



Nitric Acid TDS

Product Identification

Item	Specification
Product Name	Nitric Acid
Chemical Name	Nitric Acid
Chemical Formula	HNO ₃
CAS Number	7697-37-2
EC Number	231-714-2
Molecular Weight	63.01 g/mol
Product Type	Strong inorganic acid
Supplier	ATDM

Typical Technical Specifications

Property	Typical Specification
Appearance	Clear to pale yellow liquid
Nitric Acid Content	55–68% depending on grade
HNO ₃ Assay	As per ordered concentration
Density at 20°C	Approx. 1.34–1.41 g/cm ³ depending on concentration
Color	Colorless to light yellow
Solubility in Water	Completely miscible
Odor	Sharp, pungent
Acidity	Strongly acidic
Residue on Ignition	Low
Iron (Fe)	Typically low, grade dependent
Chloride (Cl ⁻)	Controlled according to grade
Sulfate (SO ₄ ²⁻)	Controlled according to grade
Heavy Metals	According to agreed specification
Oxidizing Property	Strong oxidizer



Common Commercial Concentrations

Nitric Acid is commonly supplied in several concentration ranges according to industrial demand.

Grade	Typical HNO ₃ Concentration
Dilute Grade	50–55%
Industrial Grade	55–60%
Concentrated Grade	60–65%
Standard Concentrated Grade	Approx. 68%

ATDM can supply available concentrations based on customer requirements and order quantity.

Physical Properties

Property	Typical Information
Physical State	Liquid
Appearance	Clear to slightly yellow
Molecular Formula	HNO ₃
Molecular Weight	63.01 g/mol
Relative Density	Depends on concentration
Boiling Point	Depends on concentration
Freezing Point	Depends on concentration
Solubility	Fully soluble in water
Flammability	Non-flammable
Oxidizing Character	Strong
Vapor Character	Corrosive and irritating

Main Applications

Nitric Acid supports a wide range of industrial processes, including:

- Fertilizer manufacturing
- Ammonium nitrate production
- Chemical synthesis
- Metal treatment
- Stainless steel passivation
- Mineral processing



- Laboratory analysis
- Sample digestion
- Electronics manufacturing
- Industrial oxidation processes
- Nitration processes
- Production of inorganic nitrate compounds

Quality Requirements

Industrial buyers should define the required:

- HNO₃ concentration
- Purity level
- Maximum iron content
- Chloride limit
- Sulfate limit
- Heavy-metal limits
- Required packaging
- Application
- Destination country

ATDM can provide a relevant **Certificate of Analysis (COA)** based on the supplied batch.

Packaging

Nitric Acid requires chemically resistant and approved packaging.

Available packaging may include:

- Suitable chemical-resistant drums
- Approved intermediate containers
- Specialized tank systems
- Bulk transportation solutions

Packaging options depend on concentration, order quantity, destination regulations, and transportation method.



Storage Conditions

Store Nitric Acid in a cool, dry, secure, and well-ventilated area.

Keep the product away from:

- Organic materials
- Combustible substances
- Reducing agents
- Alkalis
- Reactive metals
- Incompatible chemicals

Use only suitable corrosion-resistant storage systems.

Keep containers tightly closed when not in use.

Handling Recommendations

Operators should use proper PPE and suitable chemical-resistant equipment.

Recommended protection includes:

- Chemical-resistant gloves
- Safety goggles
- Face shield
- Protective clothing
- Acid-resistant footwear
- Suitable respiratory protection when required

Use adequate ventilation during transfer and handling.

Shelf Life

Shelf life depends on concentration, packaging, storage conditions, container compatibility, and exposure to heat or contaminants.

Customers should store the material under recommended conditions and follow the supplier's batch-specific guidance.



Technical Documentation

ATDM can provide, subject to order and product grade:

- Technical Data Sheet
- Safety Data Sheet
- Certificate of Analysis
- Commercial Invoice
- Packing List
- Shipping Documentation
- Origin Documentation where applicable

Supplier Information

ATDM supplies and exports Nitric Acid for industrial and commercial applications.

Customers can send their required concentration, quantity, destination, packaging preference, and technical specifications to receive a suitable commercial offer.

For accurate purchasing decisions, buyers should always compare this general TDS with the final **batch-specific COA and supplier-issued technical documentation.**