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DISRUPTIVE OR BRISANT EXPLOSIVE COMPOSITION

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Tetrazylazide is a high explosive which is rich in energy. Its heavy metal salts have previously been suggested as ignition explosives. However, neither tetrazylazide per se nor its heavy metal salts have up to now been extensively employed in the explosive art, either on account of their too great sensitiveness towards mechanical requirements or on account of other properties which are a hindrance to their practical use.

It has now surprisingly been found that the organic tetrazylazides are especially stable explosives and are rich in energy. The organic tetrazylazides may, for example, be formed from the alkali salts of tetrazylazide and organic chlorides or sulfates. The sensitiveness of these explosives fluctuates within wide limits and correspondingly their employment possibilities for various purposes in the disruptive or brisant explosive art are very varied.

As examples of organic tetrazylazide compounds may be mentioned the alkyl tetrazylazides as for example methyltetrazylazide, ethyltetrazylazide, ethyleneditetrazylazide; the ketone tetrazylazides as for example acetone mono- and di-tetrazylazide; the aryl tetrazylazides as for example picryltetrazylazide and tri - nitrophenylaminotetrazylazide which latter is formed by conversion of tetranitroaniline with alkalitetrazylazide. Besides the mentioned examples still a number of other tetrazylazides may be employed. The tetrazylazides mentioned above are solid bodies, with the exception of the ethyleneditetrazylazide which is an oil. The methyl, ethyl and acetone compounds of tetrazylazide are very strong ignition explosives and, when employed as detonators with secondary explosives such as nitropentaerythrite, cyclotrimethylenetrinitramine, tetranitromethylaniline, trinitrotoluene, easily effect detonation of the same. They have a high sensitiveness to impact and can therefore also be used in percussion caps for hand firearms etc. Picryl- and trinitrophenylamino-tetrazylazide have a somewhat less ignition power than the previously mentioned materials. However, they are still suitable ignition explosives for detonators. They can be used as fillers for detonating fuses. The oily ethyleneditetrazylazide has an extraordinary shattering power and is easily ignited by sparks and flames. When absorbed in porous materials, such as cellulose, paper or kieselguhr, it has still an excellent igniting power for explosives. It gelatinizes nitrocellulose and forms therewith an easily ignited gelatine of high shattering power.

The above named materials can be used, either alone, in mixture with each other or together with other explosives or inert materials as well as the customary priming composition constituents, as ignition explosives and explosives for detonators, percussion caps, electric pellet primers, detonating fuses and ignition materials of any type.

I claim:

1. An explosive composition comprising an organic tetrazylazide.

2. An explosive composition comprising an alkyl tetrazylazide.

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