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Letters

'Bad science'

Kudos on Rick Weiss's "Test Tube Toxicology" (SN: 1/16/88, p.42), an informative and needed report. The value, or lack of it, in the currently required Draize and LD50 tests could have received more emphasis, however.

The LD50s are really just crude attempts to come up with numbers with which to fill in data sheets without any consideration for common sense. Finding the exact dose of toxic household products—oven cleaners, for example—that it takes to kill 50 percent of the test animals is purely academic. We already know they are caustic and that skin contact is to be avoided.

In the case of relatively benign products—lipstick, for example—the animals die from ruptured stomachs because of the sheer quantity forced into them. Very bad science that.

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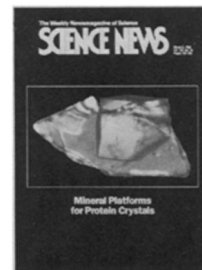
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Cover: Two researchers have discovered that the presence of tiny mineral grains promotes the growth of protein crystals from solution. In the example shown, the protein lysozyme forms around a particle of the mineral lepidolite. By matching particular proteins with suitable mineral substrates, the researchers hope to grow larger protein crystals more reliably and reproducibly than is possible with conventional techniques. (Photo: A. McPherson and P.J. Shlichta)



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The article might also have mentioned the variability and subjectivity involved in administering the Draize test, with reference to the occasion when the same test sample sent to several different laboratories elicited evaluations ranging all the way from "nontoxic" to "most toxic."

Then one must ask why government agencies are reluctant to drop their requirements for this rigmarole.

Bina Robinson
Swain, N.Y.

The Draize test is well documented to be irreproducible from one laboratory to another—even within laboratories—and its relevance to humans is questionable at best. The Draize and the LD50 are merely political problems and no longer a matter for scientific discussion.

Unfortunately, any meaningful action has been prevented by bureaucratic inertia and the conservative attitudes of some toxicologists, who dogmatically believe the LD50 to be one of the cornerstones of any toxicological study.

It is not enough to have alternatives. These wasteful, inaccurate tests have to be legislated out of existence. HR 1635 deserves support from all sectors.

Kenneth P. Stoller
Beverly Hills, Calif.

Address communications to
Editor, Science News,
1719 N Street, N.W.
Washington, D.C. 20036
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