ProtectUK

Threat from Chemical, Biological, Radiological and Nuclear (CBRN) Terrorism

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CBRN terrorism is the term used to describe the terrorist use (or threatened use) of Chemical, Biological, Radiological or Nuclear material as a weapon, with the intention to cause harm.

What is CBRN Terrorism?

CBRN terrorism is the term used to describe the terrorist use (or threatened use) of Chemical, Biological, Radiological or Nuclear material as a weapon, with the intention to cause harm. This encompasses a wide range of agents and materials including corrosive substances, poisons, toxins, biological organisms and radioactive sources.

These materials can be harmful to humans in a variety of ways when inhaled, ingested or absorbed. CBRN terrorism does not include any state use of CBRN materials, most of which would be prohibited by various international weapons conventions.

Hazards posed by these materials vary, but include:

- **Chemical**: Poisoning or injury caused by chemical substances, including household chemicals
  or harmful industrial chemicals, as well as agents used during armed conflict.
- **Biological**: Exposure to harmful bacteria, viruses or toxins and the illness or disease they cause.
- **Radiological**: Exposure to harmful radioactive materials.
- **Nuclear**: Exposure to thermal or blast effects arising from a nuclear detonation (including secondary effects from radioactive fallout).

How has CBRN previously been used by terrorist groups worldwide?

Globally, there has been a very small number of terrorist attacks where CBRN materials have been used. A chemical weapon was used against Sri Lankan Armed Forces in 1990. In Japan, a chemical weapon and a biological attack occurred against various targets between 1990 and 1995.

More recently, chemical weapons have been deployed on more than one occasion on the battlefield in Syria. To date, there have been no acts of radiological or nuclear terrorism.

The threat from CBRN Terrorism in the UK

Whilst a CBRN terrorist attack has not previously occurred in the UK, Police and other emergency services in the UK frequently deal with incidents involving CBRN-related materials, mostly chemical. While some of these will relate to the accidental release of hazardous substances, others will involve the use of such materials for criminal purposes, for example acid attacks, production of illegal drugs and sometimes the making of explosives.

Although the vast majority of these incidents are not related to terrorism, they demand an equally robust response because of the health risks posed to the public.

To date, there has been no UK terrorist attack using a chemical or biological weapon. Although, terrorists could draw upon instructional material available on the internet to construct crude devices, there are still considerable capability barriers. Additionally, like all CBRN-related materials, there are inherent risks to those handling them, such as accidental exposure, infection or poisoning.

Radiological weapons are technologically less sophisticated than nuclear weapons and there are significant challenges in acquiring suitable radiological sources. Not only are such sources in the UK subject to strict controls, their use in specialist equipment is being phased out and replaced with less hazardous alternatives.

There are serious obstacles in acquiring a complete nuclear weapon or the fissile material needed to construct one. Activities involving nuclear material are strictly regulated in the UK and nuclear security is robust, having to meet international standards.

There are significant differences between the various Chemical, Biological, Radiological and Nuclear weapons with respect to their complexity, construction, method of delivery and effects. Consequently, the availability of materials and components required to build them will also vary, as well as the ability of terrorist groups to use them.

What this means for UK businesses and the public

Businesses and members of the public play a vital role in alerting the authorities to suspicious activity preceding a terrorist attack. This includes the reporting of suspicious sightings, stockpiling or transactions concerning chemicals, substances or materials.

For industry and business, there are established procedures for reporting of suspicious transactions concerning materials covered by legislation regulating controlled drugs, poisons, explosives and other hazardous substances.

Further advice can be found here:

- https://www.npsa.gov.uk/chemical-biological-radiological-and-nuclear-cbrn-threats
- https://www.protectuk.police.uk/chemical-biological-radiological-incidents-cbr
- https://www.protectuk.police.uk/advice-and-guidance/response/remove-remove-remove-guidance-hazardous-substance-exposure

Probability and Likelihood in Intelligence Assessments

When describing threats in intelligence assessments, Counter Terrorism Policing utilises the Probabilistic Yardstick.

The Probabilistic Yardstick is a tool created by the Professional Head of Intelligence Analysis (PHIA), in the UK government, to standardise the way in which we describe probability in intelligence assessments. For example, if we use the term '*likely*' what we mean is '*a 55-75% chance*'.

Use the scale below as a reference when reading ProtectUK Insights.



KEYWORDS
CBRN
THREAT ANALYSIS
THREAT
ATTACK METHODOLOGY
CHEMICAL
BIOLOGICAL
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PAGE CATEGORY

THREAT ANALYSIS