

# dU PERIODICAL SCIENTIFIC SPECIAL

## DEPLETED URANIUM MUNITIONS: JUST THE FACTS

### URANIUM [U]:

#### Uranium is One of the Most Common Elements On Earth.

Uranium is literally everywhere, evidenced by the Radon detector Public Health officials advise everyone to have. Radon is the poisonous gas released by the natural decaying process of Uranium and Radium. In areas where the concentrations are high enough to mine, approximately five tons of soil yield one tablespoon of Uranium ore. In refined form, Uranium is highly radioactive.

From the Periodic Tables we know Uranium is a heavy metal, like mercury and lead, and made-up of primarily three isotopes:  $^{238}\text{U}$  (99.283%),  $^{235}\text{U}$  (.71%), and  $^{234}\text{U}$  (.0058%).

### DEPLETED URANIUM [dU]:

#### What Makes Uranium Depleted and Why?

Through a complex process, Uranium ore is converted to a gas ( $\text{UF}_6$ ) which is passed through a series of 'filters' to separate the Uranium into its individual isotopes.

$^{235}\text{U}$  and  $^{234}\text{U}$  are then used to produce fuel rods for nuclear reactors and the fissionable material of atomic bombs.

The  $^{238}\text{U}$  isotope, which makes up over 99% of Uranium ore, is considered a waste product of this procedure and is now labeled as 'depleted' and commonly referred to as U238.

The Nuclear Regulatory Commission currently stores hundreds of tons of  $^{238}\text{U}$ . While  $^{238}\text{U}$  remains 60% as radioactive as natural Uranium, with a half life of 4.5-billion years, it is considered 'safe' *provided it does not enter the body*.

In the mid 1970s, uses for this depleted Uranium were developed, including ballasts for planes and boats and military munitions.

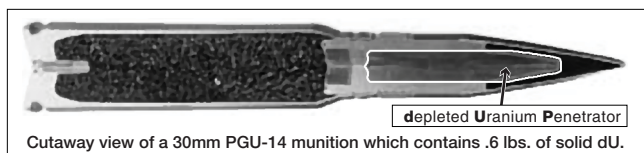
### DEPLETED URANIUM MUNITIONS:

#### The Silver Bullet

First deployed as a military weapon in Gulf War I, the munition earned the nickname *Silver Bullet* because of its ability to destroy enemy armor. The shell's dU penetrator, 1.7 times more dense than lead, had the unique ability to 'self sharpen' as it burned through armor plating.

When a 120mm M829 tank shell, which contains a solid 10.8 pound dU penetrator, hits its target, up to 70% of the dU is aerosolized into uranium oxide dust.

Blown by the wind, these toxic microscopic radioactive particles can be easily ingested, inhaled or enter through an open wound.



### HEALTH EFFECTS:

#### Heavy Metal and Radioactive Poisoning

If dU enters the body, this highly toxic, heavy metal substance may cause chronic fatigue, leukemia, cancer, weight loss, kidney problems, respiratory problems, rashes, chest pains, joint pains, headaches, muscle aches, neurological problems, cognitive difficulties and semen contaminated with uranium causing an increase in birth defects, miscarriages, still births and infant mortality.

The state of Minnesota tests fish for heavy metal toxicity, not to treat or save the fish, but to warn those who might eat the fish. We *know* heavy metal poisoning is detrimental to our health.

The health effects of ionized radiation depend on whether it is Alpha, Beta or Gamma and if the radioactive material is inside or outside the body. Alpha is the least penetrating, but the *most* hazardous if it does get into the body. In contrast, Gamma and Beta are more penetrating but do not cause as much damage inside the body.

Depleted Uranium emits primarily ALPHA particles.

### VETERANS ADMINISTRATION SCREENING FOR dU:

#### An Incorrect Test Offered to All Who Request It!

The DoD administered *Ames test* checks the urine for overall uranium. With uranium naturally around us everywhere, most of us would test positive no matter where you lived. Depending on your food or liquid intake, these levels could vary greatly from day to day and still be within acceptable levels. Even with dU poisoning you could test within that acceptable range.

### ADEQUATE dU TESTING IS NEEDED NOW:

#### Isolating the Isotopes

To identify dU poisoning, the test must be able to isolate individual uranium isotopes. If the uranium is naturally occurring, the result would return exact uranium isotope percentages, no matter what the overall level. If the  $^{238}\text{U}$  isotope is more than 99.283% (hence the other percentages would be lower) you have heavy metal toxicity. The test is sophisticated and accurate.

You would also have a higher concentration of radioactive alpha emitting particles bathing the surrounding tissue, inside your body, with the *worst* of all radiation. And the long term health effects of that are also well known.

### SUPPORT OUR TROOPS HEALTH:

#### Educate Yourself and Others.

The military denies any connection between health problems experienced by American Soldiers and dU. Some experts support their view. But many medical experts don't. All agree dU is highly toxic. And we all remember the denials surrounding Agent Orange and the Atomic Veterans.

### WHAT YOU CAN DO

**Contact Your State Representative and Demand Legislation to Support Our Troops by Providing Adequate Testing for Depleted Uranium Poisoning. Our Future Could Depend On It.**

