

Emulsion explosives in rock excavation

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Emulsion explosive, a new generation of water based explosives is composed of separate minute drops of ammonium nitrate solution and other oxidizers densely dispersed in a continuous phase of a mixture of oil and wax. This distinguishes the emulsion from other flowing and plastic explosives as it can be made to detonate without addition of explosive sensitizer. By using different percentages of microballoons and aluminium it is possible to obtain a wide range of emulsion explosives which can either be cap sensitive or booster sensitive. Emulsion explosive can be packed in papershells or plastic hoses and can be handled in bulk (pumpable).

In the USA, field tests proved that emulsion type explosives show advantages over conventional type of explosives in terms of work environment (no toxic fumes or by-products) and they are highly reliable and

risk of accidental detonation is very low. These advantages have been recognised by consumers in the USA such that there is a positive trend of switching from conventional explosives to the emulsion type. In Malaysia emulsion explosives will be marketed as Emulite R by Tenaga Kimia Sdn. Bhd., starting 1983.
