

Ecosel®BioCare

The next generation anticaking agent for de-icing salt

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€ 5 billion
revenue

> 9,000
people

Global chemical
company

Major salt
producer
since
1918



Sanal® Suprasel® Ecosel® BioCare

Sustainability core value of AkzoNobel

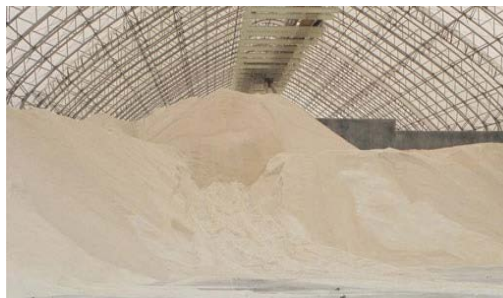
AkzoNobel
number 1 – Dow Jones Sustainability
Index 2012, 2013, 2014, 2015, 2017

AkzoNobel ambition
20% eco-premium solutions
(innovation !)



Anticaking in de-icing salt

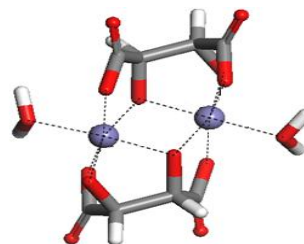
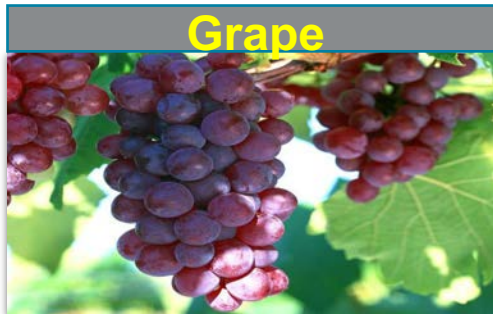
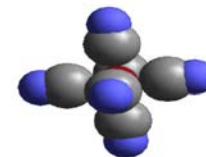
Long storage time and spreading performance essential



Introducing new anticaking agent

Current workhorse developed by AkzoNobel

- Ferrocyanide anticaking agent
 - Commonly used world wide
 - Developed and patented by AkzoNobel in 1953 (!)
- Next generation anticaking agent with improved eco-footprint:



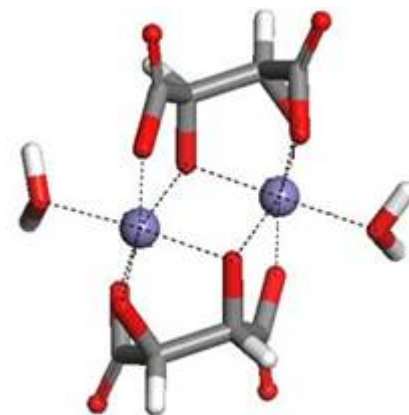
Iron tartrate complex

Ecosel®BioCare

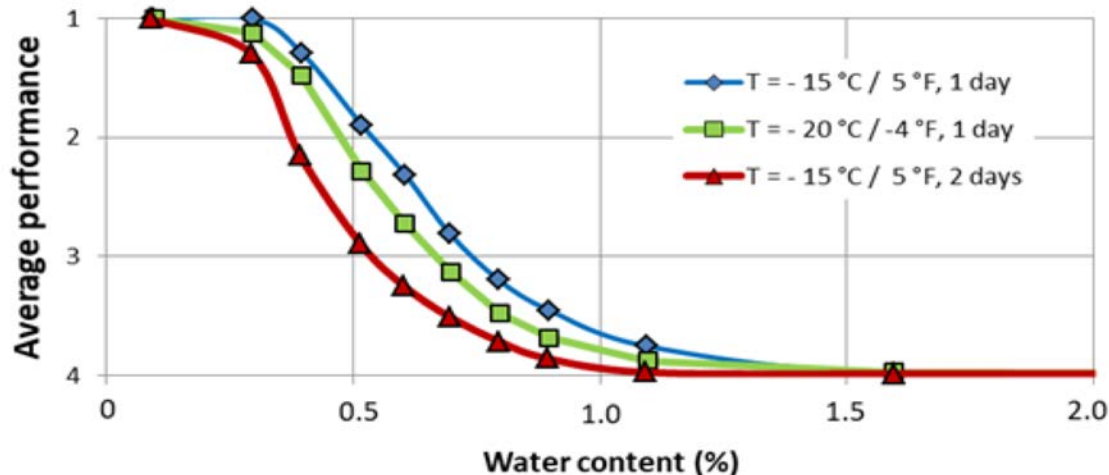
Ecosel®BioCare

Key features

- Environmental friendly product
 - Cyanide free
 - Biodegradable
- Good anti-caking properties for NaCl
- No creeping
- Safe and easy to use on every dry salt type
- Eco-premium product



Operational window Ecosel®BioCare especially suitable for dry salt (< 0.5 %)



Performance

- 1 free flowing
- 2 free flowing with small lumps
- 3 small part is free flowing
- 4 hard and frozen

Ecosel®BioCare inhibits crystal growth of NaCl

Industrial tests

Effectiveness of Ecosel®BioCare

- Dry rock salt, sea salt and vacuum salt in big bags
 - Stored in big bags
 - After 1 year free of caking & free-flowing
- Rock salt pile of 100 ton
 - Stored in covered silo
 - After 1 year free of caking & free-flowing
- 40.000 ton of rock salt; transported and stored
 - Transported by ship for several days
 - Stored under plastic cover for some weeks
 - Free of caking & free-flowing



Dosing of Ecosel®BioCare no specific requirements

- ◆ Ready-to-use solution
- ◆ Recommended dosing rate: 0.5 l/t salt
- ◆ Existing dosing installation can be used



Ecosel®BioCare

The next generation anticaking agent

- Excellent anti-caking for dry salt
- Cyanide free, non-toxic
- Biodegradable
- Biobased materials (from grapes)
- Produced in Europe
- REACH, TSCA, GRAS registered

