

Lumicyano™

THE ONE-STEP
FLUORESCENT CYANOACRYLATE
FUMING PROCESS



Demo Video

User Instructions

Technology



Lumicyano allows, with a one-step process, the revelation of fingerprints using standard fuming chambers. This process removes the stages of dyeing or dusting with powder : fingerprints are fluorescent immediately.

The Lumicyano process requires the combined use of Lumicyano Powder and Lumicyano Solution.

Lumicyano has been especially designed to have a stronger brightness and to develop high level detailed fingerprints under optimal conditions with a minimized risk to “over-glue”, thus providing better results than classical cyanoacrylate glues, post-treatment dyes or powders.

If used in sequence with dyes and/or powders, Lumicyano is more efficient than standard cyanoacrylates.

The use of Lumicyano is compatible with DNA analysis.

IMPORTANT : In order to achieve satisfying results, key steps in the operating procedure must be strictly adhered :

1. The adequate quantity of Solution to fumigate depends on the volume of the cabinet
2. Dissolving the Powder into Solution @5% ratio. Choose up to 8% for stronger fluorescence.
3. Humidity in the cabinet must be 70-80% when fumigation is starting
4. Temperature of hot plate must gradually reach 120°C/250°F. Do not preheat the plate.
5. Use the right forensic light source : 325nm / 470-530 nm

Follow strictly the procedure and you will develop latent marks with great results.

Ideal Evidence Substrates

Non-porous : plastic, metal, glass, adhesive surfaces (on both sides)...

Semi-porous : some matt and glossy papers...

Instructions & Fuming chambers

Lumicyano is compatible with all standard fuming chambers, without modification, according the hotplate can reach 120°C / 250°F

1. Place the proper amount of Lumicyano Powder into a new foil dish then disperse the powder evenly to avoid clustering. It is possible to get chunks of Lumicyano Powder in the vial. This arises from its crystalline structure and potential traces of moisture entering the vial while using it or even during the bottling. You may just break these chunks with a clean and dry metallic spatula by scratching the powder. This phenomenon does not affect the efficiency of the product. Close immediately the vial after use to avoid any potential humidity absorption.

2. Add directly Lumicyano Solution™ (see further for recommended dosage) into the foil dish. Lumicyano Powder is dissolved instantly with the Lumicyano Solution. Gently move the liquid around the foil dish until you homogenize the mixture and it becomes an evenly mixed fluid.

IMPORTANT: Lumicyano Powder must be dissolved only with Lumicyano Solution

3. Place the prepared foil dish with its mixture onto the hotplate. Raise hygrometry until 70/80%. Higher hygrometry may lead to overglueing. Then raise gradually the hotplate temperature to reach 120°C/250°F. Fume completely the mixture until none remains left in the foil dish.

Recommendations :

Windows of fuming chamber should be cleaned of old residues. Old cyanoacrylate residues will attract Lumicyano fluorescence

Hot plate must reach gradually 120°C/250°F – Slow heating up curve recommended (120°C in about 5-10 mins)

Humidity level range MUST be between 70% and 80% - 80% is the standard value recommended

Dosage & Timing

Dosage and timing depends on the nature and number of exhibits in the fuming chamber, and the volume to fumigate. Lumicyano minimizes the risk to overglue the latent marks. The following recommended measures are an average to achieve the optimal results when considering average casework loads and police station equipment.

The regular concentration of the Lumicyano Powder into the Lumicyano Solution is about 5%. If needed, 8% concentration will give you stronger fluorescence.

If you don't have a scale that can weigh milligrams, you can dose the products as follow :

Lumicyano Powder : one full scoop (supplied) = 40 mg

Lumicyano Solution : 33 drops = 1 gram



Adjust concentration of the Powder according to your cabinet and light source. 5% concentration is standard. You can go up to 8% concentration. The fluorescence will be even stronger.

Chamber capacity	Fuming Time	Quantity Lumicyano Powder	Quantity Lumicyano Solution
Small : 170 liters / 6 cub.ft (ex : F&F MVC 1000)	20 minutes	5% : 40 mg / 1 scoop 8% : 64 mg / 1.5 scoop	0.8 g 26 drops
Medium : 650 liters / 23 cub.ft (ex : F&F MVC 3000)	25 minutes	5% : 135 mg / 3.5 scoops 8% : 215 mg / 5.5 scoops	2.7 g 90 drops
Large : 2000 liters / 70 cub.ft (ex : F&F MVC 5000)	30 minutes	5% : 200 mg / 5 scoops 8% : 320 mg / 8 scoops	4 g 132 drops

Fluorescence & Photography

In order to observe optimal brightness of the fluorescence, examination and photography are recommended to take place as soon as possible after the fuming cycle has been completed. Ideally, developed prints must be photographed within 24 hours.

Latent prints that have been developed must not be exposed to direct sunlight and/or high temperature environment for any long periods of time. If the developed prints are packaged in a reasonably light proof container in a fresh environment, the ridge details will still fluoresce for around 1 week following the fuming process. If required, the fluorescence can be refreshed at a later date without any loss of detail by refuming with Lumicyano.

To photograph the yellow fluorescent prints (560 nm), try the main different wavelengths and change the angle of the light source to achieve optimal results. Coloured band-pass filters are recommended to intensify the effect to obtain the best contrast.

You must consider the nature of material being fumed (metal, plastic, glass, semi-porous...) and the background noise (i.e. highly reflective, white, multicolored...) to select the best combinations.

Most of the Blue/Green (CYAN - 500nm) light sources with a good output and the appropriate clear orange goggles/camera filters are suitable with Lumicyano.

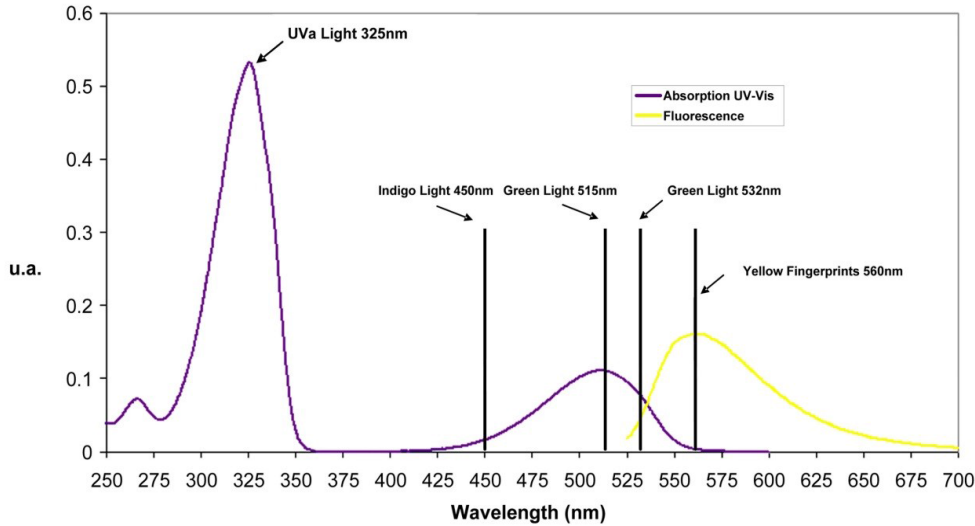
Lumicyano™ fluorescence is obtained under the following conditions:

UVa 325nm

Forensic light 500nm +/- 20nm (Blue/Green aka Cyan)

Blue Laser 460 nm - Green Laser 532 nm

Absorption UV-Vis & Fluorescence : Lumicyano™ Fluorescent Cyanoacrylate



Optimal viewing sequence	Wavelength	Models/Recommended Color Options	Goggles & Filters	Notes
1	325nm	Rofin Polilight PL400 / PL500	Deep "Yellow"	Avoid fluorescent background noise
2 Covers most casework	495nm 480nm	Dual77 Laser Rofin Polilight PL400 / PL 500 Rofin Polilight Flare+2 Blue	Curved Orange	Especially recommended for white/multicolour and/or highly reflective surfaces
3	515nm	Rofin Polilight Flare+2 Cyan Dual77 Laser	Curved Orange	
4	532nm	Coherent TracER Laser « GREEN »	Curved Orange	

Storage & Shelf-life

Lumicyano Powder - Shelf-life: one year

Keep Lumicyano Powder out of the sunlight and store in a dark dry place, at ambient and constant temperature to prevent moisture building up inside of the bottle. Ideally store in a drying cabinet, it will last for about 1 year. Do not store in a fridge.

Out of date or badly stored Lumicyano Powder will turn to big consolidated brownish chunks. If you try to use Lumicyano Powder in this state, it may not mix properly with Lumicyano Solution by solidifying or forming small blocks. If so, it may generate residues in the foil dish and not fume properly.

Lumicyano Solution - Shelf-life: one year

Keep Lumicyano Solution out of the sunlight and store in a dark dry place, at ambient and constant temperature. It is recommended to avoid moisture to building up inside the bottle.

Lot number and expiration date are indicated on each bottle.

Lumicyano is available in the following pack sizes :

Lumicyano Complete Kit (Powder + Solution)

LK5-100 Kit Lumicyano - 5 gm Powder + 100 gm Solution

LK1-20 Kit Lumicyano - 1 gm Powder + 20 gm Solution

Lumicyano Powder (to be used with Lumicyano Solution)

LP5 Lumicyano Powder – 1 Bottle of 5 gm

Lumicyano Solution (to be used with Lumicyano Powder)

LS200 Lumicyano Solution – 200 gm (10 bottles of 20 gm)

Lumicyano Sample Kit

LKSAMP Sample Kit Lumicyano - 0.5 gm Powder + 10 gm Solution

Note : The recommended concentration of Lumicyano Powder into Lumicyano Solution is 5 %. Therefore the use of the 5 gm of Lumicyano Powder (LP5) needs 5 bottles of the Lumicyano Solution 20 gm.

One Lumicyano kit LK5-100 (including a 5 gm Lumicyano Powder bottle) allows:

37 cycles in a 650 liter (23 cub.ft) fuming chamber

125 cycles in a 170 liter (6 cub.ft) fuming chamber

Lumicyano is registered trademark of CST. Patent pending.



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