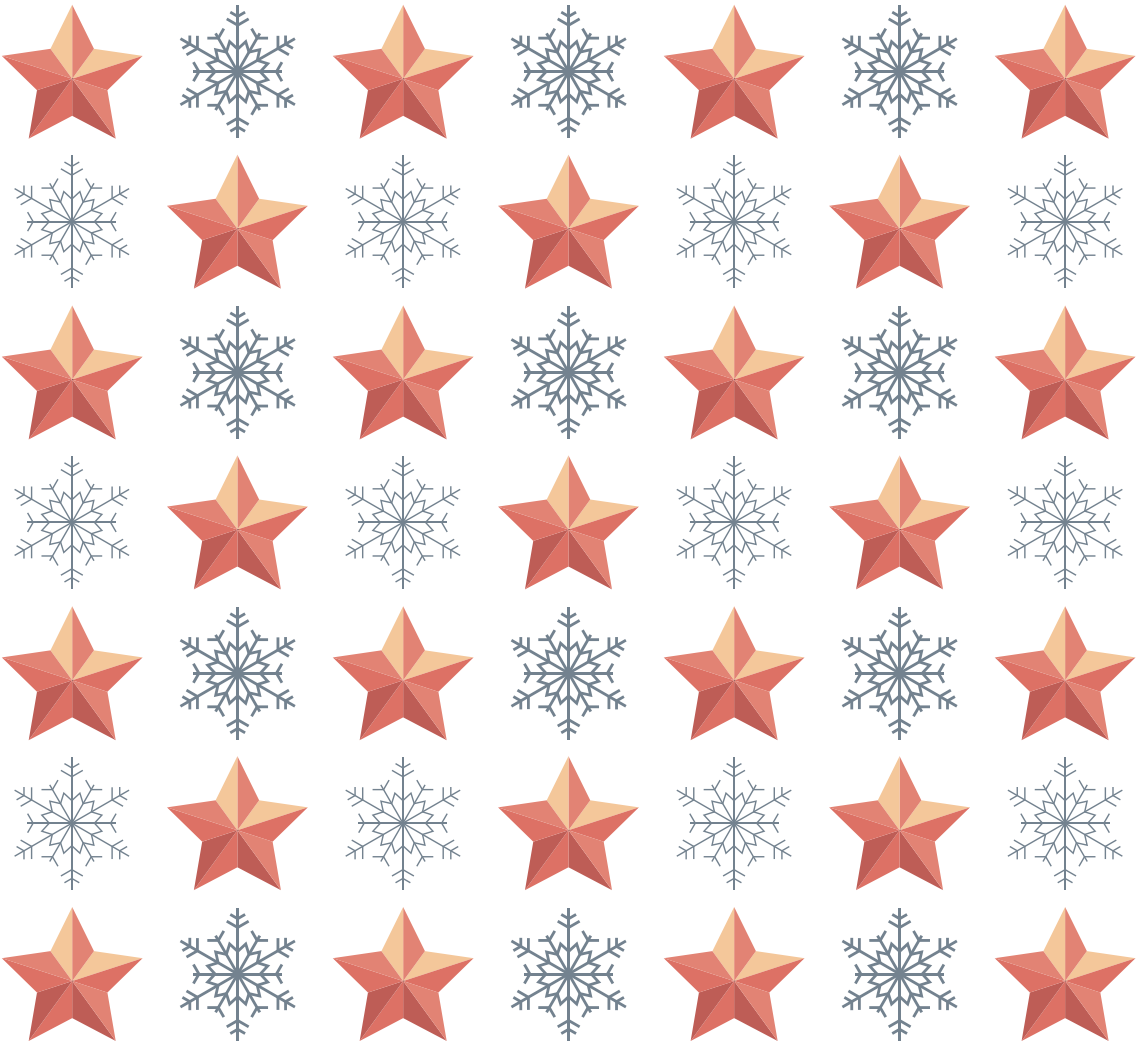


ECO-FRIENDLY
DE-ICER USING
EXTRACTS FROM
STARFISH

ECO-ST

The World's First Eco-Friendly De-icer Using Starfish Extract



Innovative Solution for Eco-Friendly De-icer,

GREETING

STAR's TECH has developed ECO-ST to overcome the problems of conventional de-icer. The conventional de-icer has shown its effectiveness in melting performance but it causes economic, social and environmental losses due to corroding steel, breaking concrete, killing plants, and causing respiratory diseases.

To solve these problems, STAR's TECH has first developed and commercialized an eco-friendly de-icer using starfish extract. This could be done due to the hard work of scientists and developers from Seoul National University. Our unique technology alone offers a new way of removing the snow in eco-friendly way which cannot be compared with other competitors. Also, in terms of melting performance, ECO-ST shows outstanding melting performance. All of this has been tested and verified by internationally certified laboratories.

The goal of STAR's TECH is to be a company that can fundamentally solve the marine ecosystem problem caused by starfish and further minimizes economic and social losses caused by de-icer and starfish.

We will do our best to become a leading global company in de-icing market.

CEO Seung Chan Yang

CERTIFICATE



Superior
Product



Performance
Certification



Venture
Company



ISO9001



ISO14001



COMPANY HISTORY

STAR's TECH Co., Ltd is a manufacturer and distributor of innovative, reliable and efficient eco-friendly de-icing solutions available.

2017

- | | |
|---|--|
| 06 Received the Army Chief of staff Award from Ministry of Defense Start-up Challenge | 11 Received the Defense Minister's Award from Korea's biggest business startup contest 2017 Challenge! K-Startup |
|---|--|

2018

- | | |
|---|---|
| 02 Est. Dangjin Plant 1(factory) | 06 Nominated in the supply product registration support program hosted by Public Procurement Service Venture Nara |
| 04 Selected by TIPS (Tech Incubator for Startup) | 07 nominated Seoul City R&D support program |
| 05 Nominated as one of the 100 Young CEOs in Danjin in Chungnam Creative Economy and InnovationCenter | 08 Signed an export contract of ECO-ST with Japan |
| 05 ECO-ST Applied (PCT) | 09 Obtained eco-label certification |
| 05 Obtained venture certification | 11 Awarded the grand prize at Startup Contest from the Ministry of Ocean and Fisheries Award |
| 06 Won the social venture support program initiated by Seoul City | 12 Received Prime Minister Award from 2018 Challenge! K-Startup |

2019

- | | |
|---|--|
| 02 Obtained Excellent Performance Certification | 06 Participated in an economic mission headed by President Moon Jae-in visited Finland with 5 startups |
| 02 Selected as a pilot purchase business of technology development products by Public Procurement Service | 08 Received Certificate of Recommendation Preferred Purchase of Outstanding Inventions |
| 04 Est. 2nd Plant (Applied Smart Factory System) | 08 Designated as Excellent Product in Public Procurement Service, Republic of Korea |

2020

- | | |
|---|---|
| 04 Est. Yeosu Factory for manufacturing liquid type product | 06 Selected as one of 40 Korean Baby Unicorns (Ministry of SMEs and Startups) |
| 04 Disclosure of liquid fertilizer | 09 Acquired NEP Certification |

2021

- | | |
|---|---|
| 01 Established Eastern European Corporation | 03 Published CSI-level Thesis Series B Investment |
| 02 Opened Sales in North American De-icer Market (Amazon, Etc.) | |



ABOUT ECO-ST

ECO-ST is an eco-friendly deicer produced using specially formulated starfish extracts. By recycling bio-waste from predatory starfish, our product addresses corrosion and environmental issues with conventional salt while offering superior snow melting performance.

Especially, ECO-ST offers the best comprehensive solution of competitive deicers that reduces significant infrastructure and personal property damage to concrete, metal and, plant necrosis while providing outstanding deicing performance.

The ECO-ST reduces the indirect costs up to 90% from the de-icing process.

The 80% cost incurred by removing snow is indirect. Through fast and continuous melting performance, ECO-ST minimizes the cost of repairing roads, bridges, vehicles, and guardrails by preventing accidents and minimizing steel corrosion and concrete breakage rates. Also, ECO-ST resolves roadside damage minimizing plant yellowing. It is possible to settle 90% of indirect cost savings using ECO-ST.

Special Coating Bead

ECO-ST adopted a special coding bead type, which is different from the existing snow removal agent's flake type. Using special coating bead type de-icer solved the solidification and dust problem of conventional flake type de-icer. In melting performance-wise, it shows an overwhelming penetration effect.



Feature



Marine waste starfish utilization

We make use of starfish, in the most efficient way STAR’s TECH develops an eco-friendly deicer utilizing starfish, a marine predator that causes multiple environmental problems.



Outstanding snow melting performance

166% more effective when compared with sodium chlorides solutions for snow melting performance while providing a level of maintenance up to 3 times greater than calcium chlorides.



ZERO corrosion

Our STAR’s Tech ECO-ST boasts a major reduction in corrosion rate, close to 0%, at 0.8% corrosion, far exceeding the standard 30% corrosion rate required for an eco-friendly deicer.



Solidification solved! Optimally designed for long-term storage

With bead-shaped particles covered with a special coating, our product has solved the problem of solidification to enable a prolonged storage while being dust-free.



PERFECT-ECO

Our deicer with starfish extracts minimizes the damage to roadside trees and vegetation caused by chloride ions and reduces corrosion to infrastructure and personal property.

Why Starfish

- Starfish have a tremendous breeding power and are widely known for their ruthless predation of crustaceans and coral reefs’ destruction.
- The problems caused by starfish are a major international issue, and many countries waste hundreds of billions of dollars each year to solve starfish problem.
- STAR’s TECH recycles and processes predatory starfish for use as the main ingredient of STAR’s TECH ECO-ST. We reduce unnecessary costs paid by the government to dispose of starfish.
- Using starfish as a raw material can reduce starfish disposal costs, damage to fishermen's farms, and the destruction of coral reefs.



Customized products for next-generation environmentally friendly governments



Minimizing marine waste disposal and protecting marine ecosystems by using starfish



Minimized chloride ion emission

PRODUCT LINE

Product Type



ECO-ST_1000kg

Volume	2200 lb
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ECO-ST_55 lb

Volume	55 lb
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ECO-ST_33 lb

Volume	33 lb
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ECO-ST_11 lb

Volume	11 lb
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How to Use

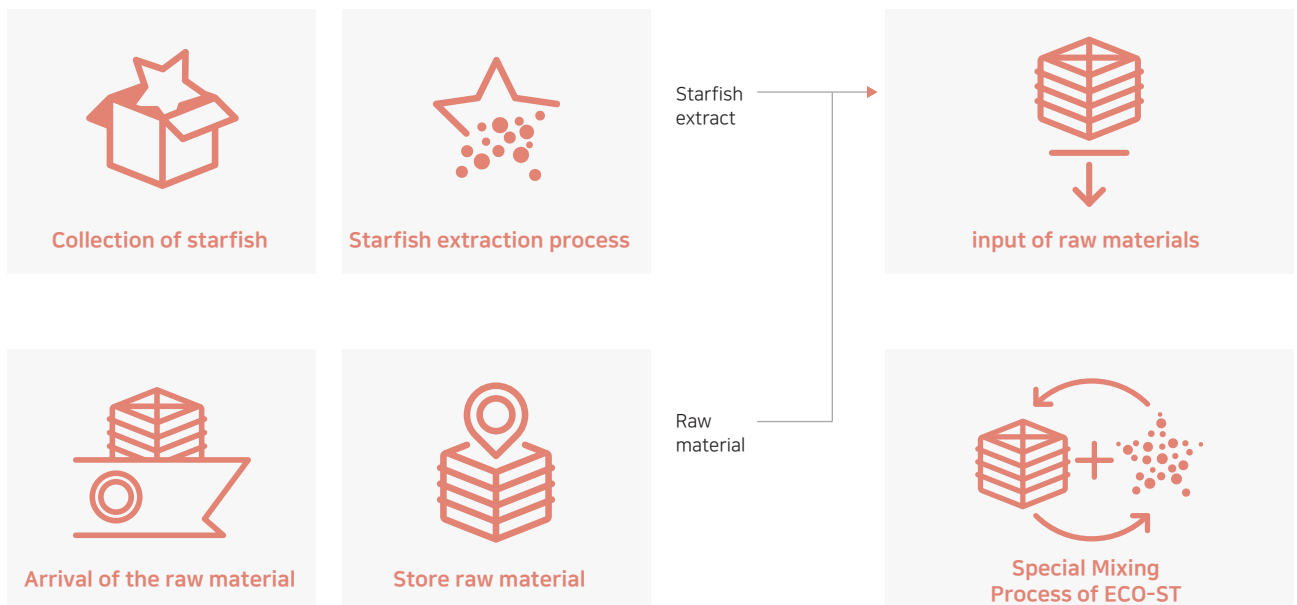
Unit: g/m²

Temperature	0°C ~ -5°C	-5°C ~ -15°C	-15°C ~ -25°C	-25°C ~ -35°C
below 3cm of snow	30	60	90	120
above 3cm of snow	40	70	100	130

When there is more than 5 cm of snow, broom the snow away moderately before spraying the product.
You may adjust the amount of product to use depending on the conditions.
(Frequently freezing area, temperature)

Process

ECO-ST is not produced by a simple mixing process.
ECO-ST is produced with the world's first technology.



PERFORMANCE

Field Test



before



5min

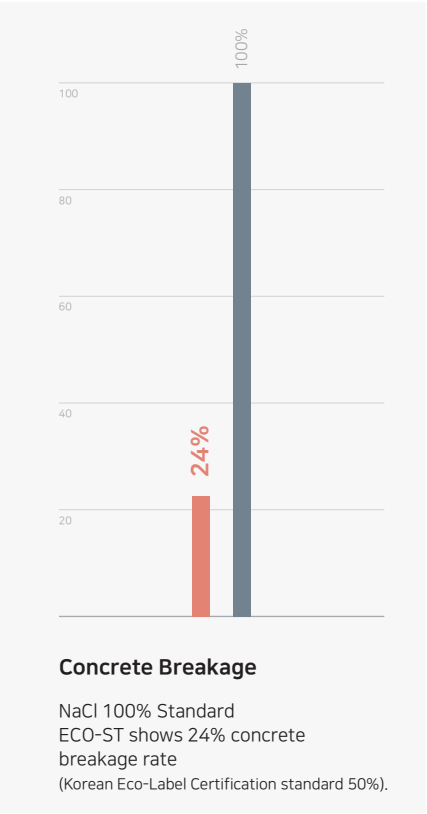
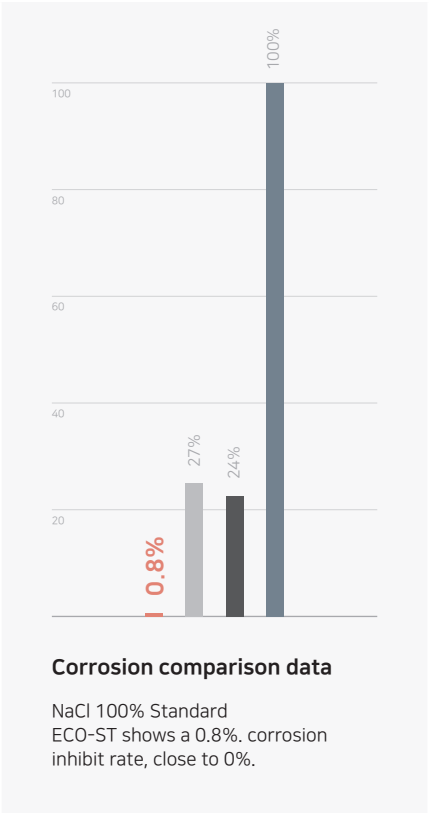
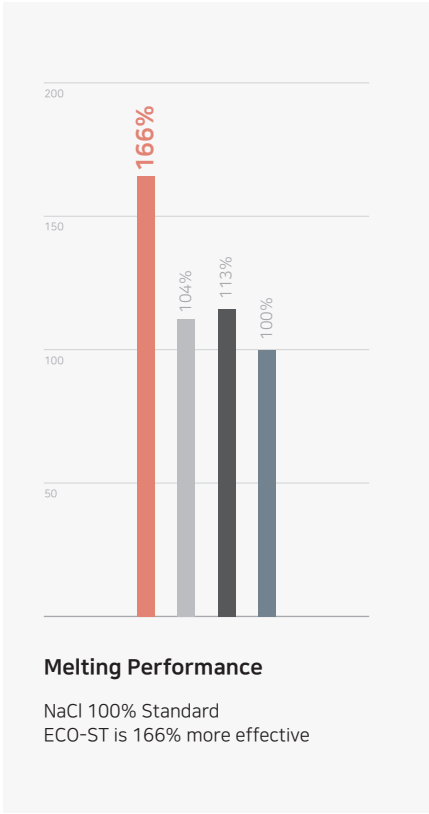


10min

ECO-ST shows excellent melting performance compared to the other eco-friendly de-icer. It takes less than 10 minutes to remove snow using snowplows and preventing ice from forming. Actual field test results show outstanding melting performance compared to the other eco-friendly de-icer.

Performance Comparison Data

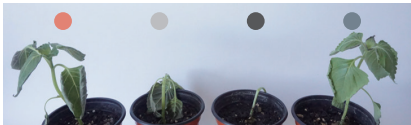
ECO-ST Company A Company B Sodium Chloride



Effects on plant



10hour



30 hour



50 hour

This test demonstrates the effects of plants sprayed with different deicers. ECO-ST's effect on plants is much softer in comparison to the application of sodium chloride with one-fifth concentration.

Solution Concentration (%)			
ECO-ST	5%	Company B	5%
Company A	5%	Sodium Chloride	1%



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