



Defining Toxic Remnants of War: sources, properties and examples

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Background



- Definition.
- Sources and examples.
- Substance assessment.
- Analogous processes.
- The future.

Working definition

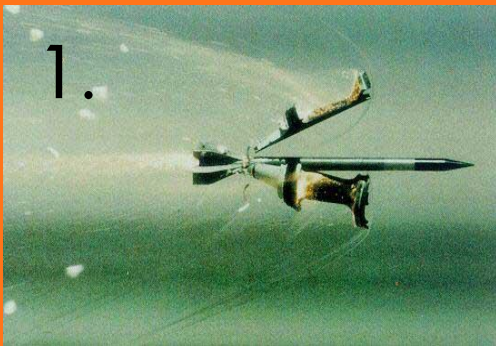


'Any toxic or radiological substance used in or resulting from military activities that forms a hazard to human and environmental health'

- Determine harmful substances.
- Establish routes of environmental exposure.

Sources: overview

1. Munitions.
2. Attacks on infrastructure and industry.
3. Stockpiled and abandoned munitions.
4. Military bases.
5. Munitions manufacturing, training and testing.



Sources: focus



	Military Activities Outside Times of Conflict	Military Activities During Conflict
Munitions	x	✓
Infrastructure bombardment	x	✓
Stockpiled and abandoned munitions	✓	x
Military bases	✓	✓
Munitions manufacturing, training and testing	✓	x

Examples: overview



- From military, academic, regulatory and human rights literature and contacts.
- Explosives: RDX, TNT, HMX, etc.
- Propellants: ammonium perchlorate, hydrazine.
- Metals: lead, tungsten, thorium, DU.
- Obscurants: white phosphorus, fog oil.
- Activity by-products: dioxins, TCE, biological waste.

Examples: focus



Substance	Sources	Exposure
RDX	Explosives	Contaminated air and water.

Overview: Commonly used explosive.
Acute exposure leads to seizures.
Effects of long term exposure unknown.

Examples: focus



Substance	Sources	Exposure
Perchlorate	Propellants Explosives	Drinking water & contaminated food.

Overview: Product of oxidising salts in rocket fuels and explosives.

Affects the function of the thyroid gland.

Subject to regulatory controls in US.

Examples: focus



Substance : Sources : Exposure

White phosphorus.

Obscurant

Contaminated air, food and water.

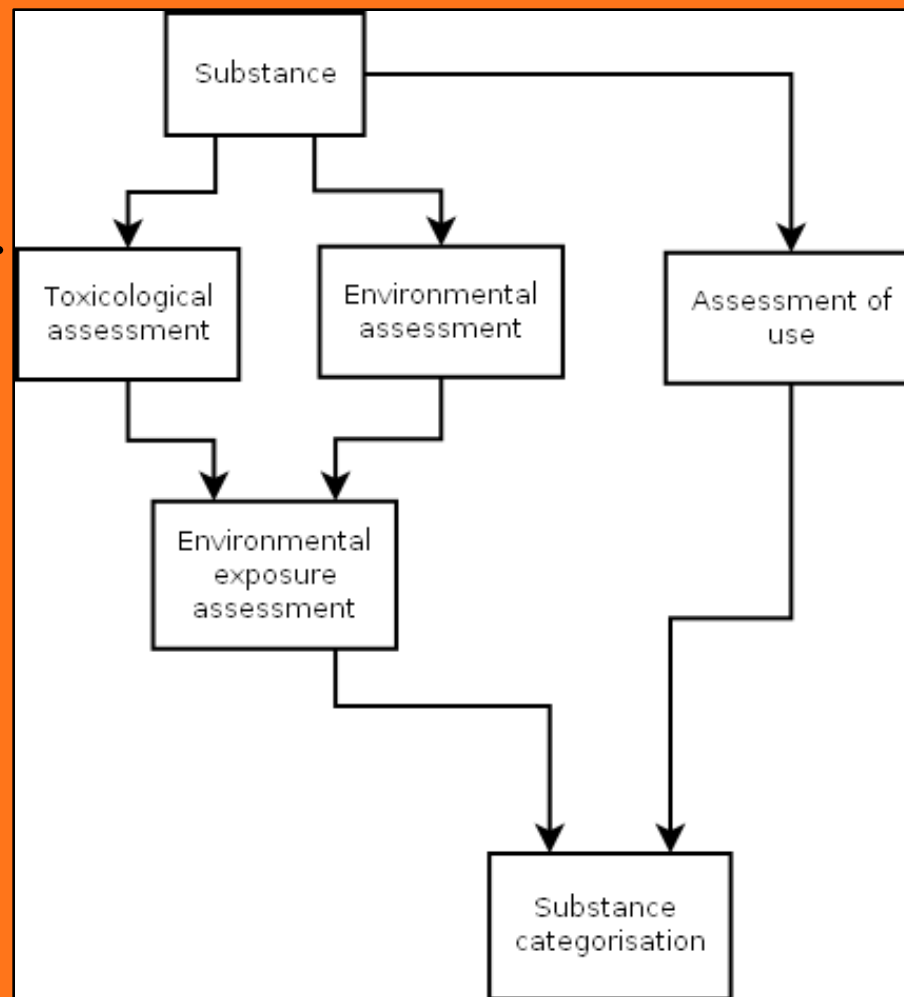
Overview: Produces smoke to obscure military activities.

Uncertainty regarding health effects.

Thought to be related to birth defects in Gaza Strip.

Assessment of substances

- Harm and toxicity.
- Environmental behaviour. Movement in soil, water and air.
- Extent of use.
- Environmental exposure. Routes of exposure and potential doses.



Analogous processes



- Military.
 - US DOD emerging contaminants.
 - NATO.

- Regulatory.
 - REACH.

- Civil society.
 - Greenpeace Toxics.
 - Physicians for Social Responsibility.
 - American Public Health Association.

What now?



- Substance assessments (~10-20 substances).
- Engage specific experts and expand capacity.
- Identify areas for case studies.



Thank you

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