



CBRN Threats and Incidents Involving Non-state Actors -2024 Annual Report

MAGNUS NORMARK, ANDERS LINDBLAD, HENRIK RAMEBÄCK,
ANNA-KARIN TUNEMALM, PER WIKSTRÖM



OMVÄRLDSBEVAKNING
HOT MOT SAMHÄLLET
RADIOAKTIVA ÄMNE
KIM
GIFT
BIOLOGISKA ÄMNE
KEMISKA ÄMNE
KRIMINALITET
VAPEN

TERRORISM

Magnus Normark, Anders Lindblad, Henrik
Ramebäck, Anna-Karin Tunemalm, Per Wikström

CBRN Threats and Incidents Involving Non-state Actors - 2024 Annual Report

Titel	CBRN Threats and Incidents Involving Non-state Actors - 2024 Annual Report
Title	
Rapportnr/Report no	FOI-R--5785--SE
Månad/Month	Augusti
Utgivningsår/Year	2025
Antal sidor/Pages	31
ISSN	1650-1942
Uppdragsgivare/Client	Försvarsdepartementet
Forskningsområde	CBRN
FoT-område	Inget FoT-område
Projektnr/Project no	A402125
Godkänd av/Approved by	Åsa Scott
Ansvarig avdelning	CBRN-skydd och säkerhet

Bild/Cover: Johan Hallnäs/TT Nyhetsbyrån

Detta verk är skyddat enligt lagen (1960:729) om upphovsrätt till litterära och konstnärliga verk, vilket bl.a. innebär att citering är tillåten i enlighet med vad som anges i 22 § i nämnd lag. För att använda verket på ett sätt som inte medges direkt av svensk lag krävs särskild överenskommelse.

This work is protected by the Swedish Act on Copyright in Literary and Artistic Works (1960:729). Citation is permitted in accordance with article 22 in said act. Any form of use that goes beyond what is permitted by Swedish copyright law, requires the written permission of FOI.

Executive summary

The aim of this annual report is to present an updated assessment of the threat posed by non-state actors' use of chemical, biological, radiological, or nuclear (CBRN) materials to cause adverse effects on society. The content is based solely on open-source information and includes a selection of incidents. The report is produced by a research group at FOI (Swedish Defence Research Agency), with grants from the Swedish Ministry of Defence.

There were no confirmed attacks involving CBRN materials that caused significant adverse consequences for society during 2024. As in previous years, there were several cases of possession of toxic materials and information on the production of toxic substances found among criminals and violent extremists from both Islamist and right-wing milieus. In some cases, these actors have been linked to international terrorist organisations.

The authors note that poisonous materials continue to be used relatively often to threaten, intimidate, or harm other people. In most cases that have come to our attention, the threats have been directed at individuals who are closely related to the perpetrator. Threats referring to poisonous or infectious materials are also used for financially opportunistic purposes, or to demonstrate dissatisfaction with companies, authorities, or other public functions and individuals.

Keywords: non-state actors, terrorism, crime, bioterrorism, poisoning, CBRN, threat assessment, annual report.

Innehållsförteckning

Introduction	5
Perspectives on CBRN threats from non-state actors	6
Threats, rhetoric, and information dissemination	10
Incidents related to nuclear and other radioactive materials	11
Thefts	11
Smuggling incidents	12
Other incidents	12
Allegations over inadequate nuclear security	15
Incidents related to chemical materials	17
Sweden	17
Elsewhere in Europe	18
North and South America	21
Middle East	23
Asia and Oceania	23
Incidents related to biological materials	26
Threat and powder letter incidents	29
Procurement opportunities	30

Introduction

This annual report is produced within the framework of an FOI research project whose tasks include assessing the threat of non-state actors using chemical, biological, radioactive or nuclear (CBRN) materials to create adverse effects on society. The research is financed by a grant from the Swedish Ministry of Defence. Our main research output are papers that highlight this type of threat, presented in written or oral form. The focus of the research is aligned with the Government Offices, which are also the main receivers of the generated research results. The annual report constitutes a regularly recurring product that can be disseminated to a wider circle of recipients. The present report is the thirteenth in the series and will also be the last to be produced, reflecting the partial reorientation of project activities in the coming years.¹

The report is intended to reflect the results of our continuous intelligence monitoring and provide an overall description of relevant incidents that have occurred.² Furthermore, information concerning the likelihood that CBRN materials may be used by non-state actors is provided. The report is based exclusively on open-source information and includes a selection of incidents we consider of particular interest. It does not constitute a complete review of all information gathered by the members of our research team during the year. The primary intention of the report has been to serve a strategic function by presenting a comprehensive annual compilation of assessed relevant events, allowing deviations and trends to be identified over time.

¹ The corresponding reports for 2012–2024 can be downloaded from the FOI website, www.foi.se. The 2012–2017 reports are only available in Swedish.

² When a date appears in the report without a specific year stated, it refers to an incident that occurred in 2024.

Perspectives on CBRN threats from non-state actors

After an eventful year, we can conclude that the terrorist threat from organisations such as the Islamic State (IS) and al-Qaeda (AQ), along with their provinces and followers, remains significant not only in conflict areas on other continents but also in Europe. These organisations are spreading and growing stronger, particularly on the African continent.

In Europe, several attacks have taken place, and preparations for others have been averted during the year. A total of seven completed and nineteen averted attacks with links to violent Islamist actors occurred in the West.³ None of these cases involved CBRN materials. A majority of the cases had some form of connection to IS in Syria and to the IS branch in Afghanistan (IS-Khorasan). In October, the head of the British security service (MI5), Ken McCallum, gave a public presentation on the current threat picture and warned in particular about the trend of a growing threat from AQ and IS.⁴

The UN's Analytical Support and Monitoring Team warns, among other things, that AQ continues to harbour ambitions to carry out attacks outside the areas in which it is based, and that this ambition may intensify in the future. At the same time, the expert group notes that IS-Khorasan (IS-K) poses the greatest terrorist threat to Europe, based on the activities the organisation carried out during 2024. During the year, IS-K was also linked, in addition to a large number of attacks in Afghanistan and Pakistan, to attacks carried out in Russia, Iran, and Turkey.⁵

Thirty individuals linked to IS-K were sentenced to between eight and twenty years in prison by a Tajik court for planning to poison participants in a Nowruz festival (Persian New Year celebration) in a city east of the capital, Dushanbe, in March 2024. The planned method of poisoning was specified as the contamination of food at the festival with an unspecified agent.⁶

Iraq's efforts to combat the terrorist threat from IS have been carried out with extensive support from the US-led multinational *Operation Inherent Resolve*

³ Nationellt Centrum för Terrorhotbedömning, Helårsbedömning 2025, Säkerhetspolisen, Februari 2025 [National Center for Terrorist Threat Assessment, Full Year Assessment 2025, Swedish Security Service, February 2025].

⁴ Security Service MI5, Director General Ken McCallum gives latest threat update, 2024-10-08.

⁵ Aaron Zelin, The Islamic State Hits Turkey After Years of Plotting, Washington Institute for Near East Policy, Policy Watch 3834, 2024-01-30.

⁶ Reuters, Court in Tajikistan jails over 30 people for attempted mass poisoning linked to Islamic State offshoot, 2025-02-14.

over the past ten years. In September, a decision was made to terminate the physical presence of the multinational operation in Iraq by September 2025 at the latest. At the same time, the document stated that, even though IS no longer poses the same threat as it did ten years ago, it continues to conduct terrorist activities in the country, with a risk of escalation if efforts to combat the group do not continue.⁷ Iraqi security forces exerted great pressure on IS leadership in 2024 and eliminated parts of the organisation's material resources in the country. At the end of August, during an Iraqi operation in the western Anbar district, one of IS's leading weapons development experts was killed. This individual had also been involved in previous IS attempts to develop chemical weapons.⁸

Iraqi news media reported over the summer that the local intelligence service in Baghdad had uncovered an IS plot to attack the capital's drinking water supply. The plan included the use of toxic materials that the group had sought to develop in order to harm as many civilians as possible.⁹ However, we have no information regarding which substance IS sought to develop, or whether the group had any actual operational capability to carry out a large-scale attack of this nature.

In Syria, the former Assad regime was overthrown by rebel forces led by the terrorist organisation Hayat Tahrir al-Sham (HTS). The HTS leadership has evolved into its current position from being a close affiliate of al-Qaeda in Iraq in the early 2010s. The activities of the organisation during the early phase of the civil war, when they were known as Jabhat al-Nusra, were characterised by the salafi-jihadist ideology promoted by al-Qaeda. There is no information linking al-Nusra, or its later organisational form HTS, to the actual use of chemical or biological warfare agents. However, an instructional video regarding the small-scale production of the nerve agent sarin, featuring al-Nusra's organisational logo, was distributed on jihadist websites in the autumn of 2013. The video may have been produced in response to the Assad regime's extensive use of nerve agents in the Ghouta area outside Damascus in August that year. The new interim government in Damascus has publicly distanced itself from chemical and biological weapons, and has stated its ambition to declare and destroy the remaining parts of the former Syrian regime's chemical weapons programme,

⁷ Jim Garamone, Inherent Resolve Mission in Iraq and Syria transitioning, DOD News, U.S. Department of Defence, 2024-09-27.

⁸ UN Security Council, S/2025/71/Rev.1, 2025-02-06.

⁹ Anas al-Bar, ISIS water-poisoning plot shows need for continued vigilance, Al-Fassel, 2024-07-17.

with international support.^{10, 11} However, there is concern that terrorist groups in the country will exploit the power vacuum created by the change of government to build capacity and increase their influence. Because of this, the UN expert group emphasises in its report the importance of continuously monitoring possible attempts by these groups to develop chemical weapons.¹²

The US Department of Homeland Security (DHS) states in its annual threat assessment report that at least eight mass-casualty attacks occurred in the United States in 2024, mainly carried out by actors who could not be linked to ideological motives. The assessed motivational factors driving these actors were related to mental illness and/or perceived personal injustices. All eight attacks were carried out with firearms and targeted civilians, either at educational institutions or places of commerce. In 2024, at least eighteen antagonistic incidents involving biological and chemical agents were reported to have taken place in the United States. The majority of these were connected to criminal activity. Four cases were reported to be linked to actors with ideological or political motives. All cases were characterised by simple *modi operandi* and readily available poisons, such as the plant toxin ricin (two cases), fentanyl (two cases), pesticides, chlorine gas, and irritating chemical agents. DHS further assessed that non-state CBRN threats in the coming year will most likely be linked to criminal actors and domestic extremism.¹³

The mandate of the UN Investigative Team to Promote Accountability for Crimes Committed by Da'esh/ISIL (UNITAD) expired on September 17, 2024.¹⁴ The twelfth and final report summarises the results of the investigations into the development and use of biological and chemical weapons (B&C) by ISIS. No new information is highlighted regarding IS's ambitions and attempts in the B&C area. However, UNITAD notes that IS's use of chemical materials against civilians in Taza Khurmatu, just south of Kirkuk, in March 2016, and its testing of chemical agents such as nicotine and thallium sulphate on prisoners, may constitute war crimes and crimes against humanity.¹⁵ For more details on

¹⁰ Aaron Zelin, post on X, 2024-12-07 <https://x.com/azelin/status/1865471215541821505>

¹¹ Susanne Börjegen *et al.*, Kemiska vapen i Syrien i relation till maktövertagandet i december 2024 [Chemical weapons in Syria in relation to the takeover in December 2024], FOI Memo 8822, 2025-03-04.

¹² UN Security Council, S/2025/71/Rev.1, 2025-02-06.

¹³ U.S. Department of Homeland Security, Homeland Threat Assessment 2025, 2024-10-02.

¹⁴ Partnership with Iraq, UNITAD, <https://www.unitad.un.org/content/partnership-iraq>

¹⁵ UN Security Council, S/2024/408, 2024-05-24.

UNITAD's investigations in the area, see last year's FOI annual report, pages 7–8.¹⁶

¹⁶ CBRN Threats and Incidents Involving non-State Actors—Annual Report 2023, Magnus Normark, Anders Lindblad, Henrik Ramebäck, Anna-Karin Tunemalm, Per Wikström, FOI-R--5627--SE, June 2024.

Threats, rhetoric, and information dissemination

FOI was not made aware of any new information in 2024 about propaganda campaigns linked to violent actors and networks related to capacity-building for the purpose of conducting CBRN attacks. However, information has emerged indicating that individuals and groups who have been arrested on suspicion of preparing for criminal activity have been in possession of CBRN-related manuals.

One such case concerns the person who murdered three young girls with a knife in Southport, UK, on 22 July. The person had access to, among other things, the AQ training manual *Military Studies in the Jihad [Holy War] Against the Tyrants*, which includes instructions for the production of plant toxins such as ricin and abrin.¹⁷

Another example is the Georgian citizen who was extradited from Moldova to the United States during the summer to stand trial for planning hate crimes against Jewish people in New York.¹⁸ The man had actively published manifestos within the far-right environment that included suggestions for a range of toxic materials suitable for harming other persons. The man also sent *The Mujahedeen Poison Handbook* to an individual he was trying to recruit for hate crimes in New York. The handbook contains extremely brief and often very incomplete instructions regarding more than thirty different toxic materials, and has previously circulated within the violent extremist environments online.

Manuals of this nature are readily available for download from the internet, but only a very limited number of them are operationally useful for someone who intends to carry out attacks with toxic materials. A majority of the manuals that are circulating are characterised by incomplete or incorrect information, or lack vital aspects for operational implementation, such as an appropriately adapted dissemination method.

¹⁷ See a more complete description of the case in the following chapter on incidents related to biological materials.

¹⁸ Ibid.

Incidents related to nuclear and other radioactive materials

This chapter summarises incidents of smuggling, threats, theft, and terrorism involving nuclear and other radioactive materials, whether they have actually occurred or are merely alleged to have occurred. Incidents where material has been lost through negligence, for example, are therefore not considered. Neither are reports on radiation sources that have been lost or disappeared included in this compilation.

Incidents that occurred during 2024 deviate little from the pattern seen in previous years. None of the incidents can be considered to have posed any threat to international security.¹⁹ The information provided here comes from open sources, mainly news articles. In 2024, 148 incidents were reported to the IAEA's ITDB (Incident and Trafficking Database), 97 of which were reported by European states.²⁰ This does not deviate from reporting in previous years. Since 2016, an average of around 160 incidents per year have been reported to the ITDB, with about 60% coming from Europe.

Thefts

When radioactive material goes missing through theft, Troxlers²¹ are among the items most likely to be stolen. Troxlers contain both Cs-137 and Am-241 sources and are used to make measurements of moisture and density in soil during the construction of, for example, roads and building. In February, the Vancouver Sun reported that police had issued a public warning about a stolen Troxler that disappeared in a car theft.²² A few days later, the measuring device was found in the same car from which it had been reported stolen.²³ Another Troxler was reported stolen in July in Gods Lake, and a third in Laval in September. All three thefts occurred in Canada. The one stolen in Gods Lake was later reported recovered, while at the time of writing the one in Laval has not been recovered.²⁴

¹⁹ Incidents occurring during Russia's invasion and war in Ukraine are not part of this reporting.

²⁰ IAEA, International Atomic Energy Agency, www.iaea.org.

²¹ Troxler dominates the market for this type of device.

²² Joseph Ruttle, Police warn of radioactive device in car stolen in North Vancouver, Vancouver Sun, 2024-02-14.

²³ Elizabeth McSheffrey, Radioactive nuclear gauge stolen from North Vancouver recovered: RCMP, Global News, 2024-02-19.

²⁴ Canadian Nuclear Safety Commission, Report on lost, stolen and found sealed sources and radiation devices. <https://www.cnsccsn.gc.ca/eng/resources/publications/reports/lost-stolen-ss-rd/cnsc-lost-and-stolen-sealed-sources-and-radiation-devices-report/>

A theft of a similar instrument containing radioactive material was reported in May in Barcelona.²⁵ According to the news article, the instrument, which was housed in a yellow box, uses Cs-137 and Am-241 to make measurements of moisture and density in soil, which suggests that it was also likely a Troxler that had been lost.

Four people were arrested in May 2024 in South Africa.²⁶ In November 2023, they had stolen a vehicle in which a Troxler was located. The vehicle was found later, but the radioactive material was already missing. The police caught the thieves when they tried to sell the material, and the missing instrument could be recovered.

Smuggling incidents

Takeshi Ebisawa, a Japanese yakuza leader arrested in 2022, was indicted in the United States in 2024 for attempting to sell nuclear material from Myanmar, among other things.²⁷ The indictment also named his accomplice, Somphop Singhasiri. According to the indictment, Takeshi offered to broker a deal involving 2 tons of thorium and 100 kg of uranium (U_3O_8) in 2022, and claimed that an additional 5 tons of nuclear material could be made available at a later date. He had also offered to sell weapons-grade plutonium. Samples of the material were seized with the assistance of Thai authorities. One of the United States' nuclear forensic laboratories analysed the samples and found that they contained thorium, uranium, and plutonium. Significantly, the composition of the plutonium was *de facto* weapons-grade. According to the US Department of Justice, the pair face sentences of 10 to 20 years in prison for nuclear material smuggling. (Other charges carry, upon conviction, life sentences.) In January 2025, during his trial in a New York court, Takeshi pleaded guilty to nuclear smuggling, among other charges.²⁸

Other incidents

In February 2024, James Mousaly, a former employee at a Canadian nuclear power plant, was arrested. He is accused of leaking classified information

²⁵ Staff writer, Low-activity radioactive equipment stolen in Barcelona, Catalan News, 2024-05-08.

²⁶ South African Police Service, Directorate for Priority Crime Investigation (Hawks), Media Statement 2025-05-11.

²⁷ U.S. Justice Department – Office of Public Affairs, Justice Department announces nuclear materials trafficking charges against Japanese yakuza leader, Press Release, 2024-02-21.

²⁸ U.S. Justice Department—Office of Public Affairs, Japanese yakuza leader pleads guilty to nuclear materials trafficking, narcotics, and weapons charges, Press Release, 2025-01-08.

concerning critical infrastructure to a foreign entity or terrorist group. Court hearings began in mid-January 2025. A verdict had not been reached at the time of writing, but if found guilty, he faces a maximum sentence of life imprisonment.²⁹

According to the BBC, police discovered small amounts of radioactive material at the home of a 31-year-old man in Bedfordshire, UK. He was initially arrested on suspicion of causing explosions likely to endanger other citizens. The radioactive material was discovered when police searched his home.³⁰ According to *The Times*, the man was found to sympathise with far-right organisations.³¹

In August 2024, three men were arrested in Bihar, India, after police found what the suspects claimed was 50 g of the element californium (Cf).^{32,33} However, no abnormal radioactivity was found during forensic analysis. Cf-252 is used, among other things, as a neutron source in industrial applications and for initiating reactions in nuclear power plants. Such sources typically contain up to only a few milligrams of Cf-252. According to another news report, police arrested the three men while they were transporting the material by motorcycle.³⁴ The improbability of the case is underscored by the fact that an unshielded 1-g Cf-252 source would emit a neutron radiation dose rate of 22 Sv/h and a gamma radiation dose rate of 1.6 Sv/h at a distance of 1 metre. Assuming that the motorcyclists were carrying the material on their luggage racks and that it was unshielded, they would have received a lethal dose of radiation within a few seconds. It is also unlikely that, after a few more tens of seconds, they would have been able to continue riding due to the radiation exposure. Containers

²⁹ Phil Tsekouras. Ex-Ontario nuclear power plant worker denied bail after allegedly leaking secret information. CTV News. 2024-03-04.

³⁰ Daniel Sandford, Tony Fisher & Andy Trigg, “No public threat” as radiological material found, BBC News, 2024-05-16.

³¹ Georgia Lambert, Police seize radioactive material from suspected right-wing extremist, *The Times*, 2024-05-16.

³² Staff writer, Three held in Bihar with “radioactive substance,” *The Hindu*, 2024-08-10.

³³ According to Oak Ridge National Laboratory (ORNL, www.osti.gov), one of only two known sites in the world capable of producing Cf-252, which is likely the material in question, they produced a total of 10.2 g of Cf-252 between 1966 and 2019. 50 g, as claimed in the news report, is an enormously large quantity, equivalent to five times ORNL’s entire production since its inception. In addition, Cf-252 has a half-life of 2.65 years, which means that most of what was produced before 2015 has decayed (approximately 7% remains after 10 years).

³⁴ News Agencies, Bihar police arrest 3 with ₹850 crore of suspected radioactive substance, *Catch News*, 2024-08-10.

suitable for the safe transport of a few tens of milligrams of Cf-252 weigh several tons.³⁵

In November, a similar incident occurred in Panighata, India. Police seized what was again claimed to be californium in a raid on the home of the husband of the leader of the Trinamool Congress political party. Measurements showed that the material was not radioactive. During the seizure, police also found classified documents from a research agency (the Defence Research and Development Organisation, DRDO) that sits under India's Ministry of Defence.³⁶

Six people were arrested in Dehradun, India, after attempting to sell a device containing material that was allegedly radioactive. Subsequent measurements confirmed that the material was not radioactive.³⁷

In the Philippines, three people were arrested in possession of depleted uranium. According to a news article, they were trying to sell the material. On October 18, two people were arrested, after which 20 kg of metal containing uranium and 3 kg of “black powder,” also containing uranium, were recovered. Ten days later, another person was arrested. In total, authorities recovered about 100 kg of depleted uranium.^{38, 39}

Drone sightings at nuclear facilities have been a recurring feature in previous annual reports. In August, *Newsweek* reported that drones had been observed over the decommissioned nuclear power plant in Brunsbüttel, north of Hamburg.⁴⁰ In December, drones were reported to have been sighted at two nuclear power plants in the United States.⁴¹ In March, Swedish national public television (Sveriges Television AB—SVT) reported drone activity over various classified sites in southern Sweden, including the decommissioned nuclear power

³⁵ V. Whatley Jr, D.J. Mahoney & J.T. Livingston, Safety analysis report—Packages SRL 4.5-ton californium shipping cask, DPSPU 74-124-6, December 1974.

³⁶ News Desk, “Dangerous nuclear material worth crores”: BJP questions how TMC leader’s husband got hold of DRDO documents, Times of India, 2024-11-30.

³⁷ ETV Bharat English Team, “Radioactive device” case: Faridabad buyer called for questioning to Dehradun, ETV Bharat, 2024-07-16.

³⁸ Jeffrey Damicog, 3 persons arrested, charged with illegal trading of radioactive depleted uranium— NBI, Manila Bulletin, 2024-12-09.

³⁹ ABS—CBN News, 3 arrested for illegally selling uranium, ABS—CBN, 2024-12-09.

⁴⁰ Theo Burman, Russian drones spotted over nuclear plants in NATO country, *Newsweek*, 2024-08-23.

⁴¹ Chris Harris, NY, NJ lawmakers demand feds stop gaslighting, start shooting down drones: “Gone too far,” New York Post, 2024-12-14.

plant in Barsebäck,⁴² and in October, “flying objects” were reported over the Forsmark nuclear power plant.⁴³

A hacker group linked to Iran claimed to have hacked into a computer network belonging to the Shimon Peres Negev Nuclear Research Center in Israel as a protest against the war in Gaza. The research centre is part of Israel’s nuclear research program.⁴⁴

Allegations over inadequate nuclear security

In October, the Pakistani Government called on the United Nations Security Council to investigate the recurring reports of incidents involving the theft and illicit sale of nuclear and other radioactive materials in India.⁴⁵ Thus, the situation in recent years, with Pakistani media criticising what they regard as deficiencies in India’s nuclear security, continued in 2024. For a recent assessment of nuclear security in India and Pakistan, see pages 16–17 in our 2023 annual report.⁴⁶ Kashmir Media Service (Pakistan) commented on the fact that Indian police had been asked to stop releasing information to the media about incidents related to the theft and illegal handling of radioactive material in India. This was also reported by Indian media, after the Ministry of Home Affairs had asked all states to exercise restraint in reporting until confirmatory forensic analyses had been carried out, with the Ministry seeking to protect India’s international image.⁴⁷ The ministerial action came after Indian police, on several occasions, had issued press releases and held press conferences immediately after seizing suspected radioactive material— seizures that were

⁴² Natalie Radlovacki & Lilian Muhsin, Nya drönlarm över Skåne – stridsflyg har observerats [New drone alerts over Skåne—iFighter jets have been observed], SVT Nyheter Skåne, 2024-03-10.

⁴³ Separam Damon Dastory, Larm om flygande föremål ovanför Forsmark—Polisinsats [Alarm about flying objects above Forsmark - police response, SVT Nyheter Uppsala, 2024-10-18.

⁴⁴ Alexander Martin, Hackers claim to have breached Israeli nuclear facility’s computer network, The Record, 2024-03-20.

⁴⁵ APP, At UN, Pakistan demands probe into theft, illicit sale of nuclear materials in India, Geo News, 2024-10-11.

⁴⁶ CBRN Threats and Incidents Involving non-State Actors—Annual Report 2023, Magnus Normark, Anders Lindblad, Henrik Ramebäck, Anna-Karin Tunemalm, Per Wikström, FOI-R-5627-SE, June 2024.

⁴⁷ Mahender Singh Manral, Don’t rush to media on seizure of radioactive material: MHA to states, The Indian Express, 2024-11-07.

often later determined by confirmatory nuclear forensic analyses to involve fake substances intended to deceive.

Incidents related to chemical materials

During the thirteen years that FOI has produced an annual report on CBR incidents, chemical agents have always been the most commonly occurring hazardous material used. This is regardless of whether the incidents were antagonistic, accidental, or self-inflicted, such as in the case of suicide.

In 2024, there were no reports of more serious incidents or attacks with toxic chemicals linked to non-state actors. However, as in previous years, there were several other antagonistic incidents and incidents involving toxic chemicals that were considered important to include in this annual review. Some of the incidents reported in this section occurred in previous years. These have been included because prison sentences were confirmed or investigations providing additional detail were published during 2024.

Sweden

In October 2024, nine individuals in an apartment in Karlskrona were poisoned after eating homemade cakes.⁴⁸ Several of the victims were minors and belonged to the same family. The father had obtained the cakes from a 19-year-old acquaintance. According to media reports, the symptoms experienced were nausea, hallucinations, and dizziness. Police and medical personnel were called to the apartment when several of the children began to feel extremely unwell and urgently needed hospital treatment. Blood tests revealed that the cakes had been doped with cannabis, of which the consumers were unaware. The father, according to his own statement, was not aware of the cake's hidden contents. Chemical analysis confirmed that it contained tetrahydrocannabinol (THC), which is the principal psychoactive constituent of the cannabis plant. The young man who had prepared the cakes was arrested on suspicion of aggravated assault. Two other young men were also detained during the investigation, remaining under suspicion of involvement in the crime. In March 2025, the preliminary investigation was still ongoing.⁴⁹

In early February 2024, a three-year-old girl received medical treatment in hospital for poisoning. Tests revealed that she had ingested the narcotics fentanyl and tramadol. Her parents, who also brought the girl to the hospital, were arrested after the test results showed that she had drugs in her body. The parents, who were charged with aggravated assault or aggravated bodily harm, denied the crime and claimed that the girl ingested the drugs by mistake. The

⁴⁸ Karl Bergholtz, Misstänkta kakförgiftare släppta—Utredning fortsätter [Suspected cake poisoners released – investigation continues], SVT Nyheter Blekinge, 2024-12-06.

⁴⁹ Maria Rydhagen, Familjen förgiftades av kladdkakor—Åklagarens hemliga bevis [The family was poisoned by cakes—The prosecutor's secret evidence], Expressen, 2025-02-03.

father was released, but the mother was charged with causing bodily harm and minor drug offences, on the grounds that she had negligently stored drugs in the home. The drugs were stored together with candy and crisps in a place that was easily accessible to the daughter.⁵⁰

Elsewhere in Europe

A 40-year-old female Russian chess player is said to have attempted to poison her opponent in August 2024 by smearing a mercury-containing substance on her side of the chessboard during a chess tournament in Dagestan, Russia.⁵¹ A surveillance camera captured the actions of the perpetrator before the game, providing support for the charges. During the game, the female opponent began to feel unwell and nauseous, experiencing shortness of breath, and called the paramedics. The tournament was cancelled. The Minister of Sports in Dagestan later confirmed a poisoning attempt had occurred and stated that no one else at the venue was injured.^{52, 53} The trial is ongoing at the time of writing.

In November 2024, a British doctor, 53-year-old Thomas Kwan, was charged and sentenced to 31 years and 5 months in prison for attempting to poison his mother's partner through an intricate plan.⁵⁴ The murder plot arose as a result of several financial disputes between Kwan and his mother. Among other things, the mother had written a will in which her partner, a man in his 70s, would have the right to retain possession of the relatively valuable house where they lived in Newcastle, for as long as he lived.

Kwan initiated the plan by sending a cleverly forged letter to his mother's partner in November 2023, informing him that he was to be visited by a nurse for a health check and, in connection with this, to receive a booster dose of the Covid-19 vaccine. A follow-up letter was sent in January 2024 with the actual dates of the upcoming visit, followed by a text message with the same information the day before the home visit. On the day of the home visit, 23 January, Kwan left

⁵⁰ TT, Treåring hade knark i urinen—Mamman åtalas [Three-year-old had drugs in the urine—Mother charged], Svenska Dagbladet, 2024-07-21.

⁵¹ Alex Oliviera, Chess champ allegedly tried to poison rival who supposedly bad-mouthed her family in wild caught-on-camera move, NY Post, 2025-08-07.

⁵² Staff writer, В Дагестане шахматистка во время соревнований разлила ртуть рядом с доской соперницы, ее задержали [In Dagestan, the chess player during the competition spilled mercury near the opponent's table, and they stopped her], Mediazona, 2024-08-07.

⁵³ Staff writer, Министр спорта Дагестана подтвердил данные о попытке отравления на чемпионате по шахматам. Подъем. [The Minister of Sport of Dagestan confirmed the data on the poisoning attempt at the chess championship], PDMNews, 2024-08-07.

⁵⁴ Sentencing remarks, In the Crown Court at Newcastle—R v Thomas Kwan, The Honourable Mrs Justice Lambert DBE, 2024-11-06.

the hotel room he had booked under a false name, wearing a disguise that included, among other things, a clinical mask. Although Kwan spent over 40 minutes at his mother and her partner's home, the mask prevented them from recognising him. Kwan carried out a routine health check on the partner, and also took his mother's blood pressure. The visit ended with the partner receiving an injection in one arm, which he immediately perceived as very painful. He was admitted to hospital the next day with severe pain in his arm. Parts of the tissue in his arm had begun to die, and he was later diagnosed with necrotising fasciitis, a condition that can be caused, for example, by "flesh-eating bacteria." The man survived the poisoning attempt, but he was forced to undergo several operations, including reconstructive surgery, on his arm.

The toxic material injected in the attempted murder was, according to the sentencing remarks, most likely iodomethane, which is used as a reagent in chemical synthesis and, to a lesser extent, as a pesticide. Iodomethane is not well known in the context of poisoning. In connection with Kwan's arrest, a couple of weeks after the poisoning attempt, large quantities of toxic chemicals were found in his garage, including mercury, thallium, sulphuric acid, and arsenic. Kwan had even started a shell company to facilitate the procurement of chemicals. The garage also contained raw materials for producing ricin. A search of the man's home and phone revealed a keen interest in toxic chemicals, and information was found on ricin and other chemical and biological warfare agents, clinical effects of chemicals, natural poisons, recipes for the production of sodium cyanide and methyl iodide, and a number of books on toxicology.

In the United Kingdom, deliberate attacks involving corrosive materials have been a recurring issue for many years, and such an attack also occurred in 2024. A particularly reckless attack took place in February in Clapham, south London, when a mother and her two daughters, aged eight and three, were exposed to a corrosive chemical. The mother is said to have suffered "life-changing" injuries, while the two daughters suffered minor injuries. However, it later emerged that the younger child was injured when her head hit the ground after being pushed by the perpetrator, rather than as a result of the chemical. Four people who helped the victims and five police officers also suffered minor chemical burns. The perpetrator, a 35-year-old man originally from Afghanistan, had arrived in the United Kingdom in 2016. After several failed attempts to obtain a residence permit, he was granted one after converting to Christianity, despite having previously been convicted of sexual assault.⁵⁵ When the perpetrator left the scene, a relatively extensive manhunt was launched to find him, but without result. The police suspected that the perpetrator had taken his own life after the

⁵⁵ Sachin Ravikumar & Andrew Macaskill, Police hunt for man after London chemical attack injures several, Reuters, 2024-02-02.

incident. His body was found in the Thames three weeks later, in what was deemed to be suicide.⁵⁶

In December, two boys aged 14 and 16 were charged with a suspected chemical attack at Surbiton railway station in southwest London. When two transport police officers investigated what they perceived as suspicious behaviour by the two boys, the officers were exposed to a corrosive, probably alkaline, chemical. The two officers were taken to hospital, and another seven were treated at the scene. None of them was seriously injured, but train traffic through the area suffered major disruptions due to the incident.⁵⁷

In 2024, a 57-year-old German man was sentenced to life in prison for poisoning his wife in 2023 using the poisonous plant aconite, by mixing it into her yogurt. The convicted man's mistress of ten years was also sentenced to two and a half years in prison.⁵⁸ An earlier attempt to poison his wife had failed, so he repeated the procedure, mixing a larger amount of aconite into her yogurt, resulting in her death a day later. The tall-growing aconite, usually bearing blue-violet flowers, contains the biologically active substance aconitine, an alkaloid that affects the nervous system. It is a common garden plant in Sweden, but also occurs in the wild. Ingestion of just a few milligrams of pure aconite can cause severe poisoning symptoms within an hour, with heart rhythm disturbances and respiratory paralysis being the most serious.⁵⁹ The cardiologist who examined the woman assessed that her death was most likely the result of poisoning. Both the man and the mistress denied the crime.

A 32-year-old Austrian woman is said to have poisoned her ex-partner on two occasions in an attempt to stage his suicide. The first incident took place at a party in 2022 when, without his knowledge, she gave him methanol and psilocybin-containing mushrooms ("magic mushrooms") in a drink. This caused him to fall into a five-day coma. On another occasion that same year, she is said to have given him muffins laced with sleeping pills and then cut his forearms after he passed out. When he woke up, he was in hospital. The man survived the poisoning attempt but was almost blinded by the methanol. The woman is also said to have faked a knife attack on herself, accusing her partner of attempted murder. The motive is reported to have been that she had been appointed the sole

⁵⁶ Staff writer, Clapham chemical attacker took his own life—Inquest, BBC News, 2024-07-23.

⁵⁷ PA Media, Boys, 14 and 16, charged after suspected chemical attack at Surbiton station, The Guardian, 2024-12-01.

⁵⁸ dpa, MDR (Susanne Liermann, André Plaul, Martin Krause, Lucas Riemer, Tina Wieczorek, Sebastian Gall & Moritz Arand), "Blauer Eisenhut" im Joghurt: Lebenslange Haftstrafe im Giftmordprozess ["Blue monkshood" in yogurt: Life sentence in poisoning trial], Der Mitteldeutsche Rundfunk (MDR), 2024-05-24.

⁵⁹ Giftinformationscentralen, Stormhatt [Swedish Poisons Information Centre, Aconitum].

heir to the man's fortune, estimated at three million euros, and wanted to ensure that she received a share of the money. The woman claims she is innocent.⁶⁰

North and South America

Police and ambulance services were called to a home in Wisconsin after a man found an elderly woman lifeless in her bedroom. The man had come to the home to buy some books he had seen in an advertisement. Although the incident had occurred in 2021, the life sentences⁶¹ for murder against the two perpetrators—the son and grandson of the deceased woman—were not confirmed until 2024. A crime scene examination indicated high levels of carbon monoxide, especially in the bedroom, but the source of the gas was not found. The autopsy on the woman confirmed that the cause of death was carbon monoxide poisoning. The woman also had fresh injuries to an eye and a cheek.⁶²

A wildlife camera installed in the victim's driveway had captured a vehicle arriving and parking in front of the house the night before the woman was found dead, then driving away two and a half hours later. The vehicle belonged to the woman's grandson. A farm owned by the woman, which the relatives are believed to have wanted to inherit, is thought to have been the motive for the heinous crime. During a police interview after the incident, the woman's son said that he had tried to prevent his mother from selling her agricultural property to an acquaintance, as he believed that she was being cheated. The two relatives' behaviour and communication around the incident aroused the police's suspicions. The investigation showed that the grandson had purchased a carbon monoxide detector a few days earlier. His car was also identified at the residence the night before, but the grandson claimed that he had not been there at the time. The search history on the son's Google account showed that the day before the incident, he had searched for information on, among other things, drain cleaners with the "highest sulfuric acid content," and on mite control agents for beekeeping with formic acid as the active substance. The son had also purchased these chemicals just before his mother's death. With the right concentrations and conditions, these chemicals can produce carbon monoxide if mixed.

A 47-year-old woman in North Dakota was sentenced to 25 years in prison in October for poisoning her 51-year-old boyfriend's sweet tea with ethylene

⁶⁰ Staff writer, Mann vergiftet: Frau bestreitet Mordversuche [Man poisoned: Woman denies attempted murder], ORF.at, 2024-11-05.

⁶¹ The son was given a life sentence without parole; the grandson's life sentence came with the possibility of parole after 20 years.

⁶² Jerry Lambe, Man gets life for poisoning grandma for selling family farm, Law & Crime, 2024-03-06.

glycol, a chemical commonly used as antifreeze. He began to feel ill while on his way to see his lawyer to receive money from a large inheritance. The man became unconscious and later died. An autopsy revealed that he died of ethylene glycol poisoning. The incident took place in the autumn of 2023. Relatives of the man said that the woman's motive was that she feared she would miss out on the inheritance, worth millions, because the man allegedly wanted to break up with her. The woman claimed that the boyfriend had been drinking alcohol and then had a heatstroke, but she later confessed to the crime. It also emerged that the inheritance had never existed and was a bad joke from one of the man's relatives.⁶³

On December 23, six family members in Brazil fell ill, suffering from vomiting and diarrhoea shortly after eating a cake baked by a family member. Three of them died of cardiac arrest. One of the poisoned women had baked the cake using flour that her daughter-in-law had tampered with. The daughter-in-law was later arrested by police on suspicion of having wanted to poison her relatives, as traces of arsenic were found not only in the flour, but in the victims' blood, urine, and stomach contents. However, since there was no identified motive, there was also the possibility that the poison had accidentally ended up in the cake. A search of the house found cake ingredients and also a pesticide. According to the surviving family members, the cake also had an unusual smell and taste, but this did not prevent the family from continuing to eat it. Chemical analyses of the cake ingredients indicated that the flour contained high levels of arsenic (65 grams/kg). A few months earlier, the mother-in-law, together with her husband, had suffered another bout of food poisoning when they ate a dish of home-grown bananas, from which the man later died. After the cake incident, an autopsy of his body was performed and revealed that he too had ingested high levels of arsenic. This led the investigators to suspect that he also may have been poisoned, probably by his daughter-in-law. Investigators also reportedly found evidence that the suspect had purchased arsenic on several occasions. The arrested woman, who was suspected of poisoning her family members, was found dead in her cell in February 2025, in what appeared to be a suicide.⁶⁴

According to media reports, the Mexican crime syndicate *Cártel de Jalisco Nueva Generación* (CJNG) used "chemical bombs" in territorial battles with police forces in Coahuayana, in the state of Michoacán, in March 2024. The information is relatively vague, but the unidentified chemical was allegedly spread with some form of simple launching mechanism called *lanzapapas* (potato launcher). At launch, some form of "chemical dust" was dispersed. Six

⁶³ Jerry Lambe, Girlfriend spiked boyfriend's sweet tea with antifreeze to collect \$30 million inheritance that did not exist, *Law & Crime*, 2024-05-29.

⁶⁴ Vanessa Buschschlüter, Suspect in Christmas cake poisoning found dead in jail cell, *BBC News*, 2025-02-13.

local police officers were reportedly affected, two of whom were seriously injured. The article also mentions that the CJNG had used chemicals before, in 2022. Among the poisons allegedly used were the two highly toxic pesticides Methomyl and Carbufuran, the latter of which is banned in both the European Union and the United States due to its toxicity.⁶⁵

Middle East

According to media reports, Iraqi security forces thwarted an attempt by ISIS supporters to poison pilgrims during the pilgrimage to the shrine of Husayn ibn Ali in Karbala, Iraq, which takes place every August.⁶⁶ The plan was to contaminate food and drinks in the service tents at the site. Laboratory analysis of the substance allegedly used revealed that it was zinc phosphide, a pesticide that generates the poisonous gas phosphine when it reacts with water or moisture. Metal phosphides such as zinc phosphide and aluminium phosphide are used for pest control, especially in this part of the world. ISIS, during its most active period in Iraq and Syria, manufactured chemical improvised explosive devices (IEDs) in the form of homemade hand grenades that contained metal phosphide.

Asia and Oceania

Thailand

Six people of Vietnamese origin, three men and three women, two of whom also had American citizenship, were found dead in a luxury hotel in Bangkok in July 2024. A large, essentially untouched meal was set out in one of the hotel rooms. Police suspected that one of the dinner participants had poisoned the others by mixing cyanide salt into hot drinks that they consumed in the room. Cyanide was found in both a teapot and discarded coffee cups. Blood samples from at least one of the participants also showed traces of cyanide.⁶⁷ One of the women participants, Sherine Chong, who held dual citizenship, was identified as the suspected perpetrator. The motive is believed to have been financial, as Chong is believed to have persuaded the others to invest in a hospital construction project

⁶⁵ Joel Cano, *Policías comunitarios de Coahuayana se intoxican por explosivos químicos del CJNG* [Community police officers in Coahuayana are poisoned by CJNG chemical explosives], *infobae*, 2024-04-10.

⁶⁶ Staff writer, *Iraqi security forces foil ISIS plot to poison Arbacen pilgrims*, *Shafaq News*, 2024-08-18.

⁶⁷ Helen Regan, *Kocha Olarn & Manveena Suri, Cyanide poisoning likely killed six found dead in luxury hotel, including two US citizens, Thai police say*, *CNN*, 2024-07-17.

in Japan, an investment that later resulted in a large loss, and those involved are said to have demanded compensation.

In November 2024, a Thai woman was sentenced to death for a murder by poisoning that occurred in 2023. This was the first verdict in a trial where the woman was accused of thirteen additional attempted poisonings of her friends between 2015 and 2023. One of the victims survived. The case has been called the “Am Cyanide case,” after the convicted woman, Sararat Am Rangsiwuthaporn.⁶⁸ Relatives of the female friend who was poisoned in 2023 demanded an autopsy, which revealed traces of cyanide in the body. It was suspected that cyanide salt had been mixed in the victims’ food or drink. During the investigation, it emerged that Am had probably also tried to poison several other friends. The motive was said to have been to obtain valuables and money from the victims to finance her gambling addiction. Am’s ex-husband, a police officer, and her lawyer were sentenced to between 16 and 24 months in prison for concealing evidence. The ex-husband is also suspected to have been involved in the poisoning of Am’s former boyfriend.

A Thai man was accused of trying to poison a 25-year-old female friend with cyanide. The motive was said to have been that the man was trying to obtain a life insurance policy that the woman had received the day before, and also that he wanted to adopt her son. The hypothesis is that he staged a motorcycle accident in which the woman sustained only minor injuries. During her hospital stay, she then unexpectedly and rapidly fell ill and died. Samples taken from the deceased showed traces of cyanide in her blood as well as in her stomach contents. Suspicions were raised against the man because he, and not her son, was the beneficiary of the insurance, which would have been more expected. The man was identified in the will as her boyfriend. He was also present at the scene of the accident, the hospital, and the funeral. The man, who was gay, had, together with a male friend, persuaded the monks involved in preparing the body for the funeral ceremony to carry it out in just one day instead of the normal three, presumably so that the body could be cremated sooner, an action that further strengthened suspicions against him.⁶⁹

Possession of cyanide salt is heavily regulated in Thailand. Without a permit, possession and acquisition are illegal and can result in up to two years in prison.

⁶⁸ Joel Guinto & Ryn Jirenuwat, Death penalty for Thai woman accused of murdering 14 friends with cyanide, BBC News, 2024-11-20.

⁶⁹ Petch Petpailin, Bitter pill: Gay man accused of poisoning friend for insurance cash, Thaiger, 2024-08-06.

India

In October 2022, a 23-year-old man was poisoned by his girlfriend with the pesticide paraquat (paraquat dichloride). The woman had mixed the pesticide into an Ayurvedic herbal medicine that she served to her boyfriend. Since the poisoned man had become suspicious, he videotaped the poisoned drink, which he was able to convey to investigators before he died of organ failure eleven days later in hospital. The alleged motive was that her boyfriend had abused her. The prosecutor claimed instead that she wanted to get rid of her boyfriend when, during the investigation, it emerged that she was engaged to another man. The trial, which lasted more than a year, ended in January 2025 with the woman being sentenced to death.⁷⁰

Australia

After a thorough police investigation, a 34-year-old woman living on the Sunshine Coast, Queensland, was charged in January 2025 with torturing a one-year-old girl. During the second half of 2023, according to the indictment, she is said to have given the girl various forms of unnecessary prescription medication that was allegedly available in the home on five different occasions. The woman had posted videos of the suffering girl on social media, asking for donations via GoFundMe. She was also said to have used the videos to gain more followers on social media. According to the police, she managed to get donations of about AUD 60,000 (around EUR 34,000). The woman's actions were revealed when she sought care for the seriously ill child. According to consulted experts, the child would have been in mortal danger if the woman had not been stopped. Fortunately, the child does not appear to have suffered any permanent injuries.⁷¹

⁷⁰ Staff writer, What is the Sharon Raj murder case: All you need to know about the charges, murder and court observations, The Economic Times (India), 2025-01-20.

⁷¹ Staff writer, Mum accused of poisoning baby in \$60k social media scam, Sunshine Coast News, 2025-01-16.

Incidents related to biological materials

There have been no antagonistic attacks with either infectious agents or toxins that have caused widespread consequences in 2024. However, there are examples of incidents related to these types of agents that are highlighted in the report and that show an antagonistic intention on the part of the actors.

The 18-year-old man who stabbed three young girls to death and injured ten more people during a dance lesson in Southport, UK, in July was also convicted separately under the Biological Weapons Act 1974 for possession of ricin. He was charged with the production of a biological toxin, ricin. A PDF file was found in the perpetrator's possession containing the Al Qaeda training manual *Military Studies in the Jihad against the Tyrants*. The police investigation found no traces of ricin on the knife used in the stabbing. There is also no information about how much ricin the man is said to have produced.⁷² In February 2025, his sentence was established at a minimum of 52 years in prison.⁷³

On July 6, Georgian citizen Michail Chkhikvishvili was arrested in Chişinău, Moldova, at the request of the United States. He was later extradited to the United States and put on trial in New York later that same month. Chkhikvishvili, who also goes by the names Mishka, Commander Butcher, or simply Butcher, among others, is identified as a member of a group that espouses a neo-Nazi, accelerationist ideology.⁷⁴ The group operates under the names Maniacs Murder Cult and MKY, among others. Verified information about MKY is difficult to obtain, but the group is believed to have originated in Dnipro, Ukraine, around 2017 and has since spread to, among other places, Russia and Western Europe.⁷⁵ It can be noted that the alleged creator of the group, a Ukrainian named Yegor Krasnov, who was 19 years old at the time, was arrested in Ukraine for assaulting and robbing two people. The victims were allegedly attacked with tear gas.⁷⁶

⁷² Amy-Clare Martin, Southport stabbing suspect Axel Rudakubana appears in court accused of terror offence and making ricin, *The Independent*, 2024-10-30.

⁷³ Andy Gregory & Rosie Shead, Southport killer Axel Rudakubana's sentence not unduly lenient, attorney general says, *The Independent*, 2025-02-14.

⁷⁴ *Accelerationism*, in political and social theory, is defined by *Britannica* as a class of ideologies that call for a drastic increase in, and expansion of, capitalistic growth and technological development to hasten the inevitable collapse of the status quo.

⁷⁵ Peter Smith & Sharon Adarlo, Brotherhood of Blood: Understanding the Origins and Trajectory of the Maniac Murder Cult, *The Global Network on Extremism and Technology (GNET)*, 2024-12-04

⁷⁶ Yaroslav Kulish, 19-year-old sadist from the Dnieper calls himself a "maniac" and "psycho." *kp.ua*. 2020-12-17 (machine-translated from Russian).

According to the Federal Bureau of Investigation (FBI), Chkhikvishvili has described himself as, among other things, a recruiter for MKY, and later also as a leader. He is also said to have published several editions of a manifesto called the *Hater's Handbook*. The 122-page third edition of the manifesto mentions, on one page, a large number of toxic materials and toxins as suitable means of causing bodily harm. However, it contains no information about the procurement, production, or dissemination of these toxic materials.

According to an FBI agent's testimony in court in New York, prior to his later arrest, Chkhikvishvili allegedly attempted to recruit a person to carry out a mass shooting in New York.⁷⁷ However, the individual he approached turned out to be an undercover FBI agent. During the recruitment process, Chkhikvishvili came up with a plan that involved dressing up as Santa Claus and handing out poisoned candy to "racial minorities." In a subsequent conversation with the intended perpetrator (the FBI agent), Chkhikvishvili expressed the belief that ricin would likely be the most suitable compound to use, and provided the intended perpetrator with a copy of *The Mujahideen Poisons Handbook*, which, among other things, contains instructions for how to produce ricin from castor beans. He also suggested that the poisoning attempt should target the Jewish population of Brooklyn, "during some Jewish holiday," and later in a "Jewish school full of children." The outcome of the prosecution was not known at time of writing.

An American veteran and former militia member was arrested in April for attempting to extract ricin from castor beans in his home. He claims he had no malicious intent and had done so purely out of self-interest. During a search of his house, FBI agents found castor beans, laboratory equipment, and a handwritten instruction sheet on how to extract the toxin, in the laundry room of the house. An analysis also confirmed the presence of traces of impure ricin in a test tube. The man had, for a period, belonged to a militia group known as the Virginia Kekoas, but the group had severed ties with him due to concerns about his talk of homemade explosives and fears that he might also be an infiltrator from a federal agency. A post published by members of the militia group on an internet forum, in which they discussed the Marine Corps veteran, was intercepted by the FBI. This prompted the search of his house, as authorities feared he was planning a terrorist attack involving explosives. The man, who worked as an analyst at the National Geospatial-Intelligence Agency, had become increasingly isolated after the pandemic and was reportedly mentally affected by events following the Russian invasion of Ukraine. This concern had sparked his interest in prepping and militia groups. The fact that he possessed

⁷⁷ Complaint and Affidavit in support of an application for an arrest warrant, United States District Court Eastern District of New York, United States of Amerika against Michail Chkhikvishvili. Case No. 24-MJ-306, 2024-04-22.

ricin only came to light during the search of his home.⁷⁸ The man was sentenced to time served, which included four months in jail in solitary confinement following his arrest. In addition, he was sentenced to four months of home confinement, ordered to pay a USD 5000 fine, and instructed to sell or dispose of nearly a dozen firearms he owned.⁷⁹

A man in Arkansas, USA, was arrested in January 2024 for possession of ricin. A large quantity of castor seeds, a liquid suspected of containing ricin, and a coffee grinder (useful for grinding castor seeds) were found in the man's trailer. He told police investigators that he needed the ricin to scare away thieves from his property. The initial anonymous tip alleged that the man was planning to poison his own mother.⁸⁰ He later pleaded guilty to possession of ricin and faces a maximum sentence of ten years in prison and a USD 250,000 fine.⁸¹

In March 2024, a woman from Northern Sweden was charged with attempted murder and later sentenced to six years in prison for a particularly serious assault involving an attempt to poison and infect her own daughter. The poisoning was allegedly carried out using large quantities of insulin and anti-anxiety medication, while the infection attempts involved injecting intestinal bacteria into the girl's bloodstream. The daughter survived despite life-threatening sepsis and multi-organ failure. The evidence against the mother included, among other things, Google searches such as "can you make your child sick without it being noticed."⁸² A higher court later increased the prison sentence to eight years.⁸³

Russian authorities investigated a food poisoning incident in which canned beans were suspected of being contaminated with botulinum toxin. Two people reportedly died, and 417 others across eleven Russian regions were infected by the contaminated beans. The response from the authorities included the seizure of

⁷⁸ Press Release, Vienna man pleads guilty to illegally possessing ricin, US Attorney's Office Eastern District of Virginia, 2024-08-21.

⁷⁹ Matthew Barakat, Military veteran gets time served for making ricin out of "curiosity," Military.com Network, 2025-11-14.

⁸⁰ Kyler Swaim, Winslow man accused of making poisonous biological weapon, Yahoo!News, 2024-02-06.

⁸¹ Ron Wood, Winslow man pleads guilty to federal charge of having ricin, Northwest Arkansas Democrat Gazette, 2024-10-23.

⁸² TT, Kvinna döms—Injicerade bakterier i sin dotter [Woman sentenced for injecting bacteria into her daughter], Dagens Medicin, 2024-04-18.

⁸³ Sentence, Dom i målet angående försök till mord och synnerligen grov misshandel genom olika handlingar riktade mot ett barn, Hovrätten för Nedre Norrland [Verdict in the case concerning attempted murder and particularly serious assault through various acts directed against a child, Court of Appeal for Lower Norrland], Mål: B 782-24. 24-06-20.

250 tons of beans, and four individuals linked to the bean company were reportedly arrested on suspicion of violating food safety regulations.^{84, 85}

Threat and powder letter incidents

Ever since the anthrax letters in the United States in 2001, postal items containing some form of powder, sometimes accompanied by explicit threats, have continued to appear. This has occurred in Sweden as well as in other countries. In the vast majority of cases, the compounds used have been harmless, but the incidents have caused concern among those who handled or received the items. In addition, they have required considerable societal resources to manage potentially dangerous materials, and have disrupted the operations of affected institutions. In Sweden, government authorities and religious institutions have been particularly targeted by this type of crime.

In early April, around 15 powder-containing letters were sent to court judges and politicians in northern Pakistan. The wording in the letters suggested that the powder contained anthrax spores. Subsequent analysis reportedly detected traces of arsenic rather than anthrax spores,⁸⁶ but another news report cited a forensic analysis claiming that anthrax spores were indeed found.⁸⁷

Suspicious envelopes were sent to election offices in more than 20 US states in September 2024.⁸⁸ At least some of the letters contained an unidentified substance. A similar wave of suspicious envelopes had occurred in the United States in November 2023. One group of letters were posted by a group calling itself the *United States Traitor Elimination Army*. None of the recipients reportedly experienced any symptoms. Reports of laboratory test results are scarce, but at least one news article mentioned that the powder was harmless.⁸⁹

Three powder letters were sent to various Belgian recipients, including the Prime Minister's Office, in November. The powders reportedly did not contain

⁸⁴ Staff writer, Russia makes arrests after dozens fall ill with botulism, Reuters, 2024-06-18.

⁸⁵ Press Release, Глава Роспотребнадзора Анна Попова приняла участие в заседании Комитета Госдумы по охране здоровья [Rospotrebnadzor Head Anna Popova Participated in a Meeting of the State Duma Committee on Health Protection] Rospotrebnadzor, Federal Service for Supervision of Consumer Protection and Human Welfare, 2024-07-11.

⁸⁶ ANI, Pak security agencies tracing source of "toxic letters" received by superior judges, Times of India, 2024-04-05.

⁸⁷ Nouman Sheikh, Anthrax found in threatening letters: Forensic report, Tribune, 2024-04-07.

⁸⁸ Marshall Cohen, Sara Murray & Ali Main, More than 20 election offices have been targeted with suspicious packages this week, CNN, 2024-09-20.

⁸⁹ J. Patrick Coolican, Office of Secretary of State Steve Simon sent suspicious package from "Traitor Elimination Army," Minnesota Reformer, 2024-09-27.

anything hazardous to health, as none of the recipients displayed any symptoms.⁹⁰

In October, four different insurance companies in Hong Kong received threatening powder letters that included the phrase “Containing *Bacillus anthracis*.” The powders were analysed and found to contain glass powder. A total of 51 people were evacuated at an initial stage. The case was investigated by police but no arrests were made.⁹¹

In June, the county administrative board in Skåne, southern Sweden, received a powder letter. Subsequent analysis showed that there was no material hazardous to health in the envelope. The person who opened the envelope was decontaminated and assessed by ambulance personnel on site.⁹²

Procurement opportunities

As a group, biological materials are quite different from chemical and radiological materials, as natural outbreaks caused by such agents continue to occur around the world. The possibility of appropriating infectious agents from these outbreaks therefore presents an opportunity for those with relevant skills. In addition, there are occasional incidents where biological materials, legally stored in freezers at universities and research institutes, disappear or go missing for unknown reasons. An actor who possesses a potent biological agent, and has the ability to, for example, cultivate and disseminate it, as well as the intent to cause harm to people, animals, or plants, constitutes a potential threat. Below is a description of an incident linked to a laboratory, as well as a natural disease outbreak caused by biological materials commonly cited as potential bioterrorism agents.

In 2023, an Australian laboratory discovered that 323 test tubes containing dangerous virus strains were missing. The viruses in question—Hendra, Lyssa, and Hantavirus—had been stored in freezers at the laboratory. It was concluded that they had probably disappeared as early as 2021. The laboratory does not know whether the samples were destroyed or moved elsewhere. Proper documentation is lacking, which constitutes a clear deviation from current biosecurity protocols. However, it is claimed that the disappearance was not

⁹⁰ Staff writer with Belga, Letter with suspicious powder sent to Prime Minister's Office, The Brussels Times, 2024-11-22.

⁹¹ Staff writer, Emergency response following anthrax threats at four separate insurance companies, The Standard (Hong Kong), 2024-10-17.

⁹² Filip Bolmgren, Pulverbrev på länsstyrelsen [Powder letter at the county administrative board], Expressen, 2024-06-17.

connected to any burglary. Possession of biological materials entails an obligation to store them in a responsible and secure manner, so that they cannot fall into the wrong hands and pose a potential danger to the public. A further investigation is underway to determine what happened to the test tubes and why it took two years before the incident was discovered and reported.⁹³

Uganda was hit by an Ebola outbreak in early 2025. By mid-February, nine cases had been confirmed, one of which was fatal.⁹⁴

No major outbreak of anthrax in humans was reported in 2024. The most recent occurred in Zambia in 2023, as previously reported.⁹⁵ However, sporadic cases continue to occur in livestock worldwide each year.

⁹³ Jess Thomson, Hundreds of vials of deadly viruses missing after lab breach, *Newsweek*, 2024-12-09.

⁹⁴ Current outbreaks, Ebola, Folkhälsomyndigheten [Public Health Agency of Sweden], 2025-02-14.

⁹⁵ CBRN Threats and Incidents Involving non-State Actors—Annual Report 2023, Magnus Normark, Anders Lindblad, Henrik Ramebäck, Anna-Karin Tunemalm, Per Wikström, FOI-R-5627-SE, June 2024.



FOI
Swedish Defence Research Agency
SE-164 90 Stockholm

Phone: +46 8 555 030 00
Fax: +46 8 555 031 00

www.foi.se