

## CONCERNS RE. CITROX PROTECT

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### Background

Citrox Protect has recently appeared on the market and various claims may lead users – particularly cleaning operatives, to believe there are no hazards associated with the product.

### Evidence

Citrox Protect is produced by Citrox Biosciences Ltd but very little literature exists for the product. Their USA distributor (INSCX)(2) have posted a Youtube video(1) and also product properties(3) and brochure(4).

A leading FM Company issued a press release on June 4 2020(5) declaring they are offering a cleaning service using Citrox Protect.

The FM company release describes Citrox Protect as “chemical free, non-toxic, all natural” yet the FM company web page(6) shows operatives wearing full PPE to apply the product.

The INSCX information shows that it contains 80-100% isopropanol.

Isopropanol is highly flammable(7) and care must be taken to avoid any potential ignition sources.

Isopropanol is hazardous and workplace exposure limits are in place(8). Adequate risk assessments/work methods should be in place before use.

As isopropanol is a solvent there are potential compatibility issues with some items.

### Claims

Whilst there are no manufacturer claims visible the company release quotes the MD of Citrox Biosciences “to be working with the FM company” which would imply that they have received information from Citrox Biosciences.

Knowing that the product is mostly isopropanol brings the non-toxic claims into question and therefore it is prudent to query other claims made.

Efficacy: 75% isopropanol is the WHO recommended concentration for hand sanitizer(9) and therefore there is no reason to query the antiviral/antibacterial claims.

Long Lasting: The product brochure shows Citrox Protect contains silicone dioxide. This is commonly used as a paint sealant in automotive aftermarket products(10). Effectively filling the microscopic surface roughness it creates a smooth barrier layer on the surface. This layer will last a varying amount of time due to mechanical abrasion. The antimicrobial effect of this coating is open to question due to the abrasion.

General: As minimal literature exists it is difficult to form an opinion on the product. The Citrox component is derived from bitter oranges and appears to have been originally designed as an oral antiseptic product. Again, very little documentation exists but some tests show lesser efficacy compared to traditional products(11). A version of the product for surface

sanitisation was evaluated by Public Health England(12) and deemed to “not merit further consideration”.

Citrox Protect is only suitable for hard surfaces and therefore its potential appears limited.

## Recommendations

Any operatives or customers need to be fully aware of the hazardous nature of the product. Operatives should be fully protected whilst applying the product and aware of the explosion/fire risk.

In enclosed/ unventilated rooms monitoring equipment should be deployed to ensure the safe levels of isopropanol are not exceeded before re-entry. Operatives and customers should be aware of solvent effects on items.

Customers should research any long lasting anti-microbial claims if possible.

## References

(1):<https://www.youtube.com/watch?v=sFshMPNwEIE>

(2):<https://inscx.com/citrox-protect-inscx-agrees-ditribution-with-uk-based-citrox-biosciences/>

(3):<https://inscx.com/shop/product/citrox-protect-500ml-anti-pathogen-barrier-coating-90-sqm-coverage-long-lasting-6-12-months/>

(4):<https://inscx.com/shop/wp-content/uploads/2020/05/CITROX-USA-Flyer.pdf>

(5):<https://www.mitie.com/mitie-launches-cleaning-service-using-first-product-proven-to-combat-covid-19-on-surfaces-for-six-months/>

(6):<https://mitie-citroxprotect.com/>

(7)[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/614333/Isopropanol\\_general\\_information.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/614333/Isopropanol_general_information.pdf)

(8):<https://www.hse.gov.uk/pubns/priced/eh40.pdf>

(9):[https://www.who.int/gpsc/5may/Guide\\_to\\_Local\\_Production.pdf](https://www.who.int/gpsc/5may/Guide_to_Local_Production.pdf)

(10):<https://mothers.com/collections/cmxc/products/cmxc-ceramic-wash-and-coat-01548>

(11):infection control and hospital epidemiologyjuly 2010, vol. 31, no. 7original

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(12):Public Health England,RRP recommendation listing: December 2004 to January 2015

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