

BOX 1 Draft Taggant Concepts Taxonomy

(A) Detection Taggants

1. Active - things that "tell you explosives are there"
 - a. Electronics - electromagnetic radiation (from RF to UV-visible)
 - b. Sound - also probably electronic, but different output
 - c. Radioisotope - emitting particles or gamma radiation
 - d. Volatile chemical - emitting detectable molecules
 - e. Other
2. Passive - things that respond to a query
 - a. Electromagnetic excitation or scattering of contrast additives
 - b. Particle excitation or scattering of contrast additives
 - c. Electronics
 - d. Sound

(B) Identification Taggants

1. Physical - macro level
 - a. Marking package (e.g., bar coding) or detonator cap (mainly for unexploded material)
 - b. Coded particle (e.g., colored plastic "bar code," ceramic particle containing fluorescent rare-earth compounds, ceramic particle containing magnetic rare-earth compounds)
2. Chemical/Molecular - micro level
 - a. Coded molecule (e.g., combinatorial variation of short-chain polymer or chlorinated aromatic compounds, isotopic mixtures of readily detected radioactive or nonradioactive elements)
 - b. Coded mixture of chemicals (e.g., "digitized" mixture of fluorescent chemicals, etc., concentration code determined by chemical assay)

Taggant Concept Screening Questions

To aid in its examination of existing and proposed taggant concepts, the committee developed a list of screening questions. These questions were provided to taggant vendors to guide their presentations to the committee, and are shown in Box 2.