TECHNICAL DATA SHEET

Nitric Acid 65%ACS Grade

Revised: 08/10/2026

PRODUCT IDENTIFICATION

Product Name: Nitric Acid 65%ACS Grade
CAS Number: 7697-37-2
Molecular Formula: HNO_3
Molecular Weight: 63.013 g/mol
Grade: ACS Grade
Purity / Concentration: 65%
Synonyms: Nitric Acid Solution, Aqueous Nitric Acid

PRODUCT OVERVIEW

Nitric Acid 65% ACS Grade is a high-purity, aqueous solution essential for sensitive laboratory and industrial processes. With an assay of 65% and extremely low trace metal content, such as 3 ppm of Iron and non-detected levels of Arsenic, it provides the reliability needed for rigorous chemical applications.

Grade Significance: ACS Grade signifies that the product meets the stringent purity standards set by the American Chemical Society, ensuring it is suitable for demanding laboratory and analytical work where high quality is non-negotiable.

CERTIFICATE OF ANALYSIS — TYPICAL VALUES

PARAMETER	UNIT	TYPICAL	MIN	MAX	TEST METHOD
Assay (Titration)	%	65	64	66	Titration
Color (APHA/Hazen)	APHA	12	0	25	Spectrophotometry
Specific Gravity (20°C)	g/mL	1.391	1.388	1.392	Hydrometer @ 25°C
Residue On Evaporation	ppm	1	—	2	Evaporation
Arsenic (As)	ppm	ND	—	0.01	Per specification
Heavy Metals As Pb	ppm	ND	0	0.5	ICP-MS (as Pb)
Iron (Fe)	ppm	3	0	5	ICP-MS
Chloride Cl	ppm	ND	—	0.05	ICP
Sulfate So4	ppm	1	—	3	ICP

Values based on 2 batches tested. ND = Not Detected.

PHYSICAL & CHEMICAL PROPERTIES

Appearance	Colorless to pale yellow liquid	**Odor**	Pungent, acrid odor
Form	Liquid	**Boiling Point**	Not characterized for the 65% solution
Melting / Freezing Point	Not characterized for the 65% solution	**Specific Gravity**	1.391
Solubility	Soluble in water, alcohol, and ether	**Molecular Formula**	HNO_3
Molecular Weight	63.013 g/mol	**Vapor Pressure (20°C)**	5 mmHg
Viscosity (25°C)	1.2 cP	**Refractive Index (20°C)**	1.36
Density (25°C)	1.41 g/mL	**Partition Coefficient (log P)**	-0.5 to -0.3
Decomposition Temp.	No definite decomposition below 100°C; decomposes on heating		

APPLICATIONS

1. **Analytical Chemistry** — This grade is frequently used as a mobile phase component in high-performance liquid chromatography for the precise separation of organic compounds.
2. **Agriculture and Mining** — It serves as a key chemical precursor in the production of nitrates, which are fundamental to manufacturing fertilizers and explosive materials.
3. **Metalworking** — The acid acts as a powerful etching agent, allowing for controlled surface treatment and cleaning of various metal substrates in manufacturing.
4. **Environmental Services** — It is utilized for effective pH adjustment in wastewater treatment facilities to ensure compliance with environmental safety standards.

STORAGE & HANDLING

Proper storage is critical because Nitric Acid is a strong oxidizer that can intensify fires and is highly corrosive to many metals and human tissue. It must be stored in a cool, well-ventilated area in compatible containers to prevent dangerous reactions and ensure the integrity of the chemical.

- Store in a cool, dry, well-ventilated area away from incompatible substances.
- Use materials compatible with nitric acid, such as HDPE or glass containers.
- Avoid contact with reducing agents, organic materials, and bases.
- Protect from light and moisture to maintain stability.
- Wear appropriate personal protective equipment (PPE) including gloves and goggles.

AVAILABLE PACKAGING

- 1 Liter
- 2.5 Liter
- 55 Gallon

SAFETY SUMMARY (CROSS-REFERENCE TO SDS)

Signal Word: Danger

Hazard Statements:

- EUH071: Corrosive to the respiratory tract
- H272: May intensify fire; oxidiser
- H290: May be corrosive to metals
- H314: Causes severe skin burns and eye damage
- H331: Toxic if inhaled
- H271: May cause fire or explosion; strong oxidizer

Emergency Contact: CHEMTEL - 800-255-3924 (24 Hours/Day, 7 Days/Week)

For complete safety information, refer to the Safety Data Sheet (SDS) for this product.

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