

## **NANO CALCIUM CARBONATE**

### **PRODUCTS & APPLICATIONS:**

Our product (NPCC) widely applied in the area of plastic, rubber, adhesives, sealants, paper, printing ink, coatings and paints, cosmetic and medicine etc.

### **PAINTS**

**NCARB-33: PAINTS: FUNCTIONAL NANO CALCIUM CARBONATE FOR AUTO PAINT** is a surface treated, superultrafine and very narrow particle Size distribution precipitated calcium carbonate specially formulated as functional additive in adhesives and polymers.

### **APPLICATIONS:**

Auto Paint, PVC Plastisol, underbody sealing materials for automobiles, constructional sealing compounds.

The surface-modified nano-size calcium carbonate particles are capable Of controlling the rheological and the mechanical properties of the cured Materials. PVC Plastisols with nano calcium carbonate have extended glass Transition temperatures (Tg) excellent thermal stability and low viscosity. Good tensile strength, elongation-at-break and yield stress.

**Features:** NANO PARTICLE SIZE, NANO PARTICLE SIZE DISTRIBUTION, REGULAR PARTICLE SHAPE, SURFACE SPECIAL TREATMENT.

**Benefits:** REDUCED VOLUME FORMULATION COST, IMPROVED PRODUCT QUALITY.

Due to special physical and chemical properties, NPCC has been widely applied in Industries like

### **SEALANT and ADHESIVES:**

**NPCCA -206: FUNCTIONAL NANO CALCIUM CARBONATE FOR SEALANT AND ADHESIVE**

NPCCA-206 is a surface treated, super ultra fine and very narrow particle size distribution precipitated calcium carbonate specially formulated as functional additive in sealant and adhesives.

## **Applications:**

**PVC Plastics, RTV Silicone Sealants, Polysulphide, Synthetic resin coating, PU Systems and epoxy, silicone electronic adhesive, silicone building sealants, Polysulphide sealant. Functional filler and extender in plastic compound.**

**NPCCA-206 is a functional additive providing and viscosity, thixotropy, shear thinning and yield value for economical control of slump, sag and extrusion or spray application rates also reinforce the polymers increasing tensile strength and modulus.**

**Physical properties are improved due to the semi reinforcing performance of NPCCA-206.**

**Benefits: Reduced volume formulation cost  
: Improved product quality**

**Features: Nano particle size  
Nano particle size distribution  
Regular particle shape  
Special surface treatment**

## **TYPICAL PROPERTIES**

Average Particle Size : 0.04-0.08 microns  
Specific Gravity : 2.7 g/cm<sup>3</sup>  
Bulk Density : 0.48 g/cm<sup>3</sup>  
Specific Surface Area (BET):  $\geq 20$  m<sup>2</sup>/g  
Whiteness :  $\geq 92\%$   
Oil absorption (DOP) : 25-40 ml/100g  
Particle shape : Cubic

## **CHEMICAL COMPOSITION**

CaCO<sub>3</sub> :  $\geq 98\%$   
Mg :  $\leq 0.1\%$   
Fe :  $\leq 0.1\%$   
Moisture (% weight lost @ 110deg C) :  $\leq 0.5\%$   
Surface coating agent: Coupling agent

## **CLASIFICATION**

Molecular Formula: CaCO<sub>3</sub>  
CAS No.: 471-34-1  
H.S.Code: 2836500000

**Packing: it is packed in 25kg Kraft paper bag or 500-1000 jumbo bag**

**Storage: store in a cool, dry conditions and keep away from direct heat source and**

Sunlight. When not using the material always seal the packing.  
Shelf life: 12 months when stored in seal packing under above mentioned conditions.  
Supply: 24 MT per 40' container.

## **PLASTICS: PLASTIC COMPOUNDING & PLASTIC MASTERBATCH:**

### **NPCCA-601: NANO PRECIPITATED CALCIUM CARBONATE**

It is a super ultra fine and very narrow particle size distribution precipitated calcium carbonate specially formulated as functional filler and extender in plastic compound.

#### **Applications:**

The super ultra fine particle size and narrow particle size distribution permit exceptionally high filler loading without compromising impact strength or ductility.

1) It has the following beneficial applications; In PLASTIC COMPOUNDING as reinforcing functional filler in extruded weatherable Profiles, Conduits and Pipes. It typically can substitute upto 20% of existing reinforcing Additives such as CPE, MBS or SBS.

2) In plastic master batch as pigment / TiO<sub>2</sub> / color extender in PVC, PP, PE, etc. It typically can substitute up to 25% of existing pigment with opacity and whiteness level maintained. Best results can be achieved with good mixing to produce good dispersion and distribution of fine particles in the polymer system.

In PLASTIC MASTERBATCH (PE, PP MASTERBATCH) Best results can be achieved with good mixing to produce good dispersion and distribution of fine particles in the polymer system.

**Features:** Nano particle size, narrow particle size distribution, Regular particle shape, Special surface treatment.

**Benefits:** Reduced volume formulation cost, Minimized impact modified loading, improved product quality (Impact strength, surface gloss etc)

China's PVC building materials market is also growing substantially as a result of China's continuing urbanization drive and growing real estate market. When modified with a surface coating agent, NPCC becomes oleophilic and hydrophobic. The surface coating agents for plastics include fatty acid and a coupling agent, and they are compatible with organic substances. As a result, the modified NPCC can be used to fill in plastics such as PVC to increase their glossiness. Applying modified NPCC to plastics has many positive effects, such as increased strength, heat resistance and dimension stabilization. More importantly, such application reduces the overall cost substantially.

### **TYPICAL PROPERTIES**

Average Particle Size : 0.04-0.08 microns  
Specific Gravity : 2.7 g/cm<sup>3</sup>  
Bulk Density : 0.48 g/cm<sup>3</sup>  
Specific Surface Area (BET): ≥20 m<sup>2</sup>/g  
Whiteness : ≥92%  
Oil absorption (DOP) : 25-40 ml/100g  
Particle shape : Cubic

### **CHEMICAL COMPOSITION**

CaCO<sub>3</sub> : ≥95%  
Mg : ≤0.1%  
Fe : ≤0.1%  
Moisture (% weight lost @ 110deg C) : ≤0.5%  
Surface coating agent : Coupling agent

### **CLASIFICATION**

Molecular Formula : CaCO<sub>3</sub>  
CAS No.: 471-34-1  
H.S.Code: 2836500000

### **PRINTING INKS**

**FUNCTIONAL NANO CALCIUM CARBONATE FOR INK** - is a surface treated super ultra fine and very narrow particle size distribution Precipitated calcium carbonate specially formulated as functional additive in ink.

**INK INDUSTRY:** includes SOLVENT INK, OFFSET INK OR LITHOGRAPHIC INKS. In highly filled litho inks, they can serve as the main rheological additive and cost Reducing filler. In lightly filled offset inks, they can extend other more expensive Thickeners, as well as replace oils and varnishes. It thickens, PVC PLASTISOL SILK SCREEN INKS. GRAVURE INKS need very low abrasion fillers. Small particle Sized NPCC is excellent here.

NCARB-11 is a surface treated super ultra fine and very narrow particle size distribution Precipitated calcium carbonate specially formulated as functional additive in INK.

INK INDUSTRY includes SOLVENT INK and OFFSET ink.

NCARB-11 is used in Lithographic or Offset Inks.

In highly filled litho inks, they can serve as the main rheological additive and cost Reducing filler. In lightly filled offset inks, they can extend other more expensive

thickeners, as well as replace oils and varnishes. NCARB-11 thickens PVC Plastisol silk screen inks. Grauvre needs very low abrasion fillers. Small particle Sized NPCC is excellent here.

**Features:** Nano particle size , Nano particle size distribution ,Regular particle shape, Special surface treatment,Reduced volume formulation cost  
Improved product quality

### **TYPICAL PROPERTIES**

Average Particle Size : 0.04-0.08 microns  
Specific Gravity : 2.7 g/cm<sup>3</sup>  
Bulk Density : 0.40 g/cm<sup>3</sup>  
Specific Surface Area (BET): ≥20 m<sup>2</sup>/g  
Whiteness : ≥75%  
Oil absorption (DOP) : 35-45 ml/100g  
Particle shape : Cubic

### **CHEMICAL COMPOSITION**

CaCO<sub>3</sub> : ≥93%  
Mg : ≤0.1%  
Fe : ≤0.1%  
Moisture (% weight lost @ 110deg C) : ≤0.3%  
Surface coating agent : Rosin acid

### **CLASSIFICATION**

**Molecular Formula :** CaCO<sub>3</sub>  
**CAS No.:** 471-34-1

**Packing:** it is packed in 25kg kraft paper bag or 500-1000 jumbo bag

**Storage:** store in a cool, dry conditions and keep away from direct heat source and **Sunlight.** When not using the material always seal the packing.

**Shelf life:** 12 months when stored in seal packing under above mentioned conditions

### **RUBBER:-**

#### **FUNCTIONAL NANO PRECIPITATED CALCIUM CARBONATE for**

#### **RUBBER TIRE:**

**NPCCA-602** is a surface treated, super ultra fine and very narrow particle size distribution precipitated calcium carbonate specially formulated as functional filler in Rubber Products.

- **Applications:**

- In the sidewall and cord ply compounds of bias tire (+5-8 phr NPCC);
- In the tread compound and inner liner of radial tire (+4 phr NPCC);

- In the butyl inner tube, Meanwhile (+15-20 phr NPCC);
- Cycle Tire.
- With adjusting the quantity of carbon black and softener properly.
- PVC cables and wires

**Benefits :** Nano particle size

Nano particle size distribution

Regular particle shape

Special surface treatment

Reduced volume formulation cost

Improved the physical and processing properties of rubber compounds.

Improved the air tightness and ageing resistance of butyl inner tube and the inner liner of radial tire.

Enhanced the flex resistance of Rubber compound.

Nano calcium carbonate has reinforcement function. However comparison with carbon black, nano calcium carbonate has no obvious advantages in reinforcement function.

Our nano calcium carbonate is mainly used in inner tube of radial tire and butyl tube.

**The Benefits:**

- 1) Improve the air-tightness (very important for butyl tube)
- 2) Improve stiffness
- 3) Reduce permanent set, butyl not easy to deform or inflate
- 4) Reduce cost of rubber compound.

The application of an active nano-calcium carbonate in tire was experimentally investigated. The results showed that the processibility of rubber compound and the physical properties of vulcanizate improved by adding 5-8 phr active nano-calcium carbonate in the sidewall and carcass ply compounds of bias ply tire and adjusting the addition level of carbon black and softener properly; the comparable tear strength, abrasion resistance and other physical properties of vulcanizate and the better extrudability were obtained by adding 4 phr active nano-calcium carbonate in the tread compound of radial tire; and the production cost reduced.

NPCC is highly compatible with rubber if modified by a surface coating agent. It fills the spatial structure in rubber and enhances the property of rubber products. It can be used solely as a filler, which has a reinforcing effect, and it also can be applied with other fillers such as precipitated calcium carbonate, argil and titanium oxide for reinforcement, filling, improving the process and property of products and reducing rubber content. NPCC can be used to partially substitute some expensive materials

such as titanium oxide and silicon dioxide. Currently, we are the only Chinese manufacturer of NPCC that is able to supply the tire market.

### **TYPICAL PROPERTIES**

Average Particle Size : 0.04-0.08 microns  
Specific Gravity : 2.7 g/cm<sup>3</sup>  
Bulk Density : 0.48 g/cm<sup>3</sup>  
Specific Surface Area (BET): ≥20 m<sup>2</sup>/g  
Whiteness : ≥92%  
Oil absorption (DOP) : 25-40 ml/100g  
Particle shape : Cubic

### **CHEMICAL COMPOSITION**

CaCO<sub>3</sub> : ≥98%  
Mg : ≤0.1%  
Fe : ≤0.1%  
Moisture (% weight lost @ 110deg C): ≤0.5%  
Surface coating agent : Coupling agent

### **CLASIFICATION**

Molecular Formula : CaCO<sub>3</sub>  
CAS No.: 471-34-1

**Packing:** it is packed in 25kg kraft paper bag or 500-1000 jumbo bag

**Storage:** store in a cool, dry conditions and keep away from direct heat source and **Sunlight**. When not using the material always seal the packing.

**Shelf life:** 12 months when stored in seal packing under above mentioned conditions.

**Supply:** 24 mt per 40' container.

### **KAOLIN:**

**We also offer:**

**CALCINED KAOLIN in flake form, high whiteness, good dispersability, excellent hiding Power, super suspension properties.**

We use high quality raw materials from Shanxi to produce calcined kaolin. Our calcined kaolin is in flake form, high whiteness, good dispersability, excellent hiding power, super suspension properties

### **APPLICATIONS:**

- 1) Coatings
- 2) Paints
- 3) Paper coatings
- 4) Ceramics

- 5) Rubber
- 6) Plastics

**Advantages:**

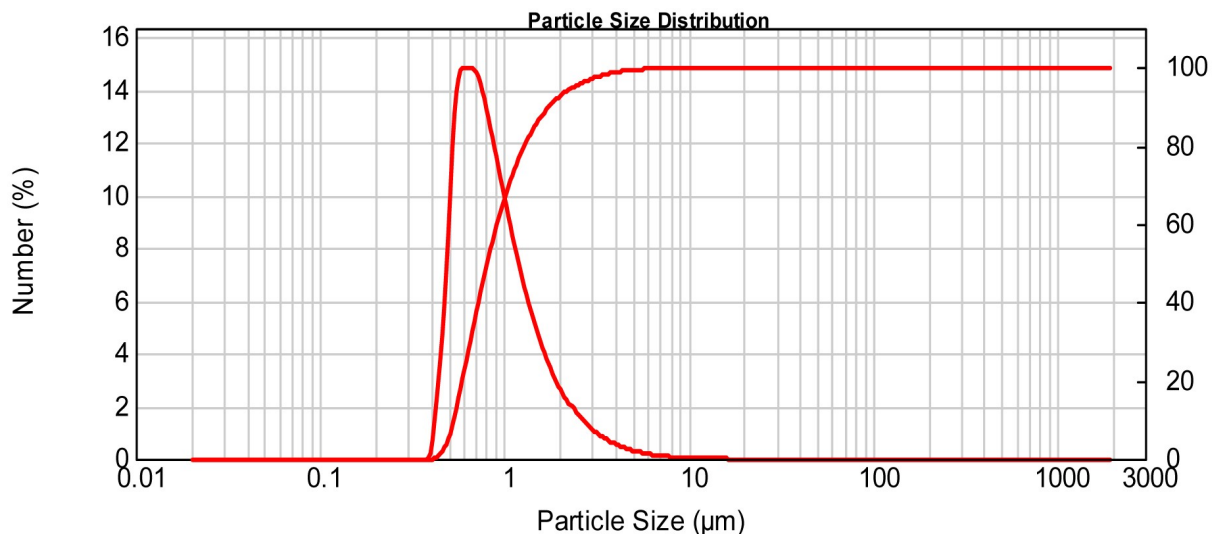
- 1) Replace Rutile  $TiO_2$  for cost down purpose
- 2) Improve suspension property of coating, good stability of coatings
- 3) Improve opacity of coatings and fastness of coating film, good scrub Resistance and chalk resistance.
- 4) Good electricity insulation, resistance acid and alkali.

**PHYSICAL PROPERTIES**

Bulk density ( $g/cm^3$ )	0.6-0.8
Whiteness (%)	92 min
325mesh residue (%)	0.05 max
pH	6-7
Moisture (%)	0.3 max
Oil absorption (g/100g)	55±5
10 $\mu m$ (%)	90 min

**CHEMICAL PROPERTIES**

$SiO_2$ (%)	52±1
$Al_2O_3$ (%)	45±1
$Fe_2O_3$ (%)	0.3 max
$TiO_2$ (%)	0.5 max
CaO (%)	0.2 max
$Na_2O$ (%)	0.1 max



## ADVANTAGES

- 1) Replace Rutile TiO<sub>2</sub>, for cost down purpose;;
- 2) Improve suspension property of coating, good stability of coatings;
- 3) Improve opacity of coatings and fastness of coating film, good scrub resistance and chalk-resistance.
- 4) Good electricity insulation, resistance acid and alkali.

## PACKING

25Kg bag  
Or according customer's request.

## CLASSIFICATION

CAS NO.	1332-58-7
H.S.CODE	2507.0010

## STORAGE

Store in cool, dry condition and keep away from direct heat and sunlight. When not using the material, ensure that the packings are sealed.

## SHELF LIFE

At least 12 months when stored in sealed packing under above mentioned condition.

## SUPPLY

20'FCL = 20MT palletised

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