MILITARY MEDIA INC.

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MERCURY FULMINATE:

Mercury fulminate is an initiating explosive, commonly appearing as white or gray crystals. It is extremely sensitive to initiation by heat, friction, spark or flame, and impact. It detonates when initiated by any of these means. It is pressed into containers, usually at 3000 psi, for use in detonators and blasting caps. However, when compressed at greater and greater pressure (up to 30,000 psi), it becomes "dead pressed." In this condition, it can only be detonated by another initial detonating agent. Mercury fulminate gradually becomes inert when stored continuously above 100 degrees F. A darkcolored product of deterioration gives evidence of this effect. Mercury fulminate is stored underwater except when there is danger of freezing. Then it is stored under a mixture of water and alcohol.

Preparation of Mercury Fulminate. Five grams of mercury is added to 55 cc. of nitric acid (specific gravity 1.42) in a 100-cc. Erlenmeyer flask, and the mixture is allowed to stand without shaking until the mercury has gone into solution. The acid liquid is then poured into 50 cc. of 90% alcohol in a 500-cc. beaker in the hood. The temperature of the mixture rises, a vigorous reaction commences, white fumes come off, and crystals of fulminate soon begin to precipitate. Red fumes appear and the precipitation of the fulminate becomes more rapid, then white fumes again as the reaction moderates. After about 20 minutes, the reaction is over; water is added, and the crystals are washed with water repeatedly by decantation until the washings are no longer acid to litmus. The product consists of grayish-yellow crystals, and corresponds to a good grade of commercial fulminate. It may be obtained white and entirely pure by dissolving in strong ammonia water, filtering, and re-precipitating by the addition of 30% acetic acid. The pure fulminate is filtered off, washed several times with cold water, and stored under water.