
1-chloor-3-nitrobenzeen	121-73-3
2-chloor-4-nitrotolueen	121-86-8
2-chloor-6-nitrotolueen	83-42-1
3-chloor-4-nitrotolueen	38939-88-7
4-chloor-2-nitrotolueen	89-59-8
4-chloor-3-nitrotolueen	89-60-1
5-chloor-2-nitrotolueen	5367-28-2
2,3-dichloornitrobenzeen	3209-22-1
2,4-dichloornitrobenzeen	611-06-3
2,5-dichloornitrobenzeen	89-61-2
3,4-dichloornitrobenzeen	99-54-7
4,4-dichlorobenzofenon	90-98-2
pentachloornitrobenzeen (quintozeen)	82-68-8
2,3-dinitrotoluene	602-01-7
2,4-dinitrotoluene	121-14-2
2,6-dinitrotoluene	606-20-2
3,4-dinitrotoluene	610-39-9
2,4,6-trinitrotoluene (TNT)	118-96-7
2-Naphthol	135-19-3
akardite II	13114-72-2
Ferrocene	102-54-5
n-methyl-n-nitroso-p-tolueensulfonamide	80-11-5
n-nitroso-difenylamine	86-30-6

About Eurofins Environment Testing

Eurofins Environment Testing Netherlands is part of Eurofins Scientific and your partner for environmental testing.

Our goal is to help you achieve your objectives. With efficient and qualitative analysis techniques we support your business processes. Our customer service is at your disposal with specialized knowledge and extensive experience. You can make use of our own packaging and logistics service. Our reliable couriers take care of sample transfer on site and transport the samples to the relevant laboratory the same day.

Eurofins Environment Testing Netherlands is committed to protecting the environment. With our products and services, we support the responsible use and minimization of substances harmful to humans and the planet. Examples include hormones, pesticides, dioxins and heavy metals. By reducing the usage of water, raw materials and energy, we contribute to sustainability. Our laboratories have developed special programs to minimize environmental risks, such as a safe use of chemicals and waste disposal.

More information

Samples can be collected at the desired location or at a depot. Eurofins' logistic services can be reached at 0800-0991180 or logistiek@etbnl.eurofins.com.

For additional information regarding analyses, reporting, rates, delivery times, service and more, please contact the designated contact person or the customer service during office hours.