

FACT SHEET

Incapacitants

Agent: Incapacitants are agents that are purposely non-lethal but cause incapacity in the performance of ones duties or activities. In the military, this leads to capture by the enemy so that later interrogation can take place or to an area taken without interference. In the civilian sector the use of this type of agent can cause three scenarios:

- To permit kidnapping
- To cause panic and confusion
- To permit entrance into a secure area such as an airport.

The agents that are incapacitants which were considered practical for military purposes share two characteristics; (a) low dosages cause incapacity and can be weaponized (b) high safety margin is present. This means a significant difference exists between the LD₅₀ (which is the lethal dose from the agent on 50% of exposed subjects or animals) and the ID₅₀, (incapacitating dose) which is that dose that incapacitates 50% of the exposed subjects or animals.

Though a number of drugs, natural poisons, noise, odors and light were all studied as Incapacitants, the military chose a deleriant (an agent that can cause delirium) to add to weapons called 3 - quinuclidinyl benzylate known simply as BZ. This is also called QNB by modern scientists and is used in research. Later the stockpiles of these agents were destroyed. Other related agents are atropine and scopolamine. These chemicals are grouped together in a drug family called anticholinergics and are competitive inhibitors of acetylcholine at the receptor level. All such agents can cause marked delirium, hallucinations and incapacity if the dose is high enough. LSD, opioids and other hallucinogens can also be used on an individual basis for nefarious purposes.

These agents were introduced as part of the public and political outcry from the lethal and horrific effects of mustard, chlorine and phosgene gases of WWI. They are not likely to be in the inventory of today's potential enemies as they are not agents of mass destruction but one cannot predict a terrorist mind with certainty. Iraq was said to have Agent 15 stockpiled, which is a glycolate that is mind altering and related to BZ,

Disease: Delirium and incapacity.

Incubation period (time of onset) – BZ- skin application delayed. Inhalation, injection and oral usually starting between 30 minutes to 24 hours after exposure (mean 2 hours). BZ is odorless and colorless. Duration of intoxication – 2-3 days.

Signs and Symptoms of BZ

Mild – Drowsiness, difficulty in completing complex tasks.

Moderate – somnolence, stupor, poor coordination, confusion, mydriasis (dilated pupils) that may be mild with BZ. Skin is warm and dry. My see facial flushing. Visual blurriness.

Large dose – All of the above plus “waking dream”, staring, shouting at perceived objects, total lack of insight. Occasionally rational thought briefly, “Phantom” behaviors such as picking at the air or smoking.

Recovery – gradual – often associated with paranoid behavior before a return to normal mental state.

Diagnosis –

Differential Diagnosis – Opioids, Cannabis, MDMA and related indoles, LSD, mescaline, peyote, other anticholinergics such as atropine and scopolamine, conversion reaction, heat stroke.

Laboratory Tests – Diagnosis is by signs and symptoms. Marijuana testing in blood or urine easily obtained. LSD testing possible by quantitative fluorometric method but no practical simple test. No simple test for BZ.

Treatment – Physostigmine 30-45 µg/kg IM is an antidote. It is a potent vagal blocker with central muscarinic activities. Rapid IV administration may cause cardiac arrhythmias. Administration of physostigmine before 4 to 6 hours of BZ intoxication is usually ineffective in reversing the intoxication. Watch and treat hyperthermia as a complication. A very dry mouth can be treated with Vaseline. Treatment for LSD is IV Ativan and the treatment for opiates is naloxone (Narcan).