Imagine a test in which up to 100 animals are forced to consume a toxic substance in an amount high enough to kill half of them. Then imagine that the explicit purpose of the test is to kill those animals. Incredibly, such a test not only exists but each year also claims the lives of from two to four million animals.

The test is the lethal dose 50, or LD50 as it’s commonly called. Its purpose is to measure the toxicity of a substance by determining how much of that substance will kill half of a group of some 60-100 test animals in a specific amount of time.

The HSUS believes that inducing untold suffering in animals in order to provide questionable data can no longer be tolerated. Here in Washington, D.C., we are spearheading a drive supported by hundreds of animal-welfare groups across the country to force the federal government to call a halt to this unconscionable activity.

The LD50 was developed in 1927 for the purpose of standardizing new batches of drugs to make sure that what was a safe dose from one batch would not be an unsafe one from the next batch. Over the years, however, use of the test has been broadened to the point where it has lost all its usefulness and become wasteful and arbitrary. For instance, one scientist actually used the test to find out the LD50 level of distilled water!

More and more scientists, however, are stepping forward to decry this test, once described by one consultant toxicologist for the World Health Organization as “a ritual mass execution of animals.” What tests we do need, they say, should measure the safe doses of substances rather than the fatal ones. Yet many federal agencies still require that this death test be performed before new substances may be marketed or transported across state lines.

While it is important for scientists to know how poisonous certain substances are, it is of little use to them to know the exact amount of a dishwashing detergent needed to kill half of a group of 100 rats. Late last year, the Pharmaceutical Manufacturers Association (PMA) called for the government to change its regulations to elimi-
What Is The LD50?

The LD50 is a test specifically designed to kill animals. That is its raison d’être. The test may be administered in a variety of ways. The internal LD50 involves force feeding the test substance. The inhalation LD50 involves forcing the test animals to breathe the test substance. One of more rabbits, rats, or guinea pigs is exposed to a vapor or spray. In a dermal LD50, a portion of the test animal’s coat is shaved and the substance applied directly to the skin. There are also intravenous LD50’s in which the substance is injected into the animal and even LC-50’s, which measure the lethal concentration of a substance in water and is tested on fish.

Internal LD50’s are the most common. The researcher uses a syringe with a tube attached to pump the test substance directly into the animal’s stomach.

Mice, rats, and guinea pigs are the most common LD50 victims. In a standard test, several groups of ten animals (five males and five females in each group) are given different amounts of the test substance. Different animals may exhibit a variety of symptoms—including convulsions, paralysis, tremors, and an inability to breathe. They are observed twice a day for two weeks and their symptoms recorded. The ones who die during the test period are dissected to see how the test substance affected their internal organs and systems. The ones who survive—who suffer the most—are also killed after the weeks to be dissected and analyzed. From this data, using statistical charts, the LD50 value is determined. Then, the information is sometimes used as a baseline figure from which to do other toxicity studies. More often, however, the numbers simply go into a file, never to be studied or used again.

While it takes from 60 to 100 animals to determine a statistically precise LD50 value, it takes only one to ten animals to determine approximate toxicity. It is difficult to determine LD50’s for substances that are toxic in low doses. For example, knowing that a new substance in case somebody is in contact with a toxic substance, is the long-term exposure threat of that substance. How toxic a substance is. Yet, modern and unscientific industry standards and federal regulations continue to call for the needlessly precise LD50 test.

The LD50 value is determined by counting animals who suffer the most—animals who suffer the most—animals who die during the test. It is the long-term exposure threat of a substance. It is the LD50 determination of a precise LD50 or LC-50, only a determination as to whether a material has a toxicity at or below a certain breakpoint. The LD50, the LC-50, or the more scientifically justified ADI value, it is our view that the benefits of using the LD50 as the bench mark criterion for declaring that material is a poison...far outweigh the concerns expressed by animal advocates and public health advocates.
seeking to ban the test. We have already contacted all the pertinent federal agencies requesting that they modify current regulations so as not to require the test. Should this not prove successful, we intend to file a formal petition proposing that they change their regulations and end the use of the LD50.

We are also helping to lead a coalition of animal-welfare groups in efforts to bring to the public the horrors of the LD50. It may take a full public revolt to convince government and industry that finding alternatives to the use and abuse of laboratory animals should be a major priority and that the LD50 is a particularly good candidate for the trash heap.

WHAT YOU CAN DO

It was pressure from millions of citizens just like you that helped us convince the cosmetics industry of the importance of seeking an alternative to the Draize test. You can be just as instrumental bringing an end to the cruel LD50. Here are a few things you can do:

• Write to President Reagan (c/o the White House, 1600 Pennsylvania Ave., NW, Washington, D.C. 20516). Tell him to direct the EPA, CPSC, FDA, DOT, and other agencies that require LD50 information to change their policies and forbid use of the test for their purposes. Explain that approximate lethal dose information is just as useful and would save the lives of millions of laboratory animals.

• Write your U.S. representative (c/o House Office Building, Washington, D.C. 20515) and your senators (c/o Senate Office Building, Washington, D.C. 20510). Urge them to actively support and vote for legislation that encourages the development of non-animal alternatives for research. Such legislation could foster the development of a substitute not only for the LD50 but also for thousands of other cruel and painful animal experiments that could be more cheaply and accurately performed without using animals.

• Finally, help The HSUS help the animals. We are working not only to end the LD50 but also to find non-animal alternatives. Our work ranges from preventing shelter dogs and cats from becoming research subjects to ending the needless and cruel use of primates in the nation's primate centers. Your tax-deductible contribution will help us continue our programs to alleviate the suffering not only of laboratory animals but of other animals as well. Please use the enclosed postage-paid envelope to send your gift today.