

API Specification 13A 18th Edition, August 2010

Specification for Drilling Fluids – Specifications and Testing

2.2 BARITE

Product: Barite

Grade: Drilling Grade

Product Description: API Specification 13A – 7.1.1

Drilling-grade barite is produced from commercial barium sulfate-containing ores. The manufacturer shall retain certificates of analysis or similar documentation on these commercial barium sulfate ores. It may be produced from a single ore or a blend of ores and may be a straight-mined product or processed by beneficiation methods, i.e. washing, tabling, jigging or flotation. It may contain accessory minerals in addition to the barium sulfate (BaSO₄) mineral. Because of mineral impurities, commercial barite can vary in colour from off-white to grey to red or brown.

Product Physical Requirements: API Specification 13A – 7.1.2

Drilling-grade barite shall be deemed to meet the requirements of this International Standard if a composite sample representing no more than one day's production conforms to the chemical and physical specifications of Table 2, represents the product produced and is controlled by the manufacturer.

Manufacturer Certificate Documentation: API Specification 13A – 7.1.1

The manufacturer shall retain certificates of analysis or similar documentation on these commercial barium sulfate ores.

Table 2 – Barite physical and chemical requirements

Requirement	Standard
Density	4,20 g/ml, minimum
Water-soluble alkaline earth metals, as calcium	250 mg/kg, maximum
Residue greater than 75 µm	Maximum mass fraction 3,0 %
Particles less than 6 µm in equivalent spherical diameter	Maximum mass fraction 30 %

Note: General Shipping & Marking Requirements are listed in the General Requirements Section of this Purchasing Guideline

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Product:	Barite 4.1
Grade:	Drilling Grade
Product Description:	API Specification 13A – 20.1.1 Drilling grade barite is produced from commercial barium sulfate-containing ores. It may be produced from a single ore or a blend of ores and may be a straight-mined product or processed by beneficiation methods, i.e. washing, tabling, jigging, or flotation. It may contain accessory minerals other than the barium sulfate (BaSO₄) mineral. Because of mineral impurities, commercial barite may vary in colour from off-white to grey to red or brown. Common accessory minerals are silicates such as quartz and chert, carbonate compounds such as siderite and dolomite, and metallic oxide and sulfide compounds. Although these minerals are normally insoluble, they can, under certain conditions, react with other components in some types of drilling fluids and cause adverse changes in the drilling fluid properties. (See Annex A for more details.)
Product Physical Requirements:	API Specification 13A – 20.1.5 Barite 4,1 shall be deemed to meet the requirements of this International Standard if a composite sample representing no more than one day's production conforms to the chemical and physical specifications of Table 19, represents the product produced, and is controlled by the manufacturer.
Manufacturer Certificate Documentation:	API Specification 13A – 20.1.1 The manufacturer shall retail certificates of analysis or similar documentation on these commercial barium sulfate ores.

Table 19 – Barite 4,10 physical and chemical requirements

Requirement	Standard
Density	4,10 g/ml, minimum
Water-soluble alkaline earth metals, as calcium	250 mg/kg, maximum
Residue greater than 75 µm	Maximum mass fraction, 3,0%
Particles less than 6 µm in equivalent spherical diameter	Maximum mass fraction, 30%

Note 1: End users should be aware that the material described in this clause has a lower density than ISO13500/API 13A, Clause 7 Barite (API Specification 13A – 20.1.3)

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Note 2: General Shipping & Marking Requirements are listed in the General Requirements Section of this Purchasing Guideline

Testing Product: Calibration barite

Grade: Calibration

Product Information: API Specification 13A – Annex B.1.2

Calibration barite and test calibration bentonite are available through the API offices (see 4.2.1) for use by laboratories to determine their test precision.

Note: Calibration barite can also be found in the General Requirements Section of this Purchasing Guideline