

Military is Open Burning PFAS, with EPA's Permission

In communities across the U.S. and its territories, the Departments of Defense and Energy routinely open burn and open detonate (OB/OD) countless tons of hazardous munitions wastes in the open air. It continues to be the “standard method for disposal because it is a technically simple method of disposal that is frequently the least expensive and easiest to perform.” Despite the commercial availability of safer technologies, this devastating practice continues.

In addition to PFAS, toxic emissions from OB/OD include explosives, elemental metals (e.g., arsenic, cadmium, chromium, cobalt, lead and mercury), volatile and semi-volatile organics, polycyclic aromatic hydrocarbons, chlorinated dioxins and furans, and perchlorate. (Source: National Academy of Sciences, *Alternatives for the Demilitarization of Conventional Munitions*, 2019)

What are PFAS?

Per- and polyfluoroalkyl substances (PFAS) are a group of man-made chemicals that includes PFOA, PFOS, GenX, and many other chemicals. PFAS are used to make fluoropolymer coatings and products that resist heat, oil, stains, grease, and water. The best-known fluoropolymer is polytetrafluoroethylene or Teflon.

Why do some military munitions contain PFAS?

PFAS are added to improve the performance and stability of military explosives and munitions.

What happens to PFAS when subjected to open air burning?

PFAS are not destroyed in an open fire and are therefore dispersed to the air and the surrounding environment where they accumulate in people, as well as fish and wildlife. At higher temperatures, poisonous hydrogen fluoride gas may be generated. Hydrogen fluoride is a listed hazardous air pollutant subject to regulation by U.S. EPA and authorized states under the Clean Air Act.

What health risks are associated with exposure to PFAS?

PFAS have been shown to affect growth and development, reproduction, thyroid function, the immune system, injure the liver and increase risk for certain cancers.



EPA and Tennessee state regulators are both permitting the military to open burn munitions wastes containing as much as 15% PFAS at Holston Army Ammunition Plant.

CASE STUDY: Open Burning PFAS in Kingsport, Tennessee

Every year, Tennessee's Holston Army Ammunition Plant is permitted to open burn **1,250,000 pounds** of munitions wastes that may contain as much as **15% PFAS** by weight.

Why is the Army allowed to open burn PFAS and other toxic waste at Holston?

Both the U.S. EPA and Tennessee regulators recently re-issued permits allowing open air burning of wastes that contain PFAS and other toxic compounds. This burning has been going on for decades.

Can regulators prohibit the burning of PFAS and highly toxic wastes?

YES! At other military sites like the Blue Grass Army Depot in Kentucky, the military is prohibited from burning PFAS and dozens of other toxic wastes. Both Blue Grass and Holston are in EPA Region 4.

PFAS Content of Munitions Permitted for Open Burning at Holston Army Ammunition Plant – Partial List

Munitions Item	PFAS (Fluoropolymer)	Percentage by weight	Principal Explosive Ingredient
HDX-106	Teflon®	1.4	RDX
LX-04	Viton-A®	15	HMX
LX-07	Viton-A®	10	HMX
LX-10-2	Viton-A®	5.4	HMX
LX-17	Kel-F®	7.5	TATB
PBX-9502	Kel-F®	5	TATB
PBXN-7	Viton-A®	5	TATB/RDX
PBXN-5	Viton-A®	5	HMX
PBXN-6	Viton-A®	5	RDX
PBXW-14	Viton-A®	5	HMX/TATB
unspecified	OXY-461®	unspecified	unspecified

Kel-F® is also called Neoflon®. RDX = Royal Demolition eXplosive. HMX = High Melting eXplosive. TATB = 1,3,5-Triamino-2,4,6-trinitrobenzene. OXY-461™ = vinyl chloride-chlorofluoroethylene copolymer.