



**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB 1886.238-2016

**National Food Safety Standard -- Food Additives -- Modified
Soybean Phospholipid**

食品安全国家标准 食品添加剂 改性大豆磷脂

(English Translation)

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1 Scope

This standard is applicable to natural soybean phospholipids as raw materials, after a moderate acetylation, hydroxylation, acylation, hydrogenation and other single or multiple processes Made of food additives modified soybean phospholipids.

2.1 Sensory requirements

Sensory requirements shall comply with the requirements of Table 1.

Table 1 sensory requirements

project

Claim

Liquid solid state

Testing method

Color Yellow to Yellow Yellow to Brown State viscous liquid or gelatinous powder or granular odor with a modified soybean phospholipid-specific odor, Slightly sour taste or bleach odor with a modified soybean phospholipid-specific odor, Slightly sour taste or bleach odor Take the appropriate amount of sample in a clean, dry glass in a glass vessel, observe it under natural light Color, state, and smell its taste

2.2 Physical and chemical indicators

Physical and chemical indicators should be consistent with the provisions of Table 2.

Table 2 Physical and chemical indicators

project

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Viscous liquid powder or granular (solid) Testing method Acetone insoluble matter /% ≥ 50
95 Appendix A, A.3 Moisture and Volatiles /% ≤ 1.5 1.5 GB/T 5528 N-hexane insoluble

matter /% ≤ 0.3 0.3 GB 28401-2012 Appendix A.3 Acid value (in KOH)/(mg/g) ≤ 70 38
 GB 28401-2012 Appendix A.4 Iodine value (g/100g) 85 to 95 60 to 80 GB/T 5532 Peroxide
 value/(meq/kg) ≤ 100 50 GB 28401-2012 Appendix A.5 Total arsenic (in As)/(mg/kg) $\leq$
 3.0 3.0 GB 5009.11 Lead (Pb)/(mg/kg) ≤ 1.0 1.0 GB 5009.75 Appendix A Testing method
 A.1 General provisions the reagents and water used in this standard refer to the pure
 reagent and the tertiary water specified in GB/T 6682 when no other requirements are
 specified. Reagent Standard solution, impurity determination standard solution, preparation
 and products used in the absence of other requirements are marked by GB/T 601, GB/T
 602, GB/T 603. The solution used in the test refers to the aqueous solution when it is not
 specified in the formulation of the solvent.

A.2 Identification test Take a small amount of sample placed in water, easy to disperse in
 water, the formation of emulsion.

A.3 Determination of acetone insoluble matter A.3.1 Methodological Summary with acetone
 dissolved in cold acetone and other acetone soluble matter, and then deducted n-hexane
 insoluble, the residue is acetone insoluble.

A.3.2 Reagents and materials A.3.2.1 Acetone.

A.3.2.2 petroleum ether.

A.3.2.3 Modified Soybean Phospholipid Saturated Acetone Reagent. Take 1 g of powdered
 sample in a 1000 mL mill bottle, add 1000 mL of acetone, 0 °C ~ 5 °C ice bath soak 2h,
 about 15min shaking 1 times. After about 2h, filter with fast filter, the filtrate at 0 °C ~ 5 °C
 cold Possession, spare. If the sample is liquid, the powder sample is prepared by acetone
 extraction. The preparation process is as follows. About 2 g of liquid is weighed with a 50
 mL beaker Sample, add 10mL petroleum ether dissolved, add 25mL acetone, precipitate
 into the glass sand core crucible, with 80mL acetone fraction filter, the remaining the
 residue is a powdery sample.

A.3.3 Instruments and equipment A.3.3.1 Analysis of balance. sensation 0.0001g.

A.3.3.2 Glass sand core crucible. G3 (pore size 4.5 μ m ~ 9 μ m).

A.3.4 Analysis steps the beaker, glass rod and crucible, in 100 °C ~ 105 °C oven bake to
 constant weight. Before weighing the sample, first use the glass rod to sample the upper
 and lower Stir, so that the sample mix evenly. If the sample temperature is low, the viscosity
 is large, the sample can be tightly sealed, warm water in about 40 °C, Out, dry the bottle
 wall, and then stir with a glass rod. Weigh the freshly mixed sample 2.0g (accurate to
 0.0005g) in the already constant beaker (even with glass rods). Add 0 °C ~ 5 °C saturated
 acetone 30mL, in the ice bath with glass rods to take the combination of mixing and rolling
 method forced rolling Press the sample, in 2min to make the majority of the oil out of the
 sample. The solution quickly with a constant weight of the crucible gently pumping, do not
 put the granular Insoluble matter into the crucible. The inner wall of the crucible was rinsed

with 20 mL of acetone at 0 ° C to 5 ° C. In the beaker plus 0 ° C ~ 5 ° C saturated C Ketone 20mL, in the ice bath with glass rods with the law to continue rolling the sample 2min ~ 3min, to be insoluble material sinking, the solution through the original crucible Suction filter. The above operation was repeated twice, and all the insoluble matter was crushed into fine powder. After the last 1 milled, take about 0.1mL of clear drops on the glass Quickly evaporate acetone. If there is an oil trail, repeat the acetone milling step until the sample is inspected for oil residue. Stir the insoluble material into the crucible the filter was filtered and washed twice with 0 ° C to 5 ° C saturated acetone. The crucible, glass rod, beaker and insoluble were washed twice (try to remove the insoluble matter Into the crucible), and finally strengthen the filter, remove the remaining acetone. Remove the crucible with a clean gauze and dip a little acetone to wipe the crucible and the beaker outside.

The glass rod stirs the crucible sediment. The crucible containing the precipitate and the glass rod and the beaker containing the insoluble residue were immediately placed at 100 ° C ~ 105 ° C oven drying 30min. After removal, put in a desiccator and cool to room temperature, then weighed. And then dried for 20min, cooling, weighing, Until constant weight.

A.3.5 Calculation of results the mass fraction of acetone insoluble matter w is calculated according to formula (A.1) $w = \frac{m_1 - m_2}{m} \times 100\%$ (A.1) where.

m_1 --- the total mass of crucible, beaker, glass rod and sediment after drying, in grams (g);

m_2 --- empty crucible, beaker, the total mass of glass rods, in grams (g);

w_1 --- n-hexane insoluble content,%;

m --- sample quality, g.

The arithmetic mean of the results of two parallel measurements is the result of the measurement. The absolute difference between the two parallel determinations is not more than 0.5%.