

Ricin

What is ricin?

Ricin is a kind of poison. It comes from the beans of the castor plant, which are also used to make castor oil. It can be made as a liquid, a dry powder, or crystals.



Castor beans

It's very unlikely that anyone would ever be poisoned with ricin by accident. It would only happen if someone used ricin on purpose – as a weapon.

Ricin can be used to poison people by putting it in food or water. If liquid or powdered ricin is released into the air, people could be poisoned by inhaling it. If it's mixed with a solvent, it can be absorbed through the skin – although that's probably the least likely way to be poisoned with ricin. It can also be used to poison an individual person by injecting it.

Ricin poisoning can cause death, but it isn't always fatal. Symptoms depend on the amount of ricin, and how a person is exposed to it:

- Ricin **in food or water** can cause very severe “food poisoning” symptoms – including vomiting and bloody diarrhea. It also affects the liver and kidneys. If the dose is big enough, it can kill within three days. One milligram of ricin, in food or water, can kill an adult.
- A person who **inhales** ricin will develop a cough within three hours. Nausea, diarrhea, and aches and pains will follow within 18 to 24 hours. If the dose is big enough, death will occur within 36 to 72 hours – from damage to the heart and blood vessels, and fluid in the lungs.
- **Injecting** ricin will destroy muscles around the injection site right away. Death follows quickly, from failure of major organs in the body.

- Absorbing ricin **through the skin** is the least likely way anyone would be exposed to the poison – and the least likely to cause death. It has to be mixed with a solvent to be used in this way. Symptoms will depend on the kind of solvent used, and how long it's in contact with the skin.

Can ricin poisoning be treated?

Right now, there is no antidote for ricin, but the symptoms of ricin poisoning can be treated. Treatment will depend on how the patient was exposed to the poison, but may include help in breathing, as well as fluids and medications given through a vein. People who survive more than five days have a good chance of recovering.

Can people be protected against ricin poisoning?

Right now there is no way to protect people, in advance, against the effects of ricin. The possibility of developing a vaccine is being studied.

Can you get ricin poisoning from other people?

No. Ricin is a type of poison. It isn't caused by a living organism, and it can't be passed from one person to another.

Why is ricin considered a possible terror weapon?

Ricin has been studied as a possible weapon for almost a century. The U.S. studied it during World War I, and British and U.S. scientists developed and tested a ricin bomb during World War II.

A militia group in northwestern Minnesota plotted to use ricin against law enforcement personnel in the early nineties. Iraq is believed



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to have developed ricin as a weapon, and there is also evidence linking al-Qaeda with the use of ricin. In 1978, injected ricin was used to kill a Bulgarian dissident at a bus stop in London.

Ricin has never been used as a weapon of mass destruction, and it isn't clear whether a big release of ricin into the air is actually possible. The most likely possibility is the use of ricin in an enclosed space, like a subway, the inside of a bus, or a retail store.

Ricin is considered a possible terror weapon because:

- it is cheap and easy to make
- there is no vaccine or treatment for it
- it is very poisonous, and could cause a large number of deaths

What should I do if I think I may have been exposed to ricin?

If you have any reason to believe that you may have been exposed to ricin, talk to your doctor immediately. If you see any suspicious situations or activity in your community – including possible use of a chemical like ricin as a weapon – alert your local law enforcement agency.