

Physicians for Human Rights

# **Weaponizing Tear Gas: Bahrain's Unprecedented Use of Toxic Chemical Agents Against Civilians**

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**PHR**

Physicians for  
Human Rights

## About Physicians for Human Rights

Physicians for Human Rights (PHR) uses medicine and science to investigate and expose human rights violations. We work to prevent rights abuses by seeking justice and holding offenders accountable.

Since 1986, PHR has conducted investigations in more than 40 countries, including on:

- 1987 — Use of toxic chemical agents in South Korea
- 1988 — Iraq's use of chemical weapons against Kurds
- 1988 — Use of toxic chemical agents in West Bank and the Gaza Strip
- 1989 — Use of chemical warfare agents in Soviet Georgia
- 1996 — Exhumation of mass graves in the Balkans
- 1996 — Critical forensic evidence of genocide in Rwanda
- 1999 — Drafting the UN-endorsed guidelines for documentation of torture
- 2004 — Documentation of the genocide in Darfur
- 2008 — US complicity of torture in Iraq, Afghanistan, and Guantánamo Bay
- 2010 — Human experimentation by CIA medical personnel on prisoners in violation of the Nuremberg Code
- 2011 — Violations of medical neutrality in times of armed conflict and civil unrest during the Arab Spring



**PHR shared  
the 1997  
Nobel Peace Prize**

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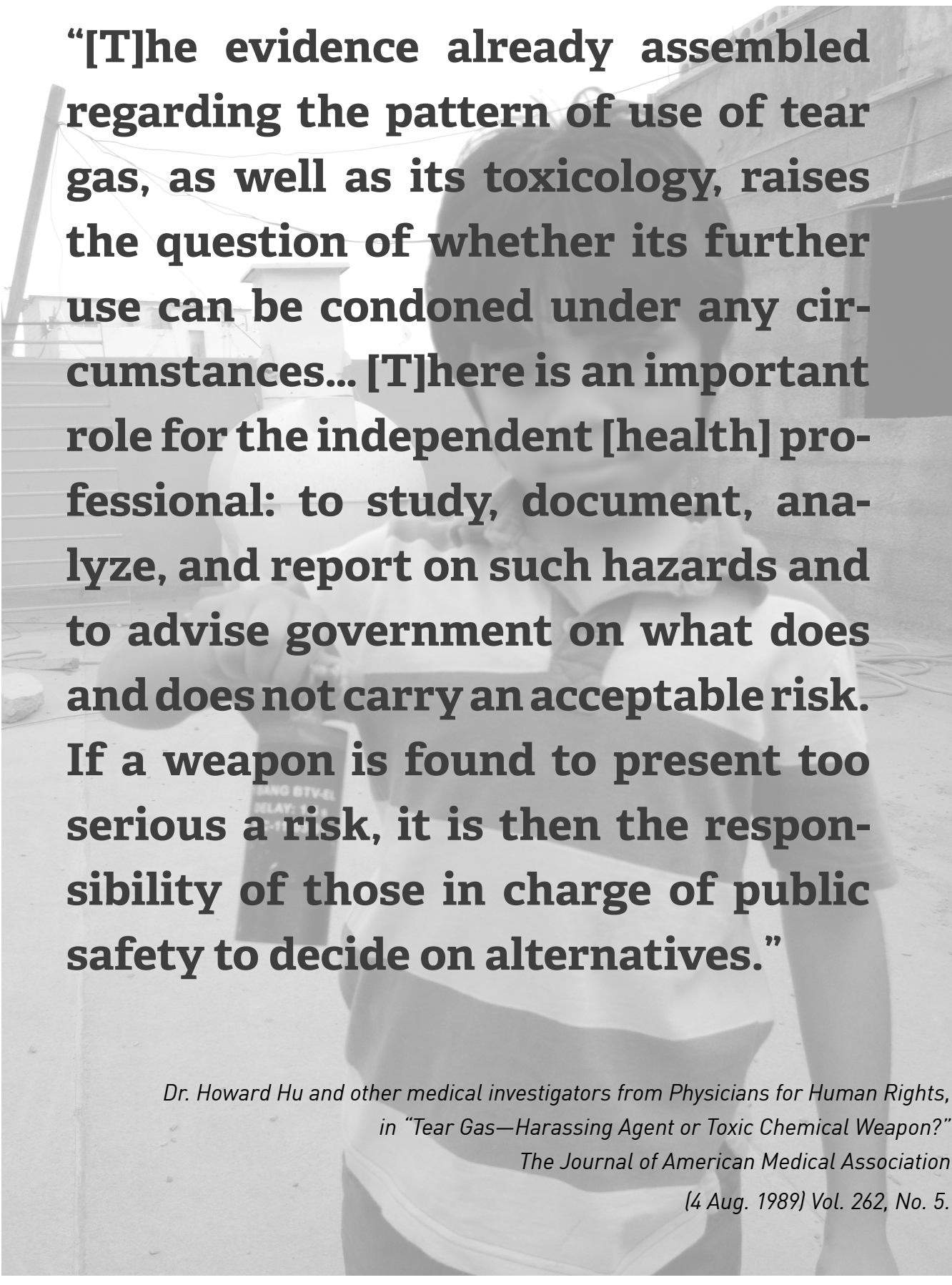
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**Cover photo:** Bahraini anti-riot police fire tear gas grenades at peaceful and unarmed civilians protesters, including a Shi'a cleric, in June 2012. <http://www.youtube.com/watch?v=Qxaul5hdjqk>.

**Opposite:** Bahraini boy displays one of several exploded tear gas canisters fired into his family's house.  
Photo: Richard Sollom, PHR.



**“[T]he evidence already assembled regarding the pattern of use of tear gas, as well as its toxicology, raises the question of whether its further use can be condoned under any circumstances... [T]here is an important role for the independent [health] professional: to study, document, analyze, and report on such hazards and to advise government on what does and does not carry an acceptable risk. If a weapon is found to present too serious a risk, it is then the responsibility of those in charge of public safety to decide on alternatives.”**

*Dr. Howard Hu and other medical investigators from Physicians for Human Rights,  
in “Tear Gas—Harassing Agent or Toxic Chemical Weapon?”  
The Journal of American Medical Association  
(4 Aug. 1989) Vol. 262, No. 5.*

## Acknowledgements

This report was written by Richard Sollom, MA, MPH, Deputy Director at Physicians for Human Rights (PHR); and Holly Atkinson, MD, FACP, Past President of PHR, Assistant Professor of Medicine and Director of the Human Rights Program at Mount Sinai School of Medicine, Assistant Professor of Public Health at Weill Medical College of Cornell University; with assistance from Marissa Brodney, Program Associate at PHR. Policy recommendations were written by Hans Hogrefe, Chief Policy Officer at PHR, and Andrea Gittleman, JD, Senior Legislative Counsel at PHR. This report is based on research conducted by PHR in Bahrain on 7-12 April 2012.

The report has benefited from review by Catherine DeAngelis, MD, MPH, Professor of Pediatrics, Emerita and Vice Dean, Johns Hopkins University School of Medicine, Professor of Health Policy and Management, Johns Hopkins Bloomberg School of Public Health, Editor in Chief Emerita, The Journal of the American Medical Association (JAMA), and Member of the Board of Directors of PHR; Howard Hu, MD, MPH, ScD, Director of the University of Toronto Dalla Lana School of Public Health, and founding Member of the Board of Directors of PHR; and Deborah D. Ascheim, MD, Associate Professor of Health Evidence and Policy, Mount Sinai School of Medicine, and Vice-Chair of the Board of Directors of PHR.

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## Acronyms

BICI	Bahrain Independent Commission of Inquiry
CIDT	Cruel, inhuman, or degrading treatment
CWA	Chemical warfare agent
CWC	Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on Their Destruction
CS	o-Chlorobenzylidene malononitrile
CN	Chloracetophenone
CAT	Convention against Torture and Other Cruel, Inhuman or Degrading Treatment or Punishment
CR	Dibenz [b, f]-1, 4-oxazepine
IACHR	Inter-American Commission on Human Rights
ICRC	International Committee of the Red Cross
ICCPR	International Covenant on Civil and Political Rights
ICESCR	International Covenant on Economic, Social and Cultural Rights
OC	Oleoresin capsicum
PAVA	Pelargonic acid vanillylamide
PCSI	Peripheral chemosensory irritant
PHR	Physicians for Human Rights
MENA	Middle East and North Africa
RCA	Riot control agent





The tiny Persian Gulf Kingdom of Bahrain still smolders amid ongoing civil unrest 18 months after protesters began calling for political reform. Governments in the region have resorted to lethal force or have precipitated outright civil war in response to the outcries for political reform and human rights in the context of the “Arab awakening.” Bahrain’s Sunni monarchy notably has silenced dissent and punished the opposition by rounding up doctors and peaceful protesters, torturing many of them, filing trumped-up charges, and imposing harsh prison sentences. The vicious crackdown in Bahrain has received global attention and warranted a special international commission of inquiry into Bahrain’s excessive use of force and human rights violations. Throughout this time, Physicians for Human Rights (PHR) has played a leading role in defense of our medical colleagues whose rights have been severely violated in Bahrain.

Less visible is the unusually relentless and indiscriminate campaign that Bahraini authorities have waged against the majority Shi’a population for more than 500 days by weaponizing toxic chemical agents—so called tear gas. In Bahrain, law enforcement officials have deployed this toxic agent to punish protesters, inflict suffering, and suppress dissent. Usually perceived by the public and security forces as a benign tool for crowd control, tear gas, especially when used in large quantities and in enclosed spaces, poses serious health risks and even causes death. Since February 2011, the Bahraini government has unleashed a torrent of these toxic chemical agents against men, women, and children, including the elderly and infirm.

Twenty-five years ago, PHR documented the deleterious and long-term health effects of tear gas used indiscriminately in South Korea against civilian protesters, including toxic pulmonary damage and death, as well as possible miscarriages. As physicians we were then compelled to question whether the further use of these toxic chemical agents could be condoned under any circumstances.

The extensive and persistent use of this so-called nonlethal chemical agent now in Bahrain—unprecedented in the 100-year history of tear gas use against civilians throughout the world—compels PHR once again to call the world’s attention to the known and still unknown serious health consequences of tear gas, including death. As human rights advocates and health professionals, we are ethically obligated to highlight the toxic and lethal effects of tear gas and its indiscriminate and illegal use in Bahrain.

## Methods

This report’s findings are based on field research that PHR conducted in Bahrain (7-12 April 2012) to investigate excessive use of force by law enforcement officials since June 2011—the end of Bahrain’s state of emergency. The medico-legal team (Richard Sollom, MA, MPH and Holly Atkinson, MD) conducted 102 in-depth interviews with Bahrainis who reported human rights violations, corroborating eyewitnesses to these alleged events, civil society leaders, and government officials. Other forms of corroboration that PHR conducted or utilized in this study include: Physical examinations, evaluation of medical records, and review of radiographic, photographic, and video evidence. In addition, this report contains results from an analysis of 28 countries whose security forces have deployed toxic chemical agents against civilians in situations of civil unrest.

## Findings

This report documents two interconnected means by which the Bahraini government unlawfully uses toxic chemical agents against civilians: (1) Government authorities have routinely violated every U.N. principle governing police use of force. (2) Bahraini law enforcement officials have also effectively transformed toxic chemical agents into weapons used to assail Shi'a civilians inside their homes and cars.

### **Bahraini government violates UN principles on the use of force during protests**

While current international law allows governments to use some chemical agents for crowd control purposes, Bahraini law enforcement officials routinely violate every U.N. principle of their use. Specifically, PHR documents in this report that Bahraini authorities:

- (1) Fail to exercise restraint before resorting to force;
- (2) Use disproportionate force when responding to protesters; and
- (3) Fail to minimize damage and injury to demonstrators.

Such unrestrained use of toxic chemical agents against civilians has caused superfluous—and sometimes life-threatening—harm to men, women, and children in Bahrain. Injured protesters whom PHR investigators examined suffered from blunt force trauma and lacerations to the head, torso, and limbs due to the impact of metal canisters being fired at them by law enforcement officials at close range.

Police hit one bystander in the head with a tear gas canister while he was walking near the site of a protest in Karanah, causing a fractured skull and intracranial hemorrhaging. “You’re lucky to have survived,” the doctor who performed the CT scan told this victim, “Others from the same injury have died.”

### **Bahraini government violates human rights law by weaponizing toxic chemical agents**

Equally unprecedented is the Government of Bahrain’s transformation of toxic chemical agents into weapons used methodically to attack Shi’a civilians inside their homes and cars. Such unprovoked and flagrant assaults on families—who pose no threat to the safety of others—flout international human rights law and constitute torture, cruel, and inhuman treatment. Specifically, the report documents that Bahraini law enforcement officials:

- (1) Subject men, women, children, vulnerable, disabled and elderly persons to torture, cruel, and inhuman treatment;
- (2) Unlawfully enter families’ homes and destroy property;
- (3) Intentionally commit acts that impair people’s health; and
- (4) Discriminate against one religious sect by targeting Shi’a neighborhoods.

The weaponized toxic chemical agent attacks against Bahraini civilians are intentional—and may be official policy—because of the frequency of the attacks by officials throughout the police force and the lack of accountability for those who perpetrate the attacks.

Two sisters from Shela told PHR investigators that police shot tear gas canisters directly into their home on five separate occasions. On the second occasion, they reported police ripped protective covers off of the family’s air conditioners and pulled sealant away from the windows from the outside, before throwing tear gas canisters through a window and yelling,



“If you want freedom, come out to us.” They reported that in the third incident, police broke through the front door and threw a tear gas canister into their home.

PHR investigators also interviewed several members of a large family—ages 3 to 65—who were forced from their home after police stormed it, attempted to abduct a 15-year-old boy, and fired canisters containing toxic chemical agents into the house causing a 14-year-old girl to fall unconscious. Law enforcement officials then reportedly surrounded the exits, inhibiting escape.

Such attacks appear to discriminate against Bahrain’s Shi’a majority population. Preliminary analysis of data suggests that the majority of Shi’a neighborhoods (comprising 80% of all neighborhoods in Bahrain) have been exposed to toxic chemical agent attacks at least once per week since February 2011. Sunni-dominated neighborhoods have largely remained free from toxic chemical agent attacks.

### **Bahrain’s misuse of toxic chemical agents endangers the health of civilians and causes severe and long-term pain and suffering**

Physicians for Human Rights warns that the ongoing 18-month siege and widespread use of toxic chemical agents against a civilian population has caused inestimable physical harm and will continue to inflict as yet unknown negative health effects among this population. Bahraini law enforcement officials’ persistent targeting civilians in enclosed spaces may lead to serious long-term health consequences, including miscarriages and severe respiratory distress resulting in premature death.

PHR spoke with two families who had family members who allegedly died from complications related to toxic chemical agent exposure. In both cases, deceased individuals were only exposed to toxic chemical agents in the privacy of their homes, and died despite treatment in the hospital. PHR met with relatives of Muhammad, a young asthmatic man from a Shi’a village, who died of acute respiratory failure following 25 days of hospitalization after exposure to toxic chemical agents. Muhammad’s family reported that he was routinely exposed to tear gas and sought medical care in private hospitals, but never told doctors about his severe adverse reactions to the gas for fear of being reported to authorities and sent to prison.

## **Policy recommendations**

Countries like Bahrain that have so profoundly abused tear gas as a means to preemptively assault civilians should lose access to these toxic chemical agents. All other countries that have deployed these chemicals as per U.N. principles and with due respect for human life and dignity should reevaluate their use given the dangerous health consequences wrought by tear gas and should utilize these agents with extreme caution.

### **To the Government of Bahrain:**

- End all attacks on civilians, including tear gas attacks on civilians and homes.
- Given the harmful effects of tear gas misuse in the country, suspend all use of tear gas until such time as the Government of Bahrain conducts a full and impartial investigation of the events detailed in this report, retrains the national security forces in the proper use of tear gas, and holds the perpetrators of excessive or improper use of force accountable. After such initial benchmarks are met, adhere to United Nations guidelines on the use of force and to the Bahraini penal code in order to stem future misuse of tear gas.

- Establish an independent body consisting of individuals familiar with human rights and legal norms regarding the use of force to investigate the deliberate misuse of toxic chemical agents in Bahrain.
- Disclose information about the varieties of toxic chemical agents used by law enforcement officials in Bahrain, given the disturbing evidence of the harmful effects of toxic chemical agents from PHR's investigation as well as the BICI Report. This information will be important to the current treatment of exposed Bahraini citizens, and to drive future scientific research on the effects of all toxic chemical agents.
- Allow scientists, health professionals, and epidemiologists to conduct critical toxicological and survey research on the use and effects of tear gas in Bahrain.

#### **To the international community:**

- Suspend global exports of tear gas and its relevant precursor chemical agents to Bahrain until such time as the Government of Bahrain conducts a full and impartial investigation of the events detailed in this report, retrains the national security forces in the proper use of tear gas, and holds the perpetrators of excessive or improper use of force accountable.
- Convene an interdisciplinary group of health professionals, lawyers, law enforcement officials, and public health experts to draft guiding principles on the proper use of all toxic chemical agents, especially those classified as lachrymatory agents, and to determine whether the application and toxicity of certain lachrymatory agents necessitate re-classification under the Chemical Weapons Convention.
- Support scientific research into the health effects of tear gas, including research on the possible connection to miscarriage and/or genetic disorders as well as long-term respiratory sequelae of excessive exposure.
- Review international, regional, national, and local guidelines on tear gas use and ensure that they follow the parameters of the UN Guidelines on the Use of Force, including mechanisms for accountability for misuse.

#### **To the United States:**

- Continue to deny export licenses for tear gas to Bahrain until the Government of Bahrain adheres to UN Guidelines on the Use of Force regarding its tear gas use, investigates the weaponization of tear gas, and establishes accountability for law enforcement officials who use excessive force or otherwise violate the UN Guidelines.
- Revoke tear gas licenses for other countries that show warning signs of improper use of tear gas or other riot control items against peaceful civilians.
- As a matter of policy, ensure that all tear gas and related materials are listed on the State Department's US Munitions List, given the fatal consequences of the improper use of tear gas.
- Provide stricter end-use monitoring of tear gas and related materials through the Department of Defense.
- Ensure that any military assistance to Bahrain comports with the Leahy Law and section 502(b) of the Foreign Assistance Act of 1961.
- Fully support international efforts to draft guiding principles on the proper use of all toxic chemical agents, and lead the international community in supporting scientific research on the health effects of these agents.



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