

*an incomplete*

**BOOK** *of*  
**POISONS**

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Bodily  
Poisons

# FOX GLOVE

## DEFINITION

Scientific name *Digitalis purpurea*, Foxglove is a plant with colorful bell-shaped flowers that grows wild across Europe and the United States, and it is also often featured in gardens. The heart medicine *Digitalis* is derived from foxglove leaves.

## SYMPTOMS

Irregular heartbeat • Diarrhea • Weakness • Vomiting • Heart failure • Death

## ANTIDOTES

None known.



# BOTULINUM

## DEFINITION

Botulinum toxin is a neurotoxin protein produced by the bacterium *Clostridium botulinum* that causes flaccid paralysis. A form of the toxin is used to paralyze facial muscles for 4-6 months at a time to reduce wrinkles or sagging. Botulinum toxin is the most toxic substance known to humans.

## SYMPTOMS

Double or blurred vision • Drooping eyelids • Slurred speech • Difficulty breathing • Difficulty swallowing • Thick-feeling tongue • Dry mouth • Muscle weakness • Paralysis • Death

## ANTIDOTES

Antitoxins can prevent further damage, but there is no known way to repair the toxin's damage once inflicted.

# RICIN

## DEFINITION

Ricin is found naturally in castor beans and can be delivered as a powder, mist, or pellet, or it can be dissolved in water or a weak acid. Once ingested, ricin prevents cells from producing proteins, which kills the cells. Ricin was famously used to assassinate Bulgarian dissident Georgi Markov in London in 1978.

## SYMPTOMS

If inhaled: Respiratory distress • Fever • Cough • Nausea • Tightness in chest • Heavy sweating • Fluid in lungs • Low blood pressure • Respiratory failure • Death

If ingested: Vomiting • Diarrhea • Dehydration • Seizures • Blood in urine • Liver failure • Spleen failure • Kidney failure • Death

## ANTIDOTES

None known.

# SARIN GAS

## DEFINITION

Sarin is a human-made chemical warfare nerve agent that was originally developed as a pesticide in Germany in 1938. In its liquid form, Sarin is clear, colorless, odorless, and tasteless, but it can also be vaporized and spread through an environment. Like all nerve agents, Sarin works by inhibiting the function of the enzyme that controls muscle contraction and release, leaving muscles unable to relax. This can cause the victim to become too tired to breathe.

## SYMPTOMS

Runny nose • Watery eyes • Contracted pupils • Eye pain • Blurred vision • Drooling • Excessive sweating • Cough • Chest tightness • Rapid breathing • Diarrhea • Nausea • Vomiting • Abdominal pain • Increased urination • Confusion • Drowsiness • Weakness • Headache • Slow or fast heart rate • Low or high blood pressure • Loss of consciousness • Convulsions • Paralysis • Respiratory failure • Death

## ANTIDOTES

Atropine and Pralidoxime chloride address nerve agent toxicity if administered quickly.



# POLONIUM

## DEFINITION

Polonium-210 is a rare radioactive metal discovered by Marie Curie in 1898. This polonium isotope, variously known as  $^{210}\text{Po}$ ,  $\text{Po-210}$ , or radium F, is generated in the decay chain of uranium-238 and radium-226 and has a half-life of 138.376 days, the longest of all naturally occurring polonium isotopes. Polonium-210 was used to assassinate Alexander Litvinenko in 2006. The substance is not chemically toxic, killing instead through radiation poisoning.

## SYMPTOMS

Nausea • Vomiting • Anorexia • Hair loss •  
Lymphopenia • Diarrhea • Bone marrow damage •  
Cancer • Death

## ANTIDOTES

Chelating agents can reduce the effects of radiation poisoning, but no true antidote is known.

Environmental  
Poisons

# PLASTIC

## DEFINITION

Plastic is a material consisting of any of a wide range of synthetic or semi-synthetic organic compounds that are malleable and can be molded into solid objects. Plastics characteristically degrade extremely slowly, taking hundreds to thousands of years to chemically break down. In the last 70 years, humans have produced between 1 and 8.3 billion tons of plastic waste.

## SYMPTOMS

Strangled sea life • Trash islands • Accidental transportation of invasive species • Polluted groundwater • Long-term effects of plastic pollution are not yet fully understood

## ANTIDOTES

None known.



# NUCLEAR WASTE

## DEFINITION

Nuclear waste is nuclear fuel that has been used once in a nuclear reactor already. Spent fuel rods of this sort consist mostly of cesium-137 and strontium-90 but may also contain plutonium, which has a much longer half-life. If properly contained, the radiation from nuclear waste does not pose a threat to humans or the environment in which it is stored, but if a container is breached or storage is otherwise compromised, serious damage can occur.

## SYMPTOMS

Radiation causes genetic mutations in organisms, which can cause inhibited growth and reproduction in plant life or present as headaches, nausea, fevers, and cancers in animals.

## ANTIDOTES

Geometting can help to contain radiation from radioactive waste sites.

# CARBON DIOXIDE

## DEFINITION

Carbon dioxide, denoted  $\text{CO}_2$ , is a colorless, odorless gas made of molecules of one carbon atom covalently double-bonded to two oxygen atoms.  $\text{CO}_2$  stores most of the Earth's atmospheric carbon, and it is a greenhouse gas, which means it traps heat in the atmosphere.  $\text{CO}_2$  is a natural part of Earth's ecosystem, but elevated levels in the atmosphere trigger climate change via the runaway greenhouse effect.

## SYMPTOMS

Warming oceans • Loss of sea ice • Glacier shrinkage • Sea level rise • Global temperature rise • Extreme weather • Ocean acidification • Acid rain

## ANTIDOTES

Photosynthesis

# NEXT-DAY DELIVERY

## DEFINITION

Next-day delivery is a business practice that allows consumers to order goods remotely with the expectation that they will receive their orders the following day. This practice negates much of a company's ability to consolidate deliveries, requiring more travel per order.

## SYMPTOMS

Elevated carbon emissions from trucking • Consumer impatience • Social isolation

## ANTIDOTES

Electric vehicles for delivery • Patience



# ACID MINE DRAINAGE

## DEFINITION

Acid mine drainage is the outflow of acidic water from abandoned metal or coal mines. This occurs when a subsurface mine is deserted and then floods, causing metal sulfides within the rock to oxidize and acidify. When the contaminated water drains out of the mine, it can decimate surrounding flora and fauna and taint water sources for the area.

## SYMPTOMS

Disrupted growth and reproduction of aquatic life • Corroded infrastructure • "Yellow boy", a yellow-orange solid deposit of iron(III) hydroxide in polluted streams

## ANTIDOTES

Neutralization with lime, calcium silicate, or carbonate • Ion exchange • Constructed wetlands

# Interpersonal Poisons



# ENVY

## DEFINITION

Envy is an acute awareness of an advantage enjoyed by another person paired with a desire to possess the same advantage. Envy is often but not always accompanied by resentment of the person who has the desired advantage.

## SYMPTOMS

Hostility • Resentment • Anger • Irritability • Comparing self to others obsessively

## ANTIDOTES

Gratitude • Self-confidence • Self-compassion • Communication

# DISTRUST

## DEFINITION

Distrust is the feeling that someone or something cannot be relied upon.

## SYMPTOMS

Doubt • Suspicion • Kept secrets • Lack of vulnerability • Snooping • Accusatory behavior • Loss of libido

## ANTIDOTES

Honesty • Communication • Forgiveness • Adjusted expectations

# PRIDE

## DEFINITION

Pride is an excessive value placed on personal dignity, importance, merit, or superiority which can be privately felt or publicly displayed through bearing or conduct.

## SYMPTOMS

Inability to show vulnerability for fear of disrupting interior or exterior constructions of self • Aloofness • Lack of emotional openness • Refusal to initiate

## ANTIDOTES

Humility • Intentional vulnerability



# DISTANCE

## DEFINITION

Relationships are distant when the members of the relationship are physically too far away from one another to see ~~one~~ another in person as they would wish to.

## SYMPTOMS

"I miss you" • "I wish you were here" • Elided details of day-to-day • Time zone gaps • Accumulated frequent flyer miles • Feelings of disconnection • Fear • Jealousy • Isolation

## ANTIDOTES

Long calls • Handwritten letters • Visits • Communication • Specific plans to close the distance

# MANIPULATION

## DEFINITION

Manipulation occurs when someone controls other people's emotions for their own advantage, especially to seize power within a relationship.

## SYMPTOMS

Of being manipulated: Fear • Obligation • Guilt • Self-doubt

Of being manipulative: Silent treatment • Lying • Gaslighting • Raising voice • Requiring instant decisions • Insecurity-targeted criticism • Victimhood • Guilt-baiting • Pretending ignorance

## ANTIDOTES

Established boundaries • Delayed response • Direct communication • If an intimate relationship is consistently manipulative, seek treatment from a therapist or the National Domestic Violence Hotline at 1-800-799-7233



## IF YOU THINK YOU'VE BEEN POISONED:

Call 1-800-222-1222

Visit [poison.org](http://poison.org)

or call 911

## TO REPORT ENVIRONMENTAL VIOLATIONS:

Visit [echo.epa.gov](http://echo.epa.gov)

## TO GET HELP WITH A RELATIONSHIP:

Visit [aamft.org](http://aamft.org) to find a therapist

Or call 1-800-799-7233 for help with  
an abusive or toxic relationship

This book was made using Gelly Roll write ink pens and Reeves acrylic paint on 65lb black Recollections Cardstock, with 80 lb green Recollections Smooth Cardstock as endpages and Artminds genuine leather for the binding. This is a unique edition; you hold the only copy.

