

**Grid Challenge test to evaluate Safe Sea protection level against  
Multytentacle Box Jellyfish sting.**

Purpose

The purpose of this study was to test the protection levels of Safe Sea sunscreen against the Chiropsalmus (Box Jellyfish Okinawa) sting.

Envenomation by cnidarians is a worldwide problem. Cnidarians are equipped with stinging cells, each of which contains a stinging apparatus capable of delivering toxins into the victim when activated. Safe Sea sunscreen inhibits jellyfish coral and hydroids stinging mechanism based on patented technology.

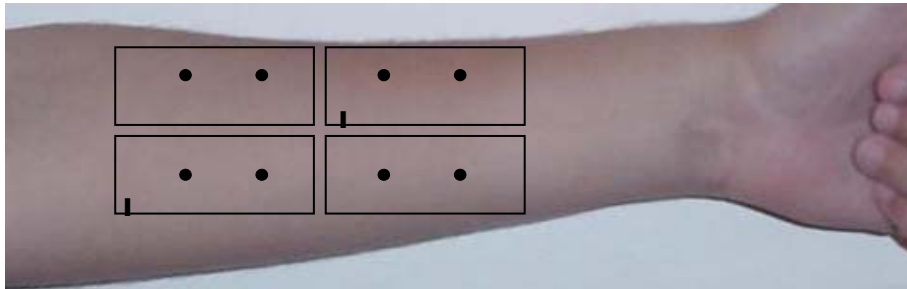
Safe Sea has been successfully tested on the Atlantic Chrysaora (sea nettle) and Mediterranean Rhopilema. This challenge tests was conducted by Japanese Group to monitor Safe Sea efficacy against sting of Chiropsalmus (Box Jellyfish Okinawa) also known in Japan as Habo Kurage.



Chiropsalmus

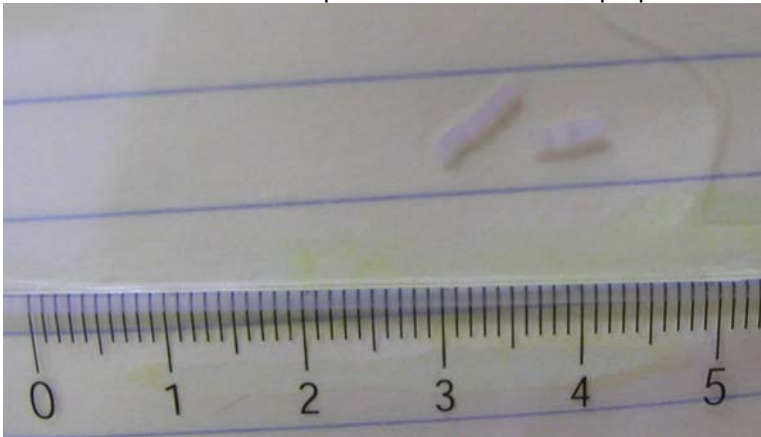
Testing Protocol:

1. Inner arms were marked and divided into 4 grids for conducting 8 independent experiments on each subject.

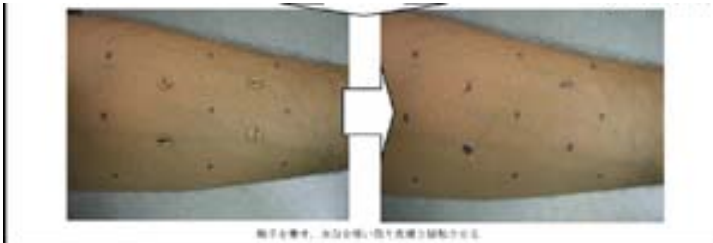


2. Left arms grids were lotion with Coppertone (Control) at a concentration of 0.1gram per 50 Square Cm. Right arm grids were lotion with same amounts of Safe Sea.
3. Lotion was applied 10-15 minutes before the tests or before any exposure into Seawater.

4. Five Millimeter of Chiropsalmus tentacles was prepared from fresh specimens.



- 5 Using Paster pipettes, Chiropsalmuse Tentacles tentacles were applied on each grid.



- 6 The water around the tentacles was dried to induced maximum contact of the tentacles with the skin.



- 7 30 second later the tentacles were removed and inflammation was monitored for each grid after 15 Min.

Tests results represents the Sum of inflammatory grids that were developed after 15 minutes on the skin that was pre-lotion with Safe Sea or Coppertone (control).

Skin treated with Coppertone prior to contact with Chiropsalmus tentacles.



Skin treated with Safe Sea prior to contact with Chiropsalmus tentacles.



Tests results represents the Sum of inflammatory grids that were developed after 15 minutes on the skin that was pre-lotion with Safe Sea or Coppertone.

Subject Name	Lotion Type	Inflammatory reaction
xxxxx	Coppertone	3/4
	Safe Sea	0/4
xxxxxx	Coppertone	3/4
	Safe Sea	1/3
xxxxxx	Coppertone	4/4
	Safe Sea	0/4
xxxxxxx	Coppertone	4/4
	Safe Sea	0/4
xxxxxxx	Coppertone	4/4
	Safe Sea	1/4

Summary

	Inflammatory reaction -Sting	Protection Level
Coppertone	18/20	10.0%
Safe Sea	2/19	89.4%

STADV for the treatments was 0.547  
 T-test results 0.0001

Second stage: One technician submersed Safe Sea pre-lotion hand into a bucket with three Chiropsalmuse. No affects were monitored



**Conclusion:**  
**Safe Sea provide effective protection against Chiropsalmus (Box Jellyfish) sting.**