

*deodorant repellent*

***Shin•deo***

*“natural ingredient-based  
deodorant repellent”*

*ingredients 「Marine•saponin」*



1 ℓ Liquid



1kg Polymer

# 「Shin・deo」 is...

It is a one-of-a-kind deodorant repellent  
and the ingredient is starfish saponin.

【ingredient】 **「Marine・saponin」**

【usage】 ①Deodorant  
②Repellents(Sawflies and mosquitoes etc)



# What is 「Marine・saponin」 ?

Biotechnology of Hokkaido Environmental Bio Sector Co., Ltd.  
Saponins were extracted from fermented starfish.

※Different from common saponins.

Notary registration of the name “Marine・Saponin”

- ◆ unique
- ◆ no taste and odor
- ◆ no harm to people and animals

## 【Expected effect】

- Amazing deodorizing effect.
- Damage to crops by harmful birds、 Harm from bird droppings、 Bird Strike etc.
- Marine・saponin have strongly active against trichophyton and black mold.
- Measures against barnacles on the bottom of ships.
- Repellent cockroaches, mice, flies, mosquitoes, etc.

# What are the effects of saponins?

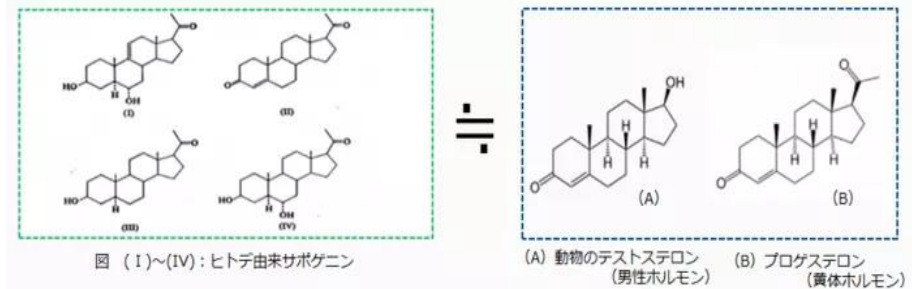
Saponin is also present in plants and is abundant in the body of echinoderms (starfish, sea cucumbers).

Saponins are components that prevent predation.

Reference: Wikipedia

In addition, the chemical structure of starfish "saponins" and sex hormones is similar. It shows the same effect as the "fear of territory and predation" that sex hormones have.

Birds feel it as fear. (Hypothesis)



## ※The effect of starfish since ancient times

- ①No maggots in the outdoor toilet.
- ②If it is used as fertilizer, vegetables grow well.
- ③Has a repellent effect on pests such as aphids.
- ④Human cancer cell destruction、 Human immunity boosting effect.
- ⑤Bactericidal action against mold

# **【usage】 ① Deodorants with natural ingredients**



**For example...**

- Deodorizing used condominiums
- Deodorizing used cars
- Musty smell of air conditioner
- Bad smell in a large space
- The smell of cigarettes and perfume in the car
- Ammonia odor in nursing care facilities
- Odors of daily life such as carpets and wallpaper
- Death odor



## 【 usage 】 ② Repellents(Sawflies and mosquitoes etc)



Example...

- mosquitoes、flies
- crow、cormorants
- rat
- Woodlice and cockroaches
- Experimenting with the effects of cats and deer



# Mechanism of action(image)

## 市販の一般的な消臭剤 Common deodorants



消臭剤が、悪臭を囲んで消す  
「マスキング」方式

masking

時間の経過とともに  
マスキング効果が消滅し、  
悪臭がよみがえってしまう  
The stench comes back

## シン・デオ Shin·deo



消臭剤が悪臭を囲い、  
悪臭成分を分解していく

Decompose odors

時間の経過とともに  
悪臭の根源が消滅し、  
悪臭は蘇らない⇒「滅臭」  
The stench does not revive

## 外部企業による消臭実験

Deodorization experiment by an external company



After adding 10g of sawdust containing the components of Shin Deo into a 1-liter glass container, the ammonia concentration in the container becomes "200~250ppm". So that it adjusts and seals.

\* When humans feel "smell", public toilets are about "10~15ppm". 200~250ppm is the odor level that makes it difficult to breathe.

Measured by gas sensing tube  
after 2 hours



97.8%

Confirmed deodorization !

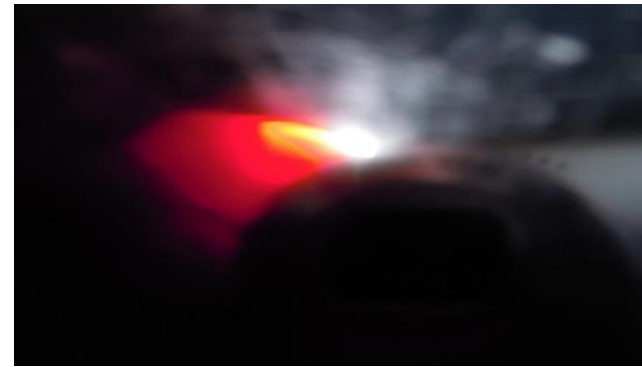
※ 2006 / Experiment at Gunma Textile Industry  
Experiment Station



# “Marine・saponin” glow

Experiment of ultraviolet irradiation of “marine・saponin”

| 波長     | 周波数                     | 呼び名   | 特性・用途              |
|--------|-------------------------|-------|--------------------|
| 1 km   | 300 kHz                 | 長波    | 船舶通信               |
| 100 m  | 3 MHz                   | 中波    | AMラジオ放送            |
| 10 m   | 30 MHz                  | 短波    | FMラジオ放送 (アナログTV放送) |
| 1 m    | 300 MHz                 | 超短波   | 地上デジタル放送           |
| 10 cm  | 3 GHz                   | 極超短波  | 衛星放送・電子レンジ・携帯電話    |
| 1 cm   | 30 GHz                  | マイクロ波 | レーダー               |
| 1 mm   | 300 GHz                 | ミリ波   | 電波天文学              |
| 10 μm  | 3 THz                   | サブミリ波 | ヒーター               |
| 1 μm   | 30 THz                  | 遠赤外   | サーモグラフィ            |
| 700 nm | 400 THz                 | 中間赤外  | 赤外線リモコン            |
| 360 nm | 800 THz                 | 近赤外   |                    |
| 100 nm | $3 \times 10^{15}$ Hz   | 可視光線  | 日焼け・殺菌・半導体製造       |
| 10 nm  | $3 \times 10^{16}$ Hz   | 紫外線   | レントゲン写真            |
| 10 pm  | $3 \times 10^{19}$ Hz ~ | X線    | PET診断              |
|        |                         | ガンマ線  |                    |



Luminescence of marine saponins photographed by irradiating ultraviolet rays with a camera. It emits intense white light.



If you take a photo of the syndeo polymer in a room after the fire, you can see that it glows in the tray



# Examples of "deodorization" and "repellence of birds and beasts and pests" that we have experienced

## Deodorant

- Garbage
- kitchen
- toilet
- used car
- air conditioner
- tobacco
- clothing
- shoe
- perfume
- Adult odor
- Pet odor
- Animal odor
- Shipping Container
- refrigerator
- Fish, raw meat
- excreta
- After the fire
- Death odor
- Factories and rooms in Koji
- Former pickle factory
- putrid smell of organic matter,

## Repellents

- fly
- mosquito
- crow
- cockroach
- Ant
- rat
- cat
- deer

# Inquiries



**【Product inquiries・Order】**

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