

This glossary defines, for easy reference, some of the terms used in this study in ways that may differ either from normal English usage or from the technical vocabulary of the explosives industry.

ANFO. A mixture of prilled (or pelletized) ammonium nitrate and fuel oil, which is the most commonly used “blasting agent” (q. v.). About half the ANFO used commercially is mixed in a factory, and half is mixed at the site where the explosion is to take place. Sometimes other similar blasting agents are called ANFO.

Black powder. See “gun powder.”

Blasting agent. An explosive material that is too insensitive to be detonated with a #8 detonator. Because blasting agents are generally cheaper to buy, safer to store, and (because of regulations) easier to ship than cap-sensitive explosives (q. v.), their annual commercial use far exceeds that of any other explosive materials. The most common blasting agent is ANFO (q.v.), but many gels, slurries, and emulsions are also blasting agents.

Bomb. In this study, a “bomb” refers to a device designed to cause death, injury, and/or property damage by means of an explosion. In the usage of many law enforcement agencies, incendiary devices (designed to cause death, injury, or property damage by means of fire) are also considered bombs. The context makes it clear whenever this report refers to incendiary as well as explosive bombs.

Bombing. In this study, a “bombing” refers to an incident in which an explosive device actually detonates and causes death, injury, or damage.

Cap-sensitive. An explosive material is said to be cap-sensitive if it can be detonated by a #8 detonator. Dynamites are cap-sensitive; blasting agents are not cap-sensitive; confined gunpowder (q.v.) are cap-sensitive. In normal commercial practice, a cap-sensitive booster is used to detonate a non-cap-sensitive explosive material.

Catastrophic bombing. A bombing which causes death, injury, and/or substantial property damage.

Compatibility. A foreign substance (such as a taggant) is said to be compatible with an explosive material if the presence of the foreign material does not have any deleterious effect on the performance or safety of the explosive material under any conditions whose occurrence can reasonably be foreseen.

Criminal. Used in two senses in this study. In OTA’s characterization of different kinds of bombers,

“criminals” are those who have an economic motivation for committing crimes. Elsewhere, a “criminal bombing” is any bombing in violation of the law.

Detection taggant. See taggant.

Device. A bomb. The distinction sometimes made between a device and a bomb is not meaningful in the context of this study.

Encapsulation. In the context of this study, the coating of a taggant at the time of its manufacture with an inert material.

Explosive. In this study, an explosive material that is cap-sensitive and more energetic than a gunpowder (q.v.). Typical explosives include dynamites, some gels, some slurries, and high explosives such as TNT.

Explosive material. A material that is manufactured for the purpose of being exploded, generally in a blasting or shooting application. Explosive materials include blasting agents, explosives, gun powders. (q.v.)

Explosives incident. In the data collection procedures of some law enforcement agencies, explosives incidents include stolen explosives, recovered explosives, accidents, hoaxes, and undetonated bombs, as well as bombings (q.v.).

Gunpowder. In this study, the term is used to refer to any of the propellants commonly used by those who engage in shooting for sport. These comprise black powder (which, strictly speaking, is what the term gunpowder means), smokeless powder, and Pyrodex® (a black powder substitute).

High explosive. An explosive material that is both cap-sensitive and highly energetic.

Identification taggant. See taggant.

Incendiary. See bomb.

Permissible explosive. An explosive with a low flame output specifically approved by the Bureau of Mines for use in underground mining.

Powder fines. Grains of gunpowder or fragments of such grains that are smaller than the grains of which the gunpowder is primarily composed.

Pyrodex®. See gunpowder.

Reactivity. Two materials are said to be reactive if mixing them under a specified set of conditions causes a chemical reaction. If the reactivity of a foreign substance and an explosive material exceeds a specified standard, they may or may not be incompatible, but must be presumed to be incompatible in the absence of information about the nature and conditions of the chemical reaction.

Smokeless powder. See gunpowder.

Substantial target. A person or structure as the target of a bomb. This study uses the term because a number of bombings are directed against mailboxes, open fields, or other targets suggesting that the purpose of the bomber is to create an explosion without causing very much actual damage.

Taggant. A microscopic particle added to a commercial explosive in order to facilitate law enforcement. Identification taggants carry a code making it possible to trace the batch of explosives, and the chain of legal distribution; they are intended to survive a bombing, be recov-

ered from the debris, and assist in tracing the source of the explosives used. Detection taggants permit a suitable sensor to detect the presence of the taggants (and hence the explosives) through suitcases, packages, etc. Taggants of various kinds have been used for identification and detection purposes not related to commercial explosives (and additional such uses have been proposed), but in this study all references to taggants or tagging refer to the application of this technology to commercial explosives.