

TECHNICAL DATA SHEET

Ammonium Sulfate

Feed Grade Nitrogen and Sulfur Source for Ruminant Feed and Mineral Premixes

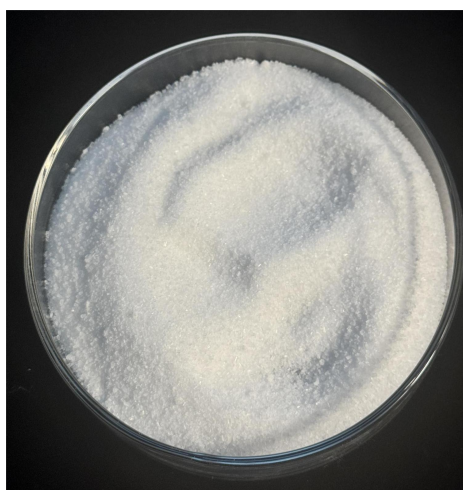
Product Description

Ammonium Sulfate is an inorganic ammonium salt supplied as fine, free-flowing crystals. In feed applications, it is mainly used as a controlled source of non-protein nitrogen and sulfur, especially in ruminant nutrition and mineral premix systems. The product provides ammonium nitrogen that can be utilized by rumen microorganisms under suitable diet conditions, while sulfur helps support microbial protein synthesis and normal sulfur-containing amino acid metabolism. It is also valued for stable quality, good solubility, easy handling, and compatibility with common feed ingredients.

1. Product Identification

Product Name	Ammonium Sulfate
Chemical Name	Ammonium sulfate / Diammonium sulfate
CAS No.	7783-20-2
Molecular Formula	(NH ₄) ₂ SO ₄
Molecular Weight	132.14 g/mol
HS CODE	310221
Grade	Feed Grade
Appearance	Fine crystal, free flowing
Primary Function	Nitrogen and sulfur source for ruminant feed, mineral premixes, and feed applications

UNIT:MT	Covered the pallets	Without pallets
20°FCL	24	27
40°FCL	28	28



2. Typical Specification

Items	Standard
Appearance	Fine crystal, free flowing
Total Nitrogen (N)	20.5% min
Sulphur (S)	24.0% min
Free Acid (H ₂ SO ₄)	0.05% max
Moisture (H ₂ O as fraction)	0.5% max
Water Insoluble	0.5% max
Chloride (Cl ⁻)	1.0% max
Fluoride (F)	500 ppm max
Hg	5 ppm max
As	10 ppm max
Pb	50 ppm max
Cd	10 ppm max
Cr	50 ppm max

3. Applications and Benefits

Non-protein nitrogen support in ruminant nutrition

Ammonium Sulfate can be used in ruminant feed as a source of non-protein nitrogen when the diet is properly balanced with fermentable energy and other nutrients. In the rumen, ammonia nitrogen may be used by microorganisms to synthesize microbial protein, which later contributes to the animal's usable protein supply. This function is especially relevant in cattle, sheep, and goat feed programs where nutritionists need to optimize nitrogen sources and support rumen fermentation. The ingredient should be incorporated into complete formulas, concentrates, or premixes under professional formulation control. Uniform mixing is important because nitrogen sources must be distributed evenly in the finished feed. Ammonium Sulfate should not be used as a simple replacement for true protein, but as part of a carefully designed ruminant nutrition strategy.

Sulfur supply for rumen microbial activity

Sulfur is an essential mineral element involved in rumen microbial growth and the formation of sulfur-containing amino acids. Ammonium Sulfate provides both ammonium nitrogen and sulfate sulfur, making it useful in ruminant formulas where the sulfur balance needs to be adjusted. Adequate sulfur availability can support normal microbial protein synthesis, fiber digestion, and overall rumen function when energy, nitrogen, minerals, and vitamins are appropriately balanced. It is commonly considered in diets containing non-protein nitrogen sources or ingredients with variable sulfur contribution. Because excessive sulfur may create nutritional or management concerns, the total sulfur level of the complete diet should always be evaluated. The product is best used under formulation guidance and in compliance with local feed regulations and customer specifications.

Use in mineral premixes and compound feed production

Ammonium Sulfate has good solubility and a crystalline, free-flowing physical form, which makes it convenient for use in mineral premixes, concentrates, and compound feed systems. It can be blended with carriers, macro minerals, trace minerals, vitamins, and other feed additives when compatibility and moisture control are properly managed. In feed manufacturing, its stable quality and simple handling support consistent dosing and distribution. The ingredient is suitable for formulas designed for ruminants and may also be used in specialized feed applications where nitrogen and sulfur supply are required. During production, attention should be paid to particle size matching, mixing sequence, storage humidity, and segregation prevention. Good manufacturing practice helps maintain uniformity, reduce caking risk, and ensure that the final feed meets the intended specification.

Quality control and formulation flexibility

For feed producers, Ammonium Sulfate offers a practical mineral nitrogen and sulfur source with clear analytical specifications. Key quality parameters include total nitrogen, sulfur content, free acid, moisture, water insoluble matter, chloride, fluoride, and heavy metal limits. These indicators help confirm product consistency and suitability for feed-related use. Because feed formulations differ by species, production stage, forage quality, and local regulation, the ingredient provides flexibility but should be applied according to nutritional targets rather than used indiscriminately. It can help formulators adjust nitrogen and sulfur balance in ruminant diets while maintaining cost efficiency and manufacturing convenience. Finished feed performance depends on the complete formulation, raw material quality, mixing uniformity, feeding management, and animal condition, so product suitability should be verified through technical evaluation and practical trials.

4. Handling and Safety

Avoid inhalation of dust during handling. Use appropriate ventilation, dust mask, gloves, and eye protection where necessary. Wash hands after use and follow good industrial hygiene practice. The product is intended for feed-related use only and should be handled according to local feed safety regulations, the customer's quality management system, and applicable material safety guidance.