

# LEAD, NITRATE, AND BACTERIA, OH MY! WHAT'S LURKING IN YOUR WATER?

IN 2014, THE FLINT WATER CRISIS SHOCKED RESIDENTS AND COMMUNITY LEADERS ALIKE.

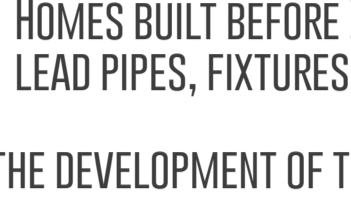
AFTER CHANGING WATER SOURCES AND WITHOUT EFFECTIVE WATER TREATMENT, OVER 100,000 RESIDENTS WERE EXPOSED TO HIGH LEVELS OF LEAD. IT WASN'T UNTIL 2017 THAT THE WATER QUALITY IMPROVED.

DO YOU KNOW WHAT'S LURKING IN YOUR WATER?

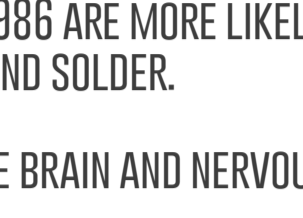
## CONTAMINANTS IN YOUR DRINKING WATER

### LEAD

CAUSES:



FAUCETS



COPPER PIPES



LEAD SERVICE LINES

HOMES BUILT BEFORE 1986 ARE MORE LIKELY TO HAVE LEAD PIPES, FIXTURES AND SOLDER.

CHILDREN RISK DAMAGE TO THE DEVELOPMENT OF THE BRAIN AND NERVOUS SYSTEM.

ADULTS HAVE AN INCREASED RISK OF HIGH BLOOD PRESSURE AND KIDNEY DAMAGE.

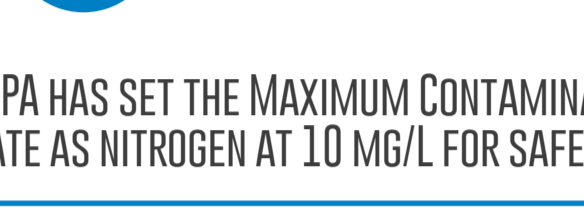
HUMAN SKIN DOES NOT ABSORB LEAD IN WATER, SO SHOWERING IS SAFE.

### NITRATE

CAUSES:



NITROGEN FERTILIZERS



SHALLOW OR POORLY CONSTRUCTED WELLS



RAIN WATER

THE EPA HAS SET THE MAXIMUM CONTAMINANT LEVEL (MCL) OF NITRATE AS NITROGEN AT 10 MG/L FOR SAFE DRINKING WATER

NITRATE LEVELS ABOVE THIS LEVEL CAN CAUSE A BLOOD DISORDER IN INFANTS CALLED METHEMOGLOBINEMIA.

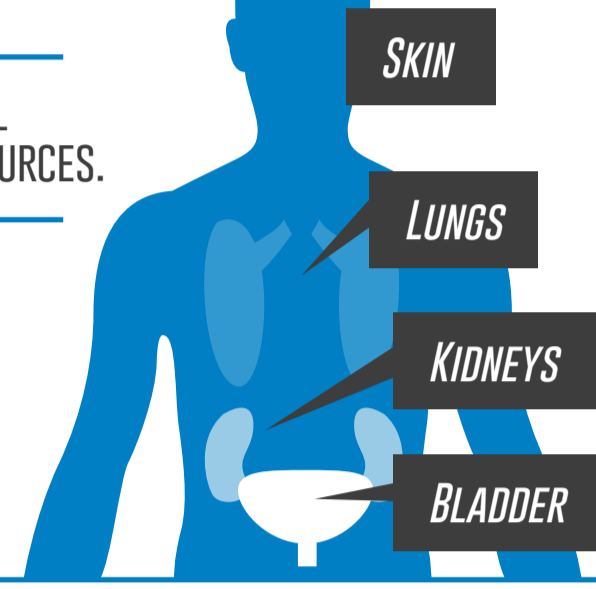
### ARSENIC

CAUSES:

NATURAL COMPONENT OF EARTH, LAND, WATER

ABOUT 1/3RD TOXIC INORGANIC ARSENIC COMES FROM NATURAL SOURCES, LIKE VOLCANOES, AND THE REST FROM MANMADE SOURCES.

LONG-TERM EXPOSURE TO ARSENIC IN WATER CAN CAUSE CANCER IN...



ARSENIC IS PRESENT AT HIGH LEVELS IN THE GROUNDWATER OF A NUMBER OF COUNTRIES.



### BROMATES

CAUSES:



WHEN OZONE USED TO DISINFECT WATER REACTS WITH BROMIDE FOUND IN SOURCE WATER.

EPA'S DETERMINED SAFETY LEVEL: 10 MICROGRAMS PER LITER

STUDIES ON LAB ANIMALS SUGGEST DAMAGE TO KIDNEYS AND CANCER RISK.

### BACTERIA FOUND IN DRINKING WATER

VIBRIO

FLAVOBACTERIUM

VIBRIO PARAHAEVOLYTICUS

E. COLI

LEGIONELLA

ASIATIC CHOLERA

AEROMONAS

## THE ROOT OF THE PROBLEM

### #1. LACK OF ACCESS TO CLEAN WATER



844 MILLION PEOPLE LACK EVEN A BASIC DRINKING-WATER SERVICE, INCLUDING 159 MILLION PEOPLE WHO ARE DEPENDENT ON SURFACE WATER.



CONTAMINATED DRINKING WATER IS ESTIMATED TO CAUSE 502,000 DEATHS EACH YEAR.



BY 2025, HALF OF THE WORLD'S POPULATION WILL BE LIVING IN WATER-STRESSED AREAS.

### #2. INCREASE IN POLLUTION



OVER 60,000 CHEMICALS ARE EXPOSED TO WATER SOURCES, LIKE GASOLINE ADDITIVES THAT AREN'T REGULATED.

### #3. NO POLICY CHANGES

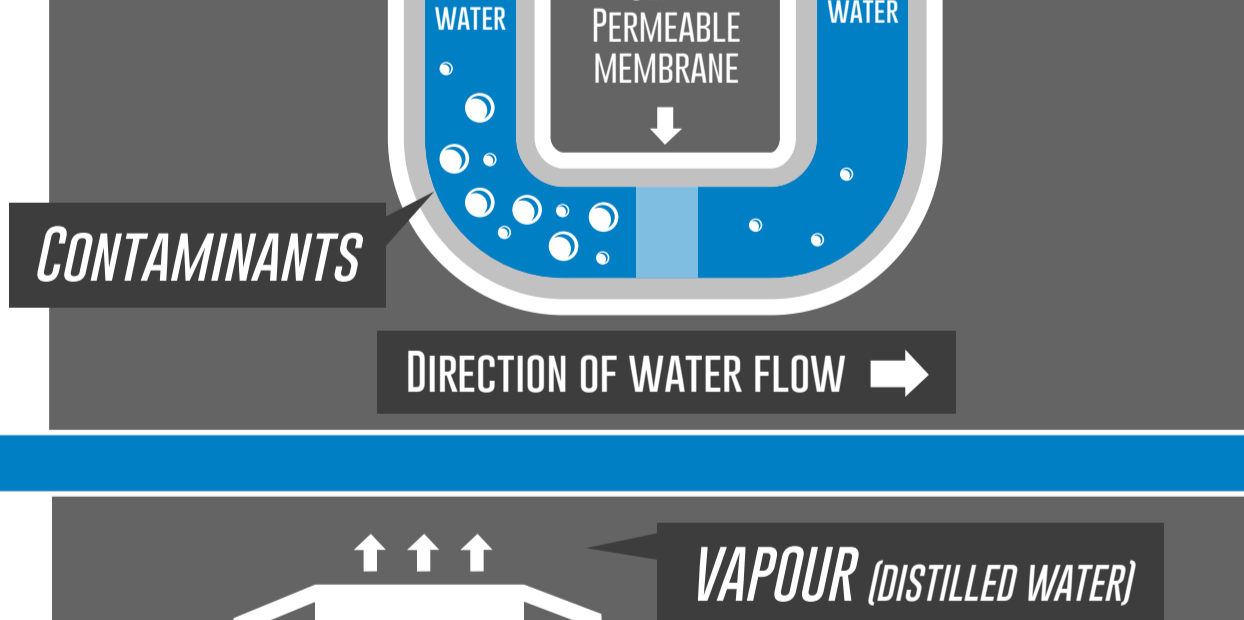


ONLY 91 CONTAMINANTS ARE REGULATED BY THE SAFE DRINKING WATER ACT, YET MORE THAN 270 CONTAMINANTS EXIST IN DRINKING WATER ACROSS THE UNITED STATES.

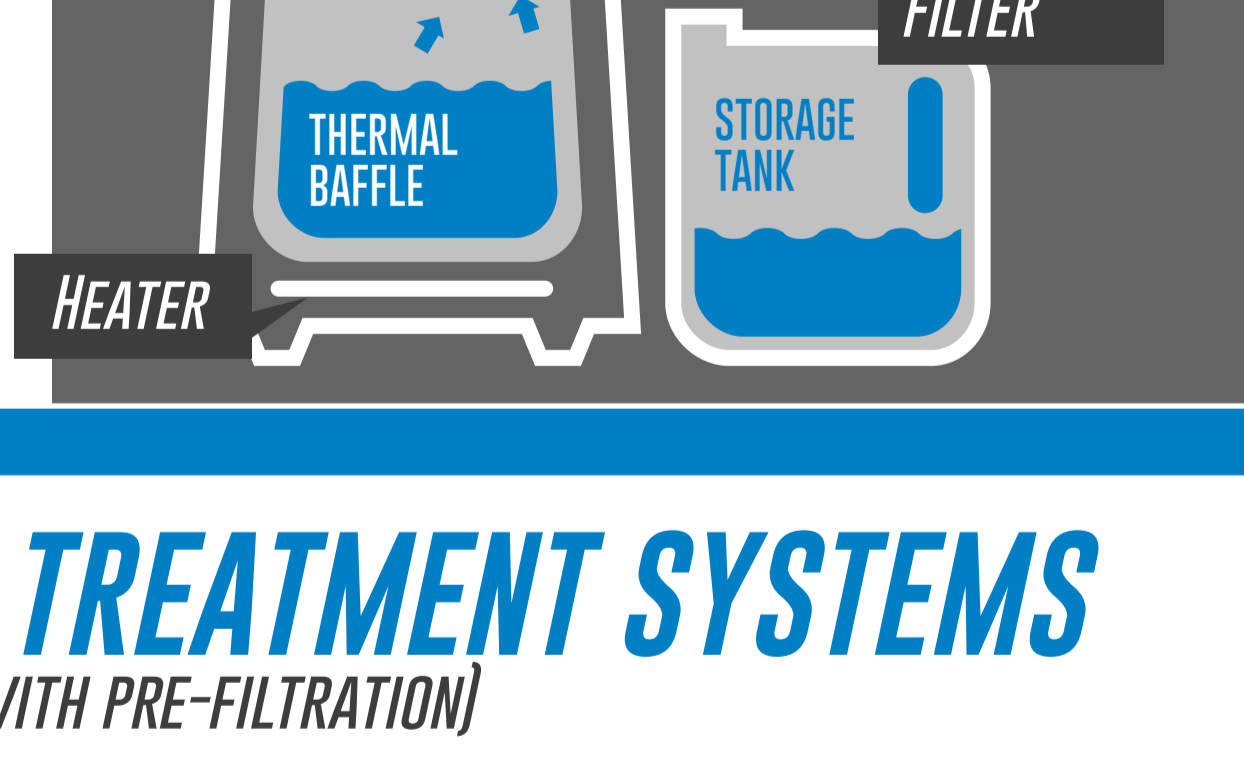
## WATER TREATMENT AND FILTER SOLUTIONS

THESE TREATMENT SYSTEMS CAN EFFECTIVELY REMOVE OR REDUCE CONTAMINANTS IN WATER.

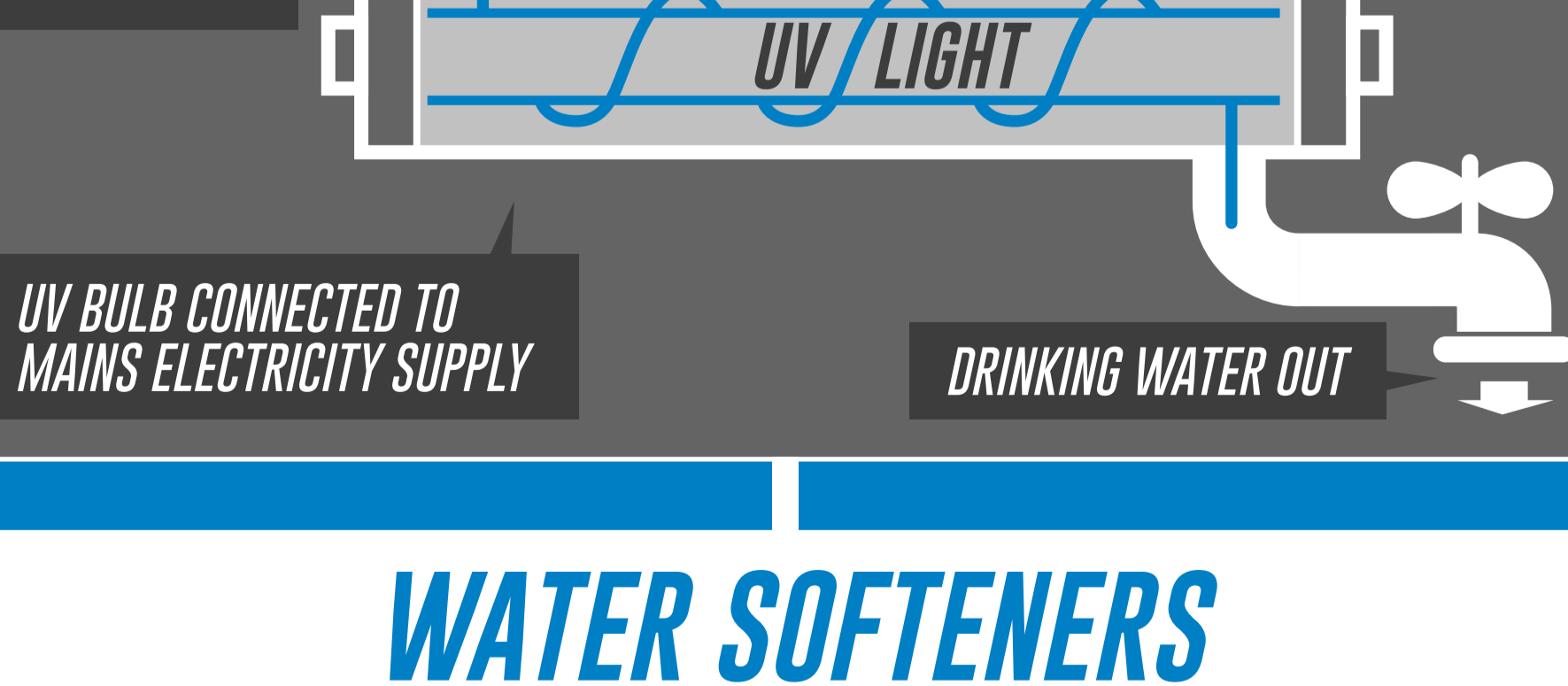
### REVERSE OSMOSIS SYSTEMS



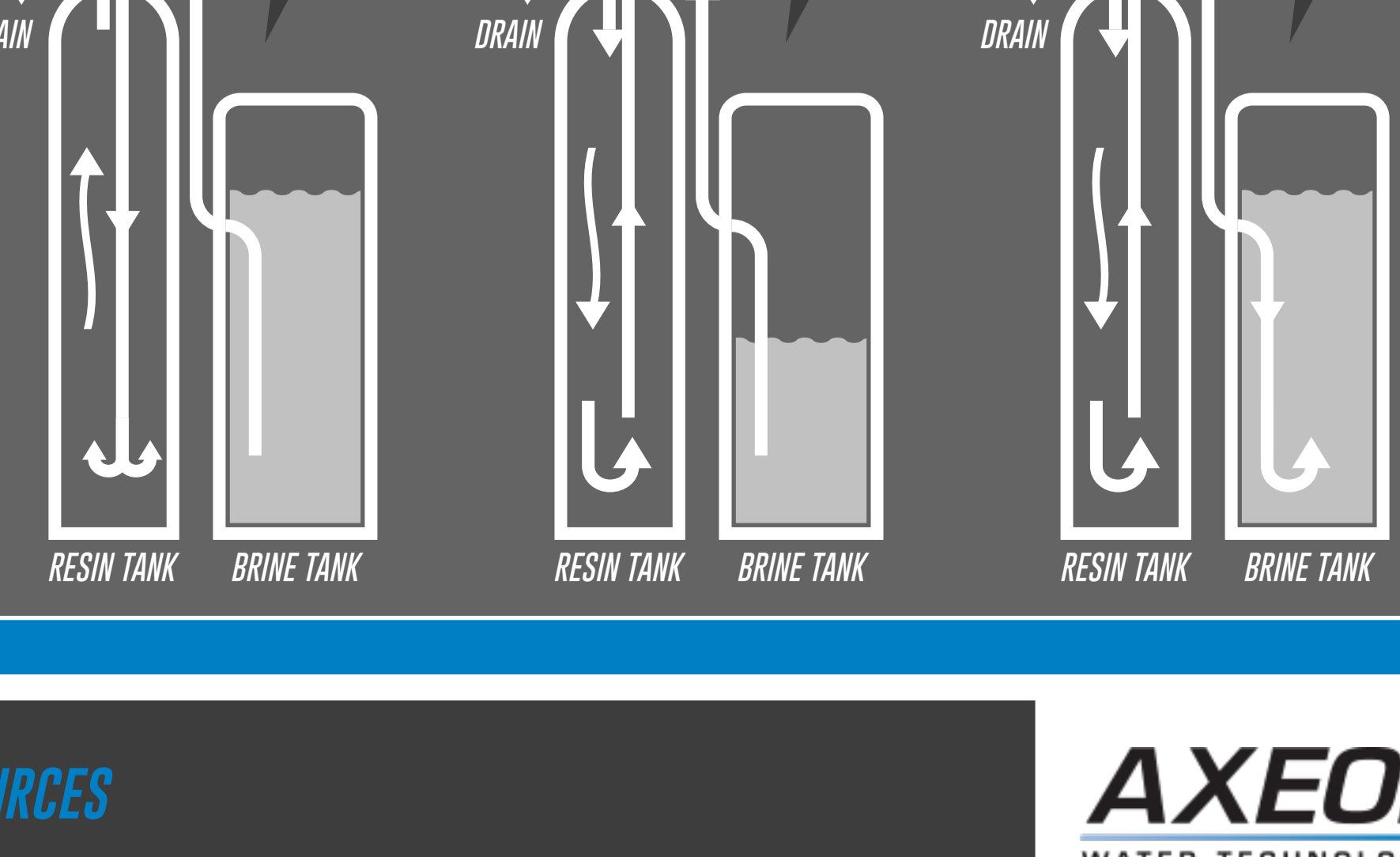
### DISTILLATION SYSTEMS



### ULTRAVIOLET TREATMENT SYSTEMS (WITH PRE-FILTRATION)



### WATER SOFTENERS



### SOURCES

- [HTTP://WWW.WHO.INT/MEDIACENTRE/FACTSHEETS/FS379/EN/](http://www.who.int/mediacentre/factsheets/fs379/en/)
- [HTTPS://WWW.EPA.GOV/GROUND-WATER-AND-DRINKING-WATER](https://www.epa.gov/ground-water-and-drinking-water)
- [HTTPS://WWW.EPA.GOV/DWREGINFO/CHEMICAL-CONTAMINANT-RULES](https://www.epa.gov/dwreginfo/chemical-contaminant-rules)
- [HTTPS://WWW.LIVESCIENCE.COM/59935-TAP-WATER-DATABASE.HTML](https://www.livescience.com/59935-tap-water-database.html)
- [HTTPS://WWW.HEALTH.NY.GOV/ENVIRONMENTAL/WATER/DRINKING/BROMATE.HTML](https://www.health.ny.gov/environmental/water/drinking/bromate.htm)
- [HTTPS://WWW.CDC.GOV/HEALTHYWATER/DRINKING/HOME-WATER-TREATMENT/HOUSEHOLD\\_WATER\\_TREATMENT.HTML](https://www.cdc.gov/healthywater/drinking/home-water-treatment/household_water_treatment.html)

**AXEON**  
WATER TECHNOLOGIES