



**CRF-1 LTD**

*BETTER NEVER STOPS*

# CRISTANINI CBRN DECONTAMINATION SYSTEMS



## Cristanini CBRN Decontamination Solutions

**CBRN operational risks at sea and how to mitigate  
contamination**

# Cristanini overview

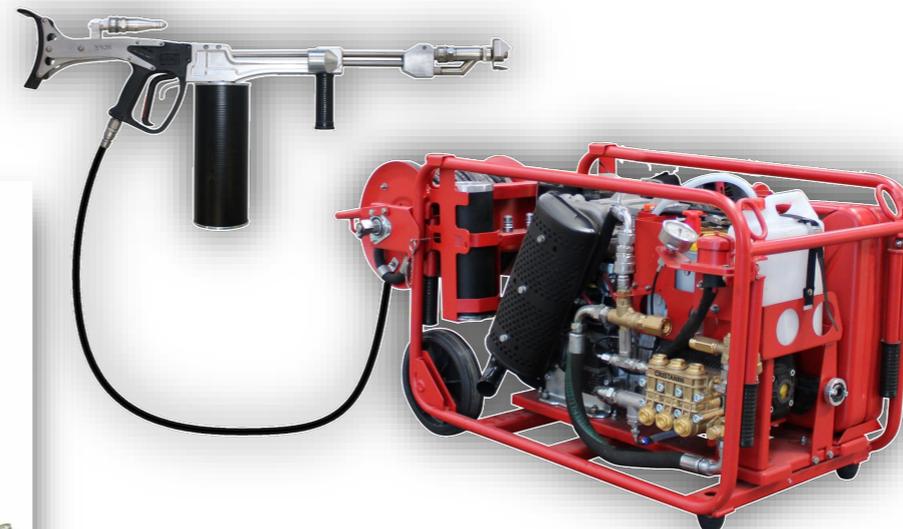
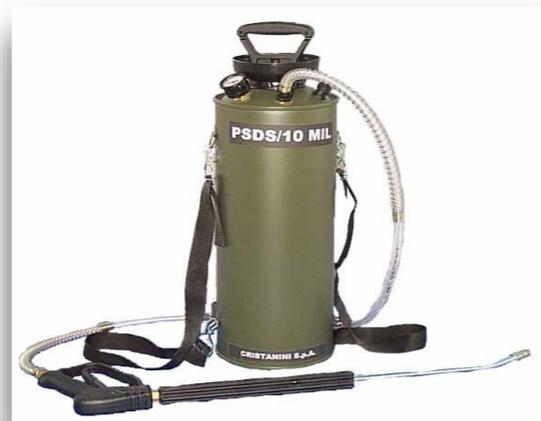
- Adolfo Cristanini established the company in 1972
- The company is recognised as a market leader in the field of Decontamination and Detoxification systems
- Cristanini have state of the art Research and Development (R&D) facilities based in Rivoli, near Verona
- R&D programmes are also conducted with various universities and Military Customers
- More than 35 years R&D experience and 30 registered patents

## CRISTANINI CBRN DECONTAMINATION SYSTEMS



# Capabilities

**CRISTANINI CBRN  
DECONTAMINATION SYSTEMS**



*Commercial in Confidence*

# Decontaminant solutions

**CRISTANINI CBRN**  
DECONTAMINATION SYSTEMS



- BX24 (powder)
  - Chemical and Biological decontamination
- BX 40 (liquid)
  - Radiological decontamination
- SX34 (aerosol)
  - Sensitive equipment decontamination
- BX 29 (liquid)
  - Personnel decontamination



# Cristanini Testing

- Testing of product has been carried out at independent laboratories in the following countries

-  • Netherlands-TNO
-  • Italy-Ministry of Defence
-  • USA-Army
-  • Belgium-Genius school
-  • UK-DSTL Porton Down
-  • Italy ISPESL
  - National institute for Occupational Safety and Prevention

# Cristanini Testing International Co-operation

**CRISTANINI CBRN  
DECONTAMINATION SYSTEMS**

- R&D is carried out with Universities in Padua, Rome, Milan



- Working in partnership with international organisations such as

- OPCW
- UN
- NATO



## Key CBRN capabilities to reduce the potential threat at sea

- CBRN Monitoring
- Pre wetting (first trialed in the early 1950's HMS Cumberland)  
Effective against RN contamination.
  - Intended to prevent RN contamination sticking to the ship
  - High volume water approach
- Citadel / working below deck

## Potential scenario 1

- SOF being evacuated from a hot zone by helicopter
  - Re-fuel on frigate before onward journey
- Aircraft landing on deck meaning ship / frigate is contaminated.



## Potential scenario 2

- Humanitarian support in an area with an out break of anthrax / Ibola
  - Personnel PPE clothing contaminated by spores / Virus
  - Cross contaminating the RIB or small boat
  - Risk of contaminating members of the ships crew on return



## Potential scenario 3

- Elite team intercepting a terrorist cell at sea
  - Vessel has explosives on board and chemicals
  - During engagement an explosive is detonated
- Elite team perform a rapid extraction from the vessel
  - Both RIB and personnel are contaminated
  - No time to decontaminate on vessel before returning to ship



# Decontamination system

**CRISTANINI CBRN**  
DECONTAMINATION SYSTEMS

- An easy to use multirole system for decontamination of vehicles, equipment and infrastructure
- The approach is to use
  - One operator
  - One applicator (SANIJET C921)
  - One decontaminant (BX24)



# SX 34

## CRISTANINI CBRN DECONTAMINATION SYSTEMS

- SX 34 is a CBRN decontamination system for sensitive surfaces and electronic equipment
- Principle is a dry spray and vacuum cleaner
- Ready for immediate use
- 10 Year shelf life



# Decontamination of personnel

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# Hand held, portable

**CRISTANINI CBRN  
DECONTAMINATION SYSTEMS**



- PSDS 10MIL
  - Manual system for decontamination and detoxification vehicles, equipment and people
- PSDS 1.5MIL
  - Manual system for decontamination and detoxification vehicles, equipment and people
- Both products are NATO codified



# Summary

**CRISTANINI CBRN  
DECONTAMINATION SYSTEMS**

- There remains a Significant CBRN contamination threat at sea
  - Impacting on a ships operability and mission support
  - Safety of personnel on board
- Whilst preferable It may not always be possible to decontaminate on shore to mitigate the risk
- Salt water has a limited effectiveness in its ability to decontaminate CBRN war agents once on board ship
  - Salt water does not detoxify chemical or biological war agents and may in fact spread contamination
- CBRN decontamination solutions are available to mitigate those threats
  - Tested and certified by some of the leading laboratories around the globe and NATO codified.



**THANK YOU FOR ATTENDING**

**QUESTIONS**

