



White Phosphorus

Published On: 19-10-2023

Why is in news? Israel using white phosphorus in Gaza?

Global human rights organisations Amnesty International and Human Rights Watch have **accused the Israel Defense Forces (IDF) of using white phosphorus munitions** in Gaza and Lebanon, in violation of International Humanitarian Law (IHL), which lays down the responsibilities of states and non-state groups in an armed conflict.

Citing eyewitness accounts and video evidence, they have said that Israel's use of such munitions in densely populated areas poses grave, long-term risks to civilians. The IDF has denied the allegations.

White phosphorus:

White phosphorus is a pyrophoric that **ignites when exposed to oxygen**, producing thick, light smoke as well as intense 815-degree Celsius heat.

Pyrophoric substances are those which **ignite spontaneously or very quickly (under five minutes) when in contact with air**.

Under the **Globally Harmonized System of Classification and Labelling of Chemicals**, the internationally agreed-upon system to standardize chemical hazard classification and communication, white phosphorus **falls under "Pyrophoric solids, category 1"**, which includes chemicals that catch fire "spontaneously" when exposed to air. It is among the most unstable of pyrophoric substances.

White phosphorus **emits a distinct garlic-like odour**.

Military uses of white phosphorus:

White phosphorus is dispersed in **artillery shells, bombs, and rockets**.

It can also be delivered via **felt (textile) wedges soaked in the chemical**.

Its primary military **use is as a smokescreen** — used to hide troop movement on the ground.

The smoke acts as a visual obscurant.

White phosphorus is also **known to mess with infrared optics and weapons tracking systems**, thus protecting forces from guided missiles.

Munitions can either be ground-burst for more concentrated smoke or air-burst in order to cover a larger area.

White phosphorus can also be used as **an incendiary weapon**.

According to HRW, US forces used white phosphorus munitions **during the second battle of Fallujah in Iraq in 2004**, to force concealed combatants to abandon their positions.

Harmful effects of white phosphorus:

Upon exposure, white phosphorus can cause **severe burns, often down to the bone**.

The burns are excruciatingly painful, **difficult to heal**, and susceptible to infections.

Particles of white phosphorus that **remain lodged the body can reignite if in contact with air**.

According to HRW, white phosphorus **burns on even 10 per cent of the body can be fatal**.

Inhaling white phosphorus particles or smoke can cause **respiratory damage and harm to internal organs**.

Those who survive initial injuries often experience a lifetime of suffering — with impaired mobility and painful, horrific scars.

White phosphorus can also devastate infrastructure and property, damage crops and kill livestock, with raging fires, especially in windy conditions.

White phosphorus munitions first used:

Irish nationalists in the late 19th century first used white phosphorus munitions in a formulation that became known as **“Fenian fire”** (Fenian was an umbrella term for the Irish nationalists).

World War I saw **extensive use of the chemical** by the British and Commonwealth forces in phosphorus grenades, bombs, shells and rockets.

These munitions have since been used in conflicts around the world, from the Normandy invasion in World War II to the US invasion of Iraq in 2004 and the long-drawn Nagorno-Karabakh conflict.

Most recently, Russia was accused of using white phosphorus bombs during the invasion of Ukraine last year.

Legal status of white phosphorus munitions:

White phosphorus munitions are **not under a blanket ban**, though their use is regulated under the **IHL**.

It is **not considered a chemical weapon** because its operational utility is primarily due to heat and smoke, rather than toxicity.

Thus, its use is **governed by the Convention on Conventional Weapons (CCW)**, specifically Protocol III, which deals with incendiary weapons.

Palestine and Lebanon have joined Protocol III, while Israel has not ratified the protocol.

While Protocol III prohibits the use of airdropped incendiary weapons in “concentrations of civilians”, as per HRW, it has **two significant loopholes**.

First, it **restricts some but not all use of ground-launched incendiary weapons** where there are concentrations of civilians.

Second, the protocol’s **definition of incendiary weapons** covers weapons that are “primarily designed” to set fire to and burn people, and thus arguably **excludes multipurpose munitions** such as those containing white phosphorus, which are considered to primarily be “smoking” agents.

Over the years, there have been multiple proposals to strengthen the CCW to close these loopholes.

Chemical Weapons:

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A chemical weapon uses **chemicals to inflict death or injury on living and non-living beings**.

According to the **Organisation for the Prohibition of Chemical Weapons (OPCW)**, this can be any chemical compound intended as a weapon “or its precursor that can **cause death, injury, temporary incapacitation, or sensory irritation** through its chemical action.

Munitions or other delivery devices designed to deliver chemical weapons, whether filled or unfilled, are also considered weapons themselves.”

Chemical weapons can be widely dispersed in gas, liquid, and solid forms, and may easily afflict others than the intended targets.

Nerve gas, tear gas, and pepper spray are three modern examples of chemical weapons.

During World War II the Nazi regime used a commercial chemical agent to **commit industrialized genocide** against Jews and other targeted populations in large gas chambers.

The Holocaust resulted in the largest death toll on chemical weapons in history.

Convention on Certain Conventional Weapons:

The United Nations Convention on Certain Conventional Weapons (CCW or CCWC), concluded at Geneva on October 10, 1980, and entered into force in December 1983, **seeks to prohibit or restrict the use of certain conventional weapons** which are considered excessively injurious or whose effects are indiscriminate.

The full title is **Convention on Prohibitions or Restrictions on the Use of Certain Conventional Weapons Which May Be Deemed to Be Excessively Injurious or to Have Indiscriminate Effects**.

The convention covers **land mines, booby traps, incendiary devices, blinding laser weapons and clearance of explosive remnants of war**.

The treaty is of unlimited duration and is **far more comprehensive than the 1925 Geneva Protocol**, which outlaws the use but not the possession of chemical weapons.

The CWC is implemented by the **Organization for the Prohibition of Chemical Weapons (OPCW)**, which is headquartered in The Hague.

The CWC is open to all nations and **currently has 193 states-parties**.

Israel has signed but has yet to ratify the convention.

Three states have **neither signed nor ratified** the convention (**Egypt, North Korea, and South Sudan**).

India has **not signed the Nuclear Non-proliferation Treaty** but is a **signatory to both Biological Weapons Convention and Chemical Weapons Convention**.

Prohibitions:

The Chemical Weapons Convention prohibits:

Developing, producing, acquiring, stockpiling, or retaining chemical weapons.

The direct or indirect transfer of chemical weapons.

Chemical weapons use or military preparation for use.

Assisting, encouraging, or inducing other states to engage in CWC-prohibited activity.

The use of riot control agents “as a method of warfare.”

Others:

International law **prohibited the use of chemical weapons** under the **1899 Hague convention**.

The **1922 Washington Naval Treaty**, also known as the **Five-Power Treaty**, aimed at banning chemical warfare but did not succeed because France rejected it.

The **1925 Geneva Protocol**, officially known as the **Protocol for the Prohibition of the Use in War of Asphyxiating, Poisonous or other Gases, and of Bacteriological Methods of Warfare**, is an international treaty prohibiting the use of chemical and biological weapons.

Conclusion:

The presence of weapons of mass destruction in the world is a terrifying reality and efforts have to be put in by the international community together with support from the nuclear-weapon states for guaranteeing a safer and peaceful world.