



TETRYL

What is TETRYL?

Tetryl is a colorless to yellow crystal-like solid that can exist as airborne dust under certain conditions. Odorless, it dissolves slightly in water and in other liquids. Tetryl is a man-made substance once used in the United States to make explosives, mostly during World Wars I and II. Other common names for tetryl are nitramine, tetralite and tetril.

Where can tetryl be found and how is it used?

Tetryl is found in military storage areas, but the U. S. Department of Defense is destroying it. Tetryl was often made as pellets or powder. Under some production conditions, it could exist in the air as a dust.

Tetryl is released to the air, water and soil when old explosives detonate. Tetryl may still exist in the soil and water near military storage areas or U.S. Army ammunition plants. Although tetryl is unlikely to vaporize, it may be present in air mixed with dust from these sites. In some soils, tetryl seems to break down fast into products including picric acid.

Tetryl probably does not travel easily from soil to groundwater, but erosion at polluted sites may release tetryl to nearby surface water. Once in the water, tetryl may dissolve or join with small bits of solids, sediments, or organic debris and settle to the bottom. Tetryl breaks down faster in sunlit rivers and lakes than in groundwater.

How can people be exposed to tetryl?

You could be exposed to tetryl through:

Breathing tetryl in dust near a military site. In the past, employees may have breathed it during the manufacture, use, shipping or loading phases. If you work in tetryl clean up now, you may breathe it.

Drinking well water containing tetryl, such as near a military site.

Touching soil or water containing tetryl near a military installation site. You may have touched it if you made, used, packed or loaded tetryl. If you work in tetryl clean up now, you could touch it.

Eye Contact by getting dust containing tetryl into the eyes.

How does tetryl work and how can it affect my health?

Tetryl enters the body through breathing, drinking or touching it. Not much is known about tetryl and the effect of it entering the body in these ways. How it works on cells is not clearly understood. Animal studies suggest that tetryl probably leaves the body in urine after breaking down to other substances.

Workers at military sites during World Wars I and II sometimes breathed tetryl dust. They experienced a range of symptoms including cough, extreme tiredness, headaches, irritated eyes, lack of appetite, nosebleeds and upset stomachs. Workers who frequently handled tetryl often had yellow stains on the hands, neck and hair and experienced rashes, while others had respiratory allergies resulting in severe coughing and wheezing.

In one animal study, rabbits were fed high doses of tetryl daily for six to nine months. The rabbits had kidney and liver problems, as well as lower blood clotting ability and changes in the spleen. It is not known if these effects would occur in humans.

We do not know if tetryl causes birth defects. It is also not known if tetryl affects reproduction in humans.



How is tetryl poisoning treated?

Information on treatment is not available. Doctors will treat the symptoms of poisoning and exposure.

What should I do if exposed to tetryl?

If you get tetryl on your clothes, change into clean clothing right away. The clothes should be washed by a person who knows the dangers of exposure to tetryl.

If you get tetryl on your skin, wash or shower right away.

What factors limit use or exposure to tetryl?

Most people are unlikely to be exposed to tetryl. However, people who clean up or destroy tetryl could be exposed.

Safe work methods can limit exposure. Work areas should be closed off. There should be a source of fresh air, and air should be vented out at the site of chemical release. (If venting cannot be done, employee should wear a respirator.) Employees should wear protective clothing and wash well immediately after any exposure to tetryl, as well as washing again at the end of their work shift. The clothes should be bagged and discarded as waste and left at the work site.

If you live near a military site where tetryl was used, avoid contact with soil or water that may be polluted.

Is there a medical test to show whether I've been exposed to tetryl?

There is no test to show if you have been exposed to tetryl.

Technical information for tetryl

CAS Number: 479-45-8

Chemical Formula: $C_7H_5N_5O_8$

Carcinogenicity (EPA): Not classifiable for human carcinogenicity.

MCL (Drinking Water): There is no MCL for tetryl.

OSHA Standards (PEL): 1.5 milligrams per cubic meter of air.

NIOSH Standards: 1.5 milligrams per cubic meter of air.

References and Sources

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