



TECHNICAL DATA SHEET (TDS)

DRILLING GRADE LIMESTONE (CALCIUM CARBONATE)

Manufacturer / Supplier:

BASEKIM KIMYASAL URUNLER IC VE DIS TIC. LTD. STI.

Product Name:

Drilling Grade Limestone (Calcium Carbonate)

Chemical Name:

Calcium Carbonate

Chemical Formula:

CaCO_3

CAS Number:

471-34-1

Product Type:

Acid-Soluble Weighting and Bridging Material for Drilling Fluids

1. PRODUCT DESCRIPTION

BASEKIM Drilling Grade Limestone is a premium-quality, naturally occurring calcium carbonate processed from high-purity limestone deposits. The product is finely ground and classified to provide consistent particle-size distribution for oilfield drilling applications.

The material functions as an acid-soluble weighting agent, bridging material, and lost circulation additive in water-based, oil-based, drill-in, completion, and workover fluids. Because calcium carbonate readily dissolves in hydrochloric acid, it minimizes formation damage and improves post-drilling cleanup.



2. APPLICATIONS

BASEKIM Limestone is recommended for:

- Oil & Gas Drilling Fluids
- Water Well Drilling
- Drill-In Fluids
- Completion Fluids
- Workover Fluids
- Bridging Applications
- Lost Circulation Control
- Fluid Loss Control
- Density Adjustment
- Cementing Systems
- Construction and Grouting Applications

3. PRODUCT FEATURES

- High purity natural calcium carbonate
- Acid soluble
- Chemically inert
- Excellent bridging characteristics
- Controlled particle size distribution
- Compatible with most drilling fluid systems
- Improves filter cake quality
- Minimizes formation damage
- Environmentally acceptable
- Non-toxic
- Low abrasive characteristics
- Suitable for freshwater and saltwater mud systems



4. TYPICAL CHEMICAL PROPERTIES

Property	Specification
Calcium Carbonate (CaCO_3)	$\geq 96.0\%$
Calcium Oxide (CaO)	53–56% (Equivalent)
Magnesium Carbonate (MgCO_3)	$\leq 2.0\%$
Silica (SiO_2)	$\leq 1.5\%$
Iron Oxide (Fe_2O_3)	$\leq 0.5\%$
Acid Insoluble Matter	$\leq 2.0\%$
Loss on Ignition	42–44%

5. PHYSICAL PROPERTIES

Property	Specification
Appearance	White to Off-White Powder
Odor	Odorless
Physical State	Solid Powder
Specific Gravity	2.70 ± 0.05
Bulk Density	$1.20\text{--}1.45 \text{ g/cm}^3$
pH (10% Slurry)	8.5–9.5
Moisture Content	$\leq 0.50\%$
Water Solubility	Slightly Soluble
Acid Solubility	Readily Soluble in HCl
Hardness (Mohs)	3

6. PARTICLE SIZE DISTRIBUTION

BASEKIM supplies multiple particle-size grades to suit different drilling applications.

Grade	Typical Size
Coarse	500–2000 μm
Medium	150–500 μm
Fine	45–150 μm



Grade	Typical Size
Ultra Fine	<45 μm
Customized Grades	Available upon request

Typical mesh sizes available:

- 100 Mesh
- 200 Mesh
- 325 Mesh
- Customized PSD

7. PERFORMANCE BENEFITS

- Effective weighting material
- Excellent bridging efficiency
- Acid-soluble for easy well cleanup
- Reduces fluid invasion
- Improves wellbore stability
- Forms thin, impermeable filter cake
- Compatible with polymers and drilling additives
- Lowers formation damage risk
- Maintains drilling fluid performance
- Easy mixing and handling

8. RECOMMENDED TREATMENT

Treatment concentrations depend on:

- Mud density
- Formation permeability
- Particle size selection
- Bridging requirements
- Lost circulation severity

Typical concentrations:



- Weighting Applications: As required to achieve desired mud weight
- Bridging Applications: 5–50 lb/bbl (14–143 kg/m³)
- Lost Circulation Pills: Based on drilling program and particle-size blend

9. COMPATIBILITY

Compatible with:

- Fresh Water Mud
- Salt Water Mud
- Potassium Mud
- Polymer Mud
- KCl Mud
- Drill-In Fluids
- Completion Brines
- Workover Fluids
- Most commercial drilling additives

10. QUALITY CONTROL

Each production batch is routinely tested for:

- Calcium Carbonate Purity
- Particle Size Distribution
- Moisture Content
- Specific Gravity
- Bulk Density
- Acid Insoluble Matter
- Appearance

Certificate of Analysis (COA) available upon request.

11. PACKAGING

Standard packaging options:

- 25 kg PP Laminated Bags
- 50 kg Bags



- 1 MT Jumbo Bags
- Bulk Loading

Private label packaging available.

12. STORAGE

Store in:

- Cool, dry location
- Covered warehouse
- Original sealed packaging

Protect from:

- Moisture
- Rain
- Direct sunlight
- Contamination

Shelf Life:

Minimum 24 months under recommended storage conditions.

13. SAFETY

- Non-toxic
- Non-flammable
- Chemically stable
- Avoid excessive dust generation during handling.
- Use suitable dust masks and eye protection when handling bulk powder.
- Refer to the applicable Safety Data Sheet (SDS) before use.



14. ADVANTAGES

- High purity limestone
- Consistent quality
- Excellent acid solubility
- Stable performance
- Cost-effective
- Suitable for all drilling environments
- Low environmental impact
- Reliable supply
- Multiple particle-size grades available
- Export-quality product

15. TYPICAL INDUSTRY STANDARDS

Suitable for use in accordance with applicable oilfield drilling specifications and customer requirements for acid-soluble calcium carbonate weighting and bridging materials.