
Focus on phosphate-free
technology for meat products



Safecore[®]

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Safecore®

Replace phosphates

Safecore phosphate-free products Compared with phosphates

Safecore phosphate-free products

Safer

1. Raw materials are composed of organic acid salts, inorganic acid salts, sugar alcohols and oligosaccharides.
2. Low dosage, will not mask the original taste of meat.
3. Under low salt (0.6%) conditions, there is an elastic texture.
4. Raw materials are safe for human health.

More effective

1. High and low temperature meat products, gel strength is better than compound phosphate, elasticity and brittleness are more natural.
2. Processed meat products can maintain their natural color.
3. Processed meat products, repeated thawing does not produce water, will not shrink too much after heating.
4. After cooking the meat, repeatedly frozen and heated it still maintains its elastic texture.

Composite phosphate products

1. Chemical synthesis process.
 2. Mask the taste of meat.
 3. Under high salt (>0.8%) conditions, there is an elastic taste.
 4. Affecting the absorption of calcium by the body.
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1. The gel strength of meat products at high and low temperatures is weak.
 2. Processed meat products has an impact on color.
 3. Thawing is prone to water loss, shrink too much after heating.
 4. Repeated heating affects the taste even worse.

About VEMOS

VEMOS (Guangzhou) Foods Co., Ltd.

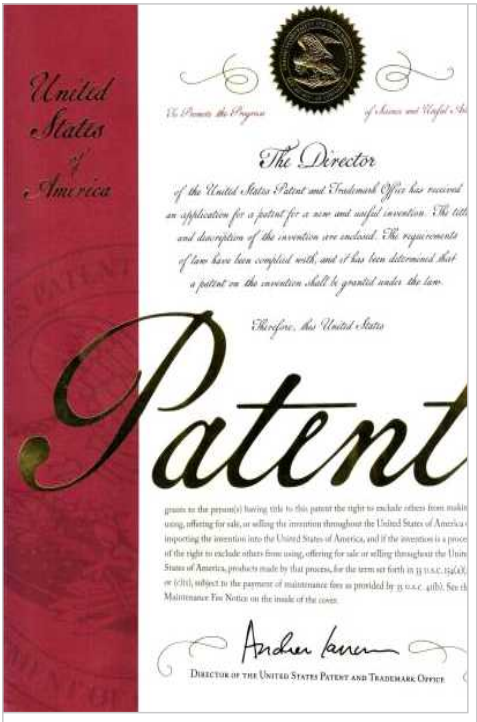
was established in 2008 and focus on the research and development of phosphate-free technology for meat products and the manufacturing of phosphate-free products. The Safecore phosphate-free series products can directly replace phosphates in meat products.

This technology was awarded a U.S. invention patent
(U.S. Patent No.: US 10,602,761, B2)
in March 2020 and is ahead of the international level

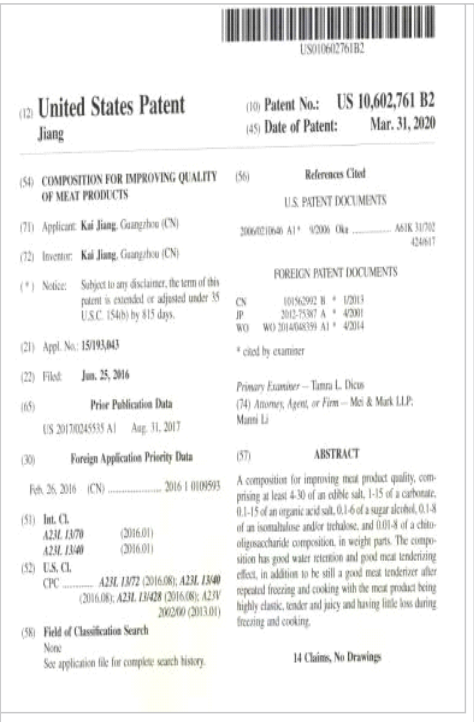
Qualification
Certification



FDA Registration Certification



U.S. Invention Patent Certification



Quality Management Certification

Application effect of Safecore products

Safecore compound food additives



1

Shrimp meat-Safecore treatment effect

- Forzen shrimp meat has the unique fresh and sweet taste of fresh shrimp meat.
- Increase the yield and thawing without losing moisture.
- The appearance is plump and full after heating.
- Despite repeated heating, it still maintains a crispy texture.

Application significance

- Significantly enhance the commodity value of shrimp dishes.

Defects in the treatment of phosphate products

- Eliminate the unique fresh and sweet taste of shrimp meat.
- Reduce the commodity value of shrimp meat.



3

Fried chicken pieces - Safecore treatment effect

- Preserving the natural flavor of chicken, thawing without losing moisture.
- After being fried, it has a high plumpness and a chewy texture.

Application significance

- Make the chicken pieces still chewy when eaten cold.

Defects in the processing of phosphate products

- No chicken flavor, easy to lose water when thawing.
- The texture lacks elasticity and the texture is even worse when eaten cold.



2

American sausage (hot dog) - Safecore treatment effect

- It can maintain the original flavor of the meat and make the internal structure of the meat more compact.
- It has stronger elasticity and brittleness, exhibits minimal expansion upon heating.
- The taste remains unchanged within the quality guarantee period.

Application significance

- Significantly improve the quality of ham sausage.

Defects in the treatment of phosphate products

- It lacks the original meat flavor and has a weak texture.
- The internal structure has low compactness and the taste will deteriorate within the quality guarantee period.



4

Bacon-Safecore treatment effect

- Bacon made from pork belly processed with Safecore.
- After heating, the finished product appears very plump.
- The lean meat does not shrink and it tastes juicy.
- Chewing for a long time without residue, significantly improving quality.

Application significance

- Resolved the problem of appearance shrinkage and woody taste after the meat is reheated and frozen.

Defects in the processing of phosphate products

- Bacon has undergone secondary heating and freezing.
- The lean meat tends to shrink.

Application effect of Safecore products

Safecore compound food additives



5

Hamburger beef patty - Safecore treatment effect

- Maintain the distinctive rich beef flavor of the beef patty.
- After long-term frozen storage, the texture and crunchiness remain unchanged.
- Whether eaten hot or cold, it can maintain the unique flavor of beef.
- Firm texture and crunchy mouthfeel.

Application significance

- Significantly increase the commercial value of pure beef patties.

Defects in the treatment of phosphate products

- No beef flavor, stored frozen.
- The crunchiness of the texture has noticeably decreased.



7

Salami - Safecore treatment effect

- Maintain the original flavor of the meat and prevent water from leaking out during thawing.
- It maintains its quality even after being frozen and stored and retains a good taste even after being reheated.

Application significance

- To maintain the color, taste, texture, etc. of salami after long-term freezing.

Defects in the treatment of phosphate products

- Without the original meat flavor, it tends to lose water when thawed.
- Under frozen conditions, the elasticity and firmness of meat rapidly decrease.



6

Steak - Safecore treatment effect

- Completely remove the black line within the shelf life of the beef roll.
- Maintain the unique bright red color of beef.

Application significance

- The problem of beef turning black during secondary processing has been resolved.

Defects in the treatment of phosphate products

- Without beef flavor, the beef roll will gradually turn black in color.



8

Fried cod fish chunks - Safecore treatment effect

- Maintain the original flavor of the fish meat and thawing without losing moisture.
- It maintains its quality even after being frozen and can still retain a good taste even after being reheated.

Application significance

- After long-term freezing, the color, taste, texture, etc. of cod fillets remain unchanged.

Defects in the treatment of phosphate products

- Without the original meat flavor, thawing can easily cause water loss.
- Under frozen conditions, the elasticity and firmness of fish meat rapidly diminish.

Application Examples

Bowlled meat mince

Ingredients	Proportion(%)	Weight (kg)
Pork lean meat	66.52%	25
Fat meat	7.98%	3
Safecore Phosphate-free Product	0.21%	0.08
Table salt	15.97%	6
White granulated sugar	1.73%	0.65
Ice water	1.06%	0.4
White pepper powder	0.13%	0.05
Potato starch	6.39%	2.4
Total	100.00%	37.58

Workmanship:

1. Thaw and mince the raw meat for use and weigh out the various ingredients according to the specified proportions;
2. Pulping: Place the meat into a blender, add **Safecore phosphate-free product** and blend at high speed. Add salt and continue blending until the meat is finely minced and sticky. Then, add other auxiliary ingredients and blend until evenly mixed;
3. Sausage can be cooked by boiling or stewing until fully cooked;
4. Cooling and packaging for quick freezing.

Application products: hot dogs, meatball, etc.

Application Examples

Fried chicken breast chunks

Ingredients	Proportion(%)	Weight (kg)
Chicken breast	73.57%	100
Safecore Phosphate-Free Product	1.10%	1.5
Table salt	0.77%	1.04
White granulated sugar	0.38%	0.52
Spices	0.19%	0.26
Potato starch	1.91%	2.6
Ice water	22.07%	30
Total	100.00%	135.92

Workmanship:

1. Rolling and kneading: Operate the rolling and kneading machine and apply vacuum at -0.07 to -0.08 Mpa; The rolling and kneading process is divided into two stages: the first stage involves 45 minutes of vacuum rolling and kneading, followed by a 10-minute rest under normal pressure; the second stage involves another 25 minutes of vacuum rolling and kneading, with the temperature controlled between 0°C and 4°C;
2. Once the water is fully absorbed, add the starch and roll and knead until evenly distributed;
3. Quick freezing;
4. Packaging.

Application Examples

Cod fish sticks

Ingredients	Proportion(%)	Weight (kg)
Cod fish sticks	81.34%	100
Safecore Phosphate-free Product	1.22%	1.5
Table salt	0.78%	0.96
White granulated sugar	0.39%	0.48
Ice water	16.27%	20
Total	100.00%	122.94

Workmanship:

- Rolling and kneading: Use the rolling and kneading machine and apply a vacuum of -0.07 to -0.08 Mpa;
The rolling and kneading process is divided into two stages:
the first stage: involves 45 minutes of rolling and kneading under vacuum, followed by a 10-minute rest under normal pressure;
the second stage: involves another 30 minutes of rolling and kneading under vacuum with the temperature controlled between 0°C and 4°C;
- Once the water is fully absorbed, it can be packaged;
- Freezing.

Application Examples

Hamburg beef filling

Ingredients	Proportion(%)	Weight (kg)
Lean beef	62.28%	100
Safecore Phosphate-free Product	0.93%	1.5
Table salt	0.81%	1.3
White granulated sugar	0.40%	0.65
Ice water	18.68%	30
White pepper powder	0.13%	0.21
Potato starch	1.87%	3
Butter	2.43%	3.9
Beef Fat	12.46%	20
Total	100.00%	160.56

Workmanship:

- Thaw and mince the raw meat;
- Weigh **Safecore**, table salt and white granulated sugar in proportion and dissolve them in ice water;
- Mixing: Place the beef into the mixer, add ice water containing **Safecore** and mix until it becomes sticky. Let it stand for 60 minutes, with the temperature controlled between 0°C and 4°C;
- Add white pepper powder and potato starch, and stir them evenly;
- Add butter and ghee and stir well;
- Packaging and freezing.



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