

USG CAS-20[®]-4

ANHYDROUS CALCIUM SULFATE FILLER

SOUTHARD, OK

Extremely white, finely divided particulate filler

- High purity, whiteness
- Soft, low abrasion
- Resistance to weak acids
- Improved UV resistance
- Excellent impact properties
- Good processibility
- Excellent Dielectric properties
- Lower specific gravity than barium sulfate

DESCRIPTION

USG CAS-20[®]-4 Anhydrous Calcium Sulfate Filler is manufactured from high purity gypsum rock using controlled calcination and fine grinding; the calcination process used greatly reduces its moisture affinity. USG CAS-20-4 Anhydrous Calcium Sulfate Filler can be used at high loadings and consistently provides an excellent balance of properties and good surface appearance. It is ideal for food packaging applications that require a filler with high purity and food acid resistance. USG CAS-20-4 Anhydrous Calcium Sulfate Filler can also be used as a partial replacement for titanium dioxide (TiO₂) because of its high brightness and opacity.

The narrow particle size distribution contributes to optimum impact properties in thermoplastics; USG CAS-20-4 Anhydrous Calcium Sulfate Filler finds success in a variety of thermoplastic, thermoset and plastisol systems. In addition, the low Mohs hardness minimizes abrasion to processing equipment. USG CAS-20-4 Anhydrous Calcium Sulfate Filler is available in 50 lb. bags or 2,000 lb. semibulk.

TYPICAL PHYSICAL PROPERTIES

Specific Gravity	3.0
pH—10% Slurry	10.8
Mohs Hardness ⁽¹⁾	2-3
Refractive Index ⁽¹⁾	1.6
Dielectric Constant ⁽¹⁾	5.6
Oil Absorption ⁽²⁾	24-26
Loose Bulk Density (lbs./ft. ³)	45
Packed Bulk Density (lbs./ft. ³)	65
L, a, b values ⁽³⁾	95.4, 0.5, 1.9
Median Particle Size (microns) ⁽⁴⁾	4.6
Top Particle Size (microns)	26
Typical Chemical Analysis	%
CaSO ₄	98.7
CaCO ₃ • MgCO ₃	0.5
CaCO ₃	0.3
Aggregate	0.3
Free Moisture at 113 °F (45 °C) ⁽⁵⁾	0.1
Combined Moisture at 437 °F (225 °C) ⁽⁵⁾	0.3

⁽¹⁾ Literature value

⁽²⁾ ASTM D1483, Gardner Coleman method, g oil/100 g filler

⁽³⁾ HunterLab Colorflex EZ Colorimeter L,a,b values

⁽⁴⁾ Microtrac S3500 FRA

⁽⁵⁾ Computrac Moisture Analyzer Max 2,000, 4,000, 5,000

TYPICAL PARTICLE SIZE DATA

Microtrac Analysis ⁽¹⁾	% Passing
26 microns	100.0
11 microns	94.0
5.5 microns	68.0
4.62 microns (median)	58.0
1.945 microns	14.0
0.972 micron	3.0

⁽¹⁾ Microtrac S3500 FRA

REGULATORY INFORMATION

USG CAS-20-4 is anhydrous calcium sulfate and is mined from high-purity gypsum rock. USG CAS-20-4 is safe to use as a filler in plastics that come in contact with food and complies with the following standards in the following countries. USG CAS-20-4 does not contain Per- or Polyfluoroalkyl Substances (PFAs).

Country, Region or Trade Group	Standard	Information
USA	FDA Title 21, Volume 3, Part 184	Anhydrous Calcium Sulfate is recognized as Generally Recognized As Safe (GRAS).
Europe	EU 10/2011	Anhydrous Calcium Sulfate is included in Article 6, section 3(a) (Page 16) as a Calcium Salt of Sulphuric Acid, which is listed as an authorized acid under FCM substance number 511 in ANNEX I (page 68).
France	French Positive List	Calcium Sulfate is allowed and listed under the Group C minerals section (page 240) of the French Positive List (Circulaire No 176 of 2 December 1959 and amendments).
China	China GB 9685	Anhydrous Calcium Sulfate (CAS 7778-18-9) is listed as an acceptable additive on page 172 of standard.
Japan	Japan MHLW Positive List	Notification No. 196 of 2020 regarding Revising Specifications and Standards for Foods, Food Additives, etc. on April 28, 2020. Table 1-2, Reference number 375, Serial number 1595 with CAS # 000778-18-9
MERCOSUR	Positive List of Additives for Plastic in Food Contact Materials	MERCOSUR/GMC/RES. No. 39/19. Anhydrous calcium sulfate is included as a calcium salt under Annex Section 4.3(a): "Salts (including double salts and acid salts) of ammonium, calcium, magnesium, potassium and sodium of authorized acids, phenols or alcohols."

Note: The information in this table for the standards is from April 2021.

STORAGE AND USE

When properly used, USG CAS-20-4 Anhydrous Calcium Sulfate Filler is easy to work with. Keep indoors at temperatures between 65 °F – 75 °F (18 °C – 24 °C) and 45% – 55% RH. Do not stack more than two pallets high. Keep from drafts. Rotate stock. USG CAS-20-4 Anhydrous Calcium Sulfate Filler should be used within one year of the manufacturing date located on the package. Always follow handling and use directions and safety warnings on the package.

PRODUCT INFORMATION

See usg.com for the most up-to-date product information.

CAUTION

Dust from mixing may cause irritation to eyes, skin, nose, throat and upper respiratory tract. Use only in a well-ventilated area, wear a NIOSH/MSHA-approved respirator. Wear eye protection. If eye contact occurs, flush thoroughly with water for 15 minutes. If on skin: Wash with plenty of water. If swallowed or irritation persists, call a physician. For more information call Product Safety: 800.507-8899 or see the SDS at usg.com
KEEP OUT OF REACH OF CHILDREN.

TRADEMARKS

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SAFETY FIRST!

Follow good safety/industrial hygiene practices during installation. Wear appropriate personal protective equipment. Read applicable SDSs and literature before specification and installation.

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