Product Catalog

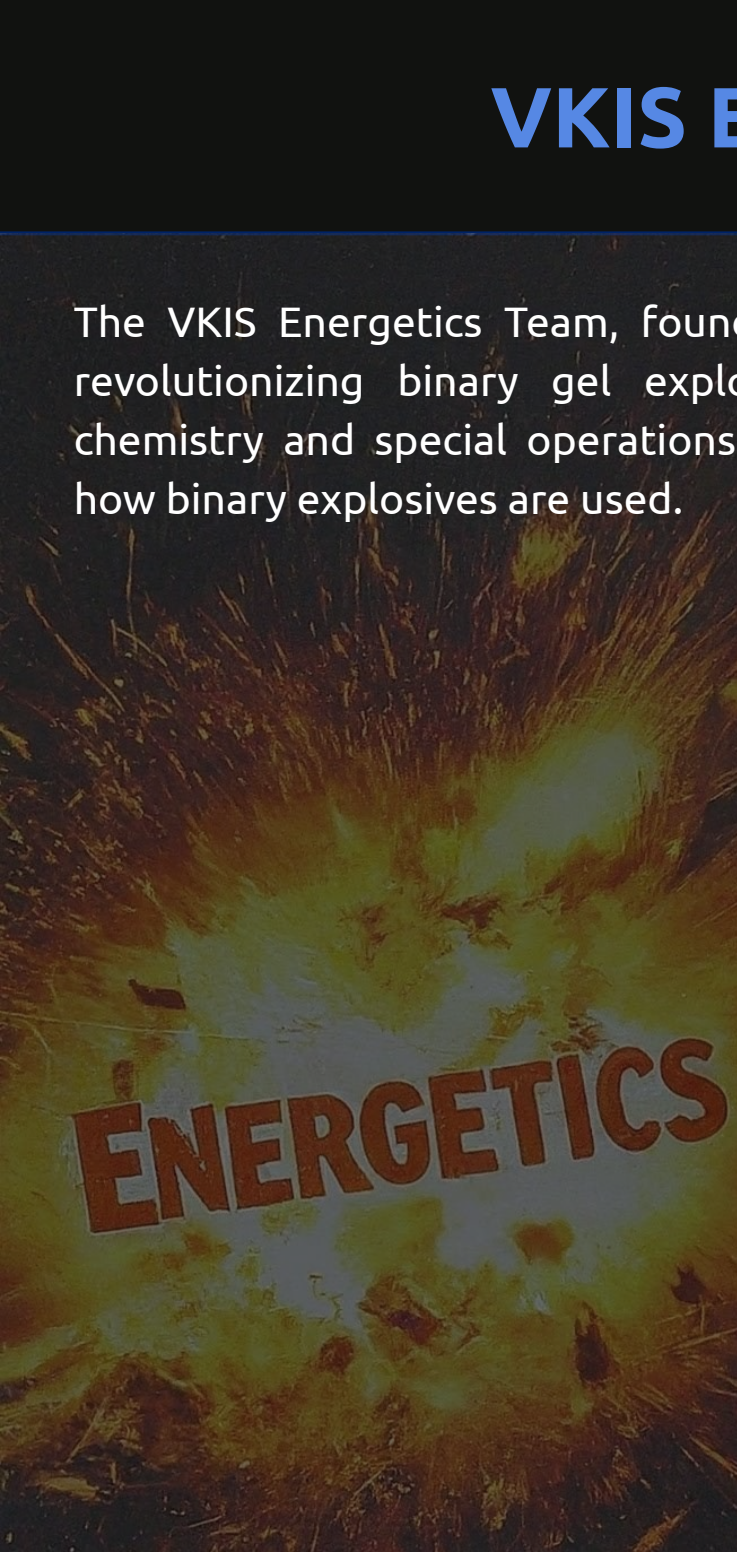
2024

VK∫SYS

VK Integrated Systems

VKIS Energetics

The VKIS Energetics Team, founded in 2019 by Charles S. Crook, Jr., is revolutionizing binary gel explosives. Crook, with his background in chemistry and special operations explosives training, aimed to transform how binary explosives are used.



The VKIS Energetics Team has since developed several MatrEX® Binary Explosive Gel formulations, catering to the specific needs of the Special Operations community. MatrEX® has a detonation velocity of 6,200 m/s and an RE factor of 1.2, making it a powerful explosive option.

Currently, VKIS Energetics is working on a US Air Force Phase II SBIR project to support Hill Air Force Base EOD technicians in decommissioning Minuteman II rocket engines. This project utilizes MatrEX® Gel as the primary component for explosively formed projectiles (EFP).

VKIS Energetics remains committed to pushing the boundaries of science and technology to deliver innovative solutions.

VK SYS Energetics

MatrEX
Binary Gel Explosive

Unlike traditional liquid or solid explosives, MatrEX® is a gel. This unique gel formulation prevents leaks and spills, making it safer and easier to handle. It also allows for faster preparation of explosive charges.

MatrEX® Binary Gel Explosive comes in a two-component system. To create the high explosive, you simply combine the non-explosive gel and activator. MatrEX® can be ignited using a standard blasting cap or a 50-grain detonating cord.

Military Applications:

• Tactical breaching • CBRNE (Chemical, Biological, Radiological, Nuclear, and Explosives) operations • Demolition with various charge applications

SWAT Applications:

• Tactical breaching • Rescue operations

Mining Applications:

• Blasting for material extraction • Boulder blasting • Shelving (creating steps in rock formations) • Significant reductions in equipment costs, safety risks, and time

MatrEX® Features

Binary System: It consists of two non-detonable components that are mixed to create the explosive. This makes it safer to store and transport.

Gel Form: The gel consistency prevents leaks and spills, making it easier and safer to handle than liquid explosives.

Instant Mixing and Arming: The components mix quickly and the resulting explosive is immediately ready for use.

Versatile Initiation: It can be detonated using standard blasting caps or detonating cord.

Cost-Effective: The non-explosive nature of the individual components results in significantly lower shipping costs compared to traditional explosives. Estimated $0.10/mile for 200 mile radius shipping cost.

Explosive	Velocity	R.E. Factor	Ready State	Non-Explosive State	Storage Requirements
MatrEX®	6,200 m/s	1.20	GEL	Flammable liquid	Flameproof Storage
Helix	6,200 m/s	1.20	Liquid	Flammable liquid	Flameproof Storage
TEXPAK	6,200 m/s	1.20	Liquid	Flammable liquid	Flameproof Storage
C-4	8,800 m/s	1.34	Solid	N/A	Explosive Storage
TNT	6,950 m/s	1.00	Solid	N/A	Explosive Storage

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