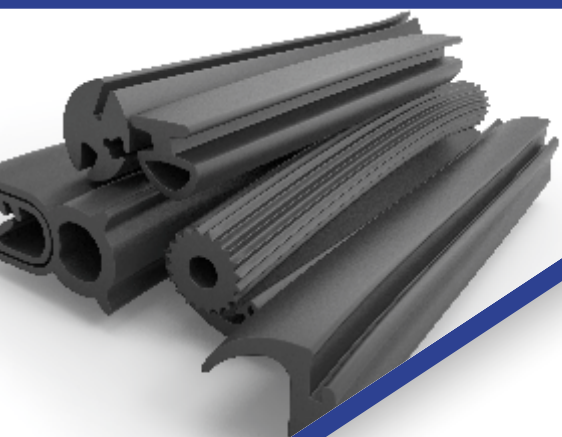




**TEPE**  
K I M Y A



**Calcium  
Oxide**

**Product  
Catalogue  
2020**



## Calcium Oxide (Hygroscope P)

Hygroscope-P is Calcium Oxide in powder form, with a purity of 95 %.

The function of Hygroscope-P is to absorb moisture and eliminate moisture related problems in plastics and rubber applications.

It can be used as a desiccant in PE/PP masterbatches, rubber compounds and PVC plastisols. Calcium Oxide forms Calcium Hydroxide once it absorbs water.

Applications for Calcium Oxide are listed as follows:

- Desiccant masterbatch production
- Filler masterbatch to extend the shelf life of the product and to absorb moisture in raw materials
- Plastics recycling
- Pressureless, continuous curing systems such as microwave, LCM, hot air and fluid beds.
- Wastewater treatment
- Low pressure curing in the cable industry
- Construction chemicals where moisture must be eliminated

### PROPERTIES

**Chemical Characteristics :** Calcium oxide

**Appearance** : White, powder

**CaO %** : 95 ±2

**SiO<sub>2</sub> (%)** : 0.02 Max.

**MgO (%)** : 0.8 Max.

**Al<sub>2</sub>O<sub>3</sub> (%)** : 0.20 Max.

**Fe<sub>2</sub>O<sub>3</sub> (%)** : 0.02 Max

**Particle size** : x10= 0.63 µm

x50= 1.30 µm

x90= 11.36 µm

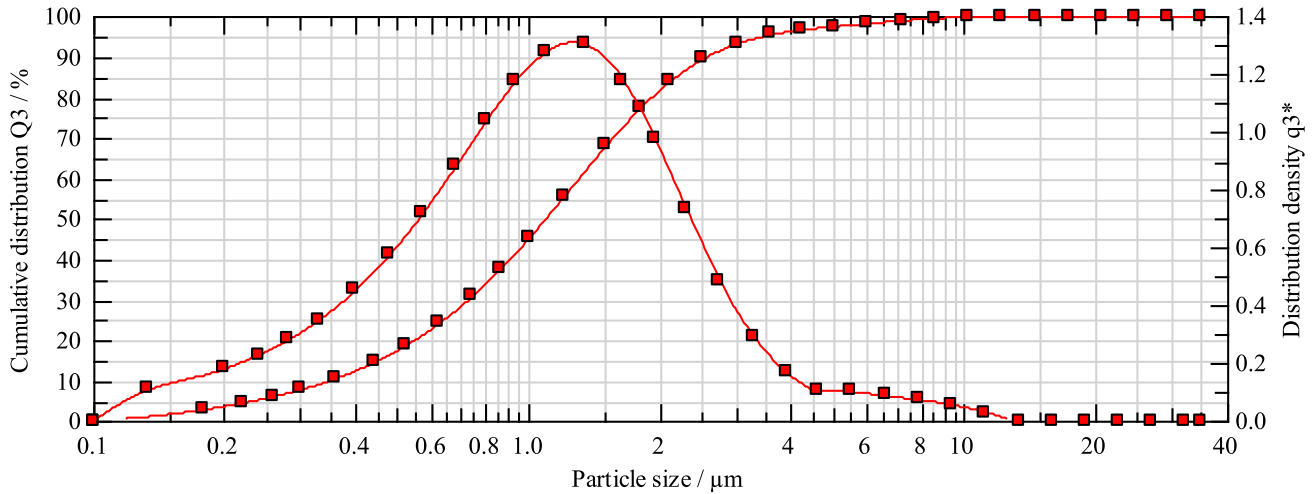
**Shelf Life** : One year from the date of manufacture

**Packing** : 1 kg or 5 kg EVA bags placed in a carton box, totaling 25 kg product  
25 kg or 1 MT PE lined bigbags

## Hygroscope-P (Calcium Oxide)

### Particle Size Distribution

$x_{10} = 0,35 \mu\text{m}$      $x_{50} = 1,09 \mu\text{m}$      $x_{90} = 2,58 \mu\text{m}$     **SMD** =  $0,73 \mu\text{m}$     **VMD** =  $1,41 \mu\text{m}$   
 $x_{16} = 0,47 \mu\text{m}$      $x_{84} = 2,11 \mu\text{m}$      $x_{97} = 4,65 \mu\text{m}$      $S_V = 8,20 \text{ m}^2/\text{cm}^3$      $S_m = 30261,39 \text{ cm}^2/\text{g}$   
 $x_{99} = 7,65 \mu\text{m}$      $x_{100} = 12,20 \mu\text{m}$



According to FDA 21 CFR 184.1210 regulation, Calcium Oxide is categorized as GRAS (Generally Recognized as Safe) product; therefore, Calcium Oxide can be used in plastics that may be in contact with food.

Calcium oxide is listed as an additive that is allowed for use in plastic materials and articles intended to come into contact with food in Annex 1 of the Commission regulation (EU) No. 10/2011.

#### Desiccant masterbatch

Calcium Oxide is the active ingredient in desiccant masterbatch production. Desiccant masterbatch is a plastic dehumidifier for recycled materials. It is a functional masterbatch designed to absorb the moisture in plastics applications in order to eliminate moisture related problems.

Recommended formula for desiccant masterbatch

40- 60 %	<b>Calcium Oxide (Hygroscope-P/UP/PW)</b>
20-40 %	<b>Calcium Carbonate</b>
15-20 %	<b>PE-PP</b>
2-3 %	<b>Lubricant</b>



Desiccant masterbatch in vacuum bag



Hygroscope-P/UP products are REACH registered.



## Hygroscope-PW (Calcium Oxide coated with paraffinic oil)

Hygroscope-PW is a non-dusting calcium oxide powder coated with paraffinic oil to delay reactivity. Coating with paraffinic oil eliminates dust and assists the dispersion of Calcium Oxide.

It is used to delay reactivity and act as a desiccant in rubber compounds cured pressureless i.e. microwave system, LCM hot air or fluid bed. Hygroscope-PW forms Calcium Hydroxide once it absorbs water.

**Hygroscope-PW can be used to absorb moisture and prevent blisters & porosity in the following processes:**

- Desiccant masterbatch production
- Filler masterbatch to extend the shelf life of the product and to absorb moisture in raw materials
- Plastics recycling
- Pressureless, continuous curing systems like microwave, LCM, hot air, fluid beds and low pressure curing in the cable industry.

### PROPERTIES

**Chemical Characteristics** : Calcium oxide coated with paraffinic oil

**Appearance** : Light grey, non-dusting powder

**CaO content** : 85 %  $\pm 2$

**Density** : approx. 2.37 g/cm<sup>3</sup>

**Storage Stability** : One year from the date of manufacture

**Packing** : 25 kg PE lined bags.

## Packaging/Palletizing



Hygroscope-P 1 kg bags in carton box



Hygroscope-P 25 kg PE lined bags front side



Hygroscope-P 25 kg PE lined bags



Hygroscope-P 25 kg PE lined bags on a pallet.



Hygroscope-P in 1 MT bigbag



Hygroscope-P 1 MT bigbags loaded on a pallet.

### Loading into truck and containers

Loading information	1 kg EVA bags (25 x 1 kg in a carton box)	5 kg EVA bags (5 x 5 kg in a carton box)	25 kg PE lined bags	1MT bigbag
Loading on a pallet	25 kg x 45 boxes, 1125 kg	25 kg x 45 boxes, 1125 kg	1.2 MT	1 MT
Full truck with pallets	22.5 MT	22.5 MT	24 MT	22 MT
20 FCL with pallets	11.25 MT	11.25 MT	24 MT	20 MT
40 FCL with pallets	22.5 MT	22.5 MT	25 MT	25 MT

## Tepe Kimya Turkey



### **TURKEY**

**Tepe Kimya San. ve Tic.A.S.**

**Factory:** Sakarya 2. OSB 7. Cad. No: 11

Hendek, Sakarya

TURKEY 54300

**Factory Tel:** +90-264-290-5101

**Turkey Office:** Bilmo Sanayi Sitesi No: 2/28

Aydınlı Mah. Melodi Sk.

Tuzla, Istanbul, TURKEY 34953

**Office Tel :** +90-216-593-1920

**Office Fax:** +90-216-593-1925

**E-mail :** info@tepekimya.com

## Tepe Kimya Malaysia



### **MALAYSIA**

**Tepe Kimya (M) Sdn. Bhd.**

Plo 661, Jalan Platinum Utama,

Platinum Business Park,

81700 Pasir Gudang, Johor,

Malaysia.

**Tel :** +60 7-251 7844

**Fax:** +60 7-251 7848

**E-mail :** info@tepekimya.com