



There is no treatment for ricin poisoning after it has entered the bloodstream. Victims start to show symptoms within hours to days after exposure, depending on the dosage and route of administration.

- Terrorists have looked at delivering ricin in foods and as a contact poison, although we have no scientific data to indicate that ricin can penetrate intact skin.
- Ricin will remain stable in foods as long as they are not heated, and it will have few indicators because it does not have a strong taste and is off-white in color.

## Radiological and Nuclear Devices

### Radiological Dispersal Devices (RDD)

An RDD is a conventional bomb not a yield-producing nuclear device. RDDs are designed to disperse radioactive material to cause destruction, contamination, and injury from the radiation produced by the material. An RDD can be almost any size, defined only by the amount of radioactive material and explosives.

- A passive RDD is a system in which unshielded radioactive material is dispersed or placed manually at the target.
- An explosive RDD—often called a “dirty bomb”—is any system that uses the explosive force of detonation to disperse radioactive material. A simple explosive RDD consisting of a lead-shielded container—commonly called a “pig”—and a kilogram of explosive attached could easily fit into a backpack.
- An atmospheric RDD is any system in which radioactive material is converted into a form that is easily transported by air currents.

Use of an RDD by terrorists could result in health, environmental, and economic effects as well as political and social effects. It will cause fear, injury, and possibly lead to levels of contamination requiring costly and time-consuming cleanup efforts.

A variety of radioactive materials are commonly available and could be used in an RDD, including Cesium-137, Strontium-90, and Cobalt-60. Hospitals, universities, factories, construction companies, and laboratories are possible sources for these radioactive materials.

### Improvised Nuclear Device (IND)

An IND is intended to cause a yield-producing nuclear explosion. An IND could consist of diverted nuclear weapon components, a modified nuclear weapon, or indigenous-designed device.

- INDs can be categorized into two types: implosion and gun assembled. Unlike RDDs that can be made with almost any radioactive material, INDs require fissile material—highly enriched uranium or plutonium—to produce nuclear yield.

## Online Resources

More detailed information on the medical aspects of chemical, biological, and nuclear weapons threats can be found at the following Internet sites:

### The Medical NBC Information server:

[www.nbc-med.org](http://www.nbc-med.org) and <http://www.nbc-med.org>

### Medical Research and Material Command:

[mrmc-www.army.mil](http://mrmc-www.army.mil)

### Medical Research Institute of Chemical Defense:

[chemdef.apgea.army.mil](http://chemdef.apgea.army.mil)

### Medical Research Institute of Infectious Diseases:

[www.usamriid.army.mil](http://www.usamriid.army.mil)

**National Institute for Occupational Safety and Health:** [www.cdc.gov/niosh/topics/chemical-safety/default.html](http://www.cdc.gov/niosh/topics/chemical-safety/default.html)

### US Department of Homeland Security:

[www.ready.gov](http://www.ready.gov)

### Central Intelligence Agency:

CBR Incident Handbook [www.cia.gov/CIA/Publications/cbr-handbook/cbrbook.html](http://www.cia.gov/CIA/Publications/cbr-handbook/cbrbook.html)