

EXPLOSIVES-TEST HERGEX® MULTI-STICK

World First

**Easy to use.
Fast.
Reliable**

THE EXPLOSIVES TEST PROVIDING SAFETY

**BLACK POWDER
SELF-LABORATORIES
FLASH BANG KITS
MILITARY EXPLOSIVES
SEMTEX®
NITROCELLULOSE**

**MADE
IN
GERMANY**



**herges
detection**

THE EXPLOSIVES TEST PROVIDING SECURITY.

The hergex® 1000 and hergex® 2000 explosives detection methods open up new dimensions in detection. A simple test stick is sufficient to detect dangerous high-energy substances quickly and reliably. In the case of the most commonly used and highly sensitive, home-made explosive TATP, the substance does not even need to be touched. The gas phase above the tiny crystals is sufficient to detect this peroxide-based explosive within seconds.

Within 5 seconds, the color of the stick changes and shows the result of the test. Everything needed to perform the test is contained in a handy and lightweight container that fits comfortably in a jacket pocket. No power connection, no electronics, no warm-up time, no maintenance and no professional training required.

The test strips are particularly suitable for everyday police operations, investigations in illegal laboratories, bomb disposal and security checks. Above all, however, they offer immediate safety for the emergency services on site.

This worldwide first and unique detection method will change the way explosives have been tested to date and improve safety at national and international level.



Prof. Dr. Rainer Herges

Founder and Head of Development at herges detection and Director at the Otto-Diels-Institute for Organic Chemistry at the Christian-Albrechts-University of Kiel.

- Member of the Society of German Chemists
- Member of the selection committee for the Emil Fischer Medal of the German Chemical Society
- Honorary member of the Society of Israeli Chemists
- Member of the Society of American Chemists

herges detection

Prof. Dr. Rainer Herges is an internationally renowned scientist with visiting professorships at top universities such as MIT (Boston), Stanford (California), École Normale Supérieure (Paris) and the University of Melbourne (Australia). He is one of the most innovative scientists in the world with more than 300 publications and more than 10,000 citations.

He was the initiator and director of a large collaborative research center with more than 100 scientists and a budget of 26 million euros. The Hergex detection method is the result of more than 12 years of research. The underlying chemical reaction was discovered and the method systematically optimized for real applications in explosives detection.

Prof. Rainer Herges and serial entrepreneur Dr. Stefan Kloth founded herges detection at the beginning of 2020 as a spin-off from Kiel University.

HERGEX® MULTI-STICK 1000

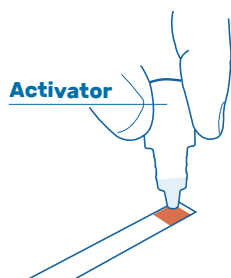
HERGEX® MULTI-STICK 2000

- Safe to use
- Reliable reading
- For all explosives classes

Category	Acronym	Designation	hergex® 1000	hergex® 2000	Detection limit
Peroxides	TATP	Triacetone triperoxide	✓	✓	40 ng
	HMTD	Hexamethylenetriperoxide diamine	✓	✓	50 ng
Oxyhalogen anions	KClO ₃	Potassium chlorate	✓	✓	270 ng
Inorganic nitrates	AN	Ammonium nitrate, NH ₄ NO ₃	✓	✓	85 ng
	UN	Urea nitrate	✓	✓	350 ng
Nitroaromatics	TNT	2,4,6-Trinitrotoluene		✓	115 ng
	DNT	2,4-Dinitrotoluene		✓	85 ng
	Tetryl	Trinitrophenylmethylnitramin		✓	85 ng
	HNS	Hexanitrostilbene		✓	115 ng
Organic nitrates	NG	Nitroglycerine		✓	815 ng
	EGDN	Ethylene glycol dinitrate		✓	600 ng
	PETN	Pentaerythritol tetranitrate		✓	1.3 µg
	ETN	Erythritol tetranitrate		✓	1.5 µg
Nitramine	RDX	Hexogen		✓	275 ng
	HMX	Oktogen		✓	1.2 µg

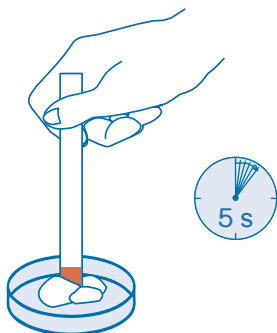
Simple application hergex® 1000

1 Activation



Moisten the pad by briefly holding the Activator bottle against the pad. The Activator will flow out automatically. The red dye is activated and remains active for about 15 minutes.

2 Testing



Bring the activated stick into direct contact with the substance to be tested for at least 5 seconds.

3 Read the result

A 100% reliable result can be read off. The smallest traces of explosives are sufficient to trigger a color change of the detection stick.

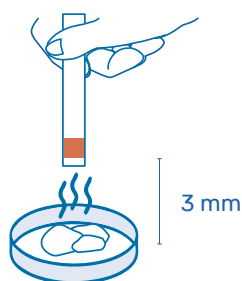


Test stick turns **green**:
Peroxide-based explosive



Test stick turns **brown**:
Inorganic nitrates, chlorate-based explosives or black powder

Use at room temperature indoors



ONLY FOR TATP



Indoors (temperature between 15°C - 30°C, without strong air exchange or wind), non-contact detection of TATP is possible. Simply hold the activated stick at a distance of 3 mm for 15 seconds over the rising vapors of the substance to be tested. If in doubt, always touch the crystals with the stick.

AREAS OF APPLICATION

The simple, sensitive and reliable hergex® 1000 or 2000 explosives detection methods give you a better basis for decision-making in dangerous situations. The hergex test is already used in numerous applications, for example:

- Explosive ordnance disposal services
- Detection of ammunition remnants, for example from the 2nd World War
- Detection and search of illegal laboratories
- House searches
- Personal protection
- Forensics on site after explosions
- Military operations



SIMPLE. FAST. RELIABLE.

During operations, police officers or bomb disposal officers can come across a wealth of containers and bottles with substances in illegal laboratories. These could contain drugs, explosives or starting materials for synthesis. The officers must first ensure their own safety.

As homemade explosives such as TATP are very sensitive to impact, friction and heat, it can be extremely dangerous to take samples for later analysis in the laboratory. The hergex® tests can immediately determine whether the substance in question is TATP without touching the powder and without the risk of causing an explosion.

The hergex® tests are also suitable for post-explosion testing to identify traces of remaining explosives.

ADVANTAGES AT A GLANCE



Fast: Delivers results within 15 seconds.



Lightweight: Lightweight, easy to transport.



Ideally suited for applications with remote-controlled robots and drones.



Easy to use, easy to transport: All test components are small enough to fit in a jacket pocket, for example.

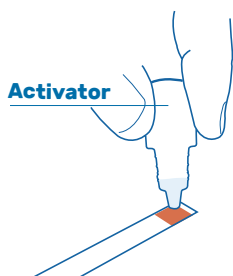


HERGEX® MULTI-STICK 2000

Simple application hergex® 2000

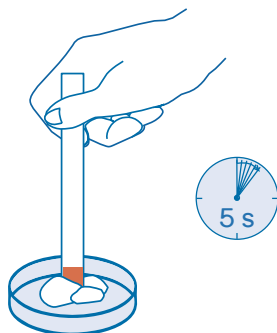
Test steps for self-laboratories

1 Activation



Moisten the pad by briefly holding the Activator bottle against the pad. The Activator will flow out automatically. The red dye is activated and remains active for about 15 minutes.

2 Testing



Bring the activated stick into direct contact with the substance to be tested for at least 5 seconds.

3 Read the result

A 100% reliable result can be read off. The smallest traces of explosives are sufficient to trigger a color change of the detection rod.



Test stick turns **green**:
peroxide-based explosive

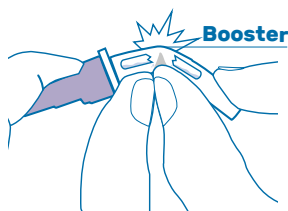


Test stick turns **brown**:
Inorganic nitrates, chlorate-based
explosives or black powder.

Test stick remains **red**:
Continue with 4.

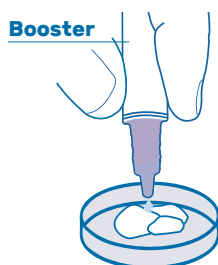
Test steps for military explosives

4 Break up



Bend the dropper bottle to break the glass ampoule inside. The booster can now be used for up to two hours and one drop of the booster is applied to the substance to be analyzed.

5 Dripping on

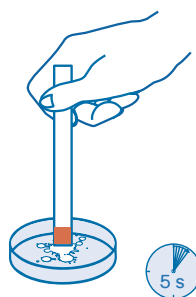


An immediate color change occurs with all nitroaromatic explosives. **You do not need a test stick.**

TNT: ■ HNS: ■
DNT: ■ Tetryl: ■

If no coloration or a yellowish has occurred after the addition of the Booster, activate a stick. Follow instructions given in 1, afterwards continue with steps 6 and 7.

6 Testing

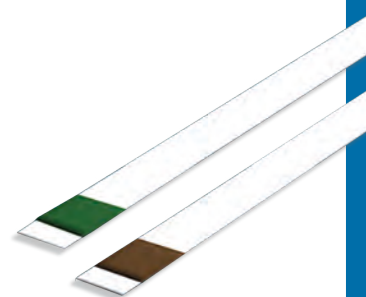


Bring the activated stick into direct contact with the colorless or yellowish liquid to be examined for at least 5 seconds.

7 Read the result



Test stick turns **brown**:
Nitrate-based organic ex-
plosives, nitramines or nitro-
cellulose.



NOTES

The stick is non-toxic and can be disposed of in normal household waste after use. The contents of the Activator and Booster bottles are corrosive. However, the empty vials can be disposed of in normal household waste.

Storage at -30°C to 70°C , use at 4°C to 50°C .

The minimum shelf life of the products is 24 months.

Patents for the hergex® Multi-Stick are pending in the following countries:
EU, Switzerland, USA, Canada and Israel.
Available in packaging units of 10 sticks.

hergex® Multi-Stick 1000 *for home made explosives (HME)*



hergex® Multi-Stick 2000 *for home made explosives (HME) & military explosives*



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detection**

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