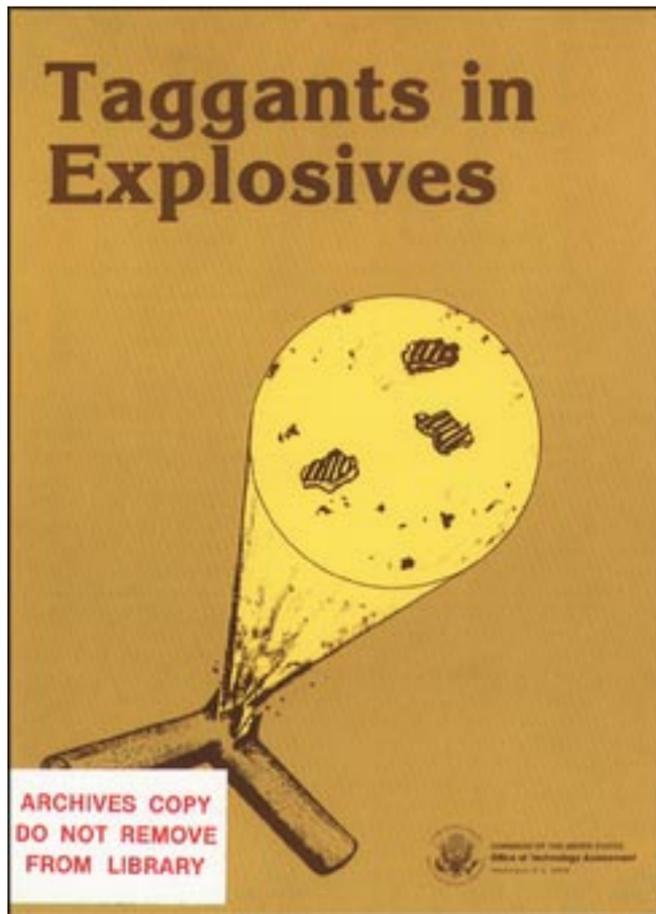


*Taggants in Explosives*

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# Foreword

This assessment was made in response to a request from the Senate Committee on Governmental Affairs that OTA examine the issues surrounding a proposal to require that commercial explosives and gunpowders be manufactured with "taggants" as an aid to law enforcement. Two types of taggants are contemplated:

- "identification taggants" would be designed to survive an explosion, and would carry a code which would enable those who recovered such taggants from the debris of a criminal bombing to assemble a list of the last legal purchasers of the batch of explosives used to make the bomb;
- "detection taggants" would be designed to emit a vapor which would escape from a suitcase, package, etc., so that a taggant-sensing machine at an airport or public building could detect the presence of concealed explosives.

The proposal to require taggants is generally viewed as helpful by the law enforcement community, and opposed by the manufacturers of explosives (and some others) on the grounds that taggants would be ineffective, unsafe, and too costly.

The report addresses four major questions. First, it reviews the program to develop such taggants, and addresses the question of whether taggants would in fact work. Second, it assesses the question of whether adding such taggants to explosives and gunpowders might create a safety hazard. Third, the cost of a taggant program (on the assumption taggants work and are safe) is calculated, and the major parameters which would affect its costs are identified. Finally, the study assesses the likely value of such a program (assuming that taggants work, are safe, and are available at a reasonable cost) to law enforcement.

The project was directed by Dr. Peter Sharfman, Program Manager for International Security and Commerce within OTA'S Energy, Materials, and International Security Division, headed by Assistant Director Lionel S. Johns. The principal investigator was David Garfinkle of Science Applications, Inc.

OTA is grateful for the assistance of its Taggants in Explosives Advisory Panel, as well as for the assistance provided by the Bureau of Alcohol, Tobacco, and Firearms of the U.S. Department of the Treasury, the Institute of Makers of Explosives, the Sporting Arms and Ammunition Manufacturers Institute, the 3M Company, and the Federal Aviation Administration.



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NOTE: The advisory panel provided advice and critique throughout the assessment, but does not necessarily approve, disapprove, or endorse the report, for which OTA assumes full responsibility.

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