SAFETY DATA SHEET

Nitric Acid 5%

Revised: 07/01/2026

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: Nitric Acid 5%
Synonyms: nitric acid
CAS Number: 7697-37-2
Grade/Purity: Technical
Product Type: Acids
Product Use: Industrial, Manufacturing or Laboratory use
Manufacturer/Supplier: Alliance Chemical, 204 South Edmond St, Taylor, Texas 76574
Information: 512-365-6838 | www.alliancechemical.com
Emergency: CHEMTEL - 800-255-3924 (24 Hours/Day, 7 Days/Week)

2. HAZARDS IDENTIFICATION

Signal Word: Danger
GHS Pictograms:

Hazard Statements:

H272	May intensify fire; oxidiser
H290	May be corrosive to metals
H314	Causes severe skin burns and eye damage
EUH071	Corrosive to the respiratory tract

Precautionary Statements:

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P220	Keep away from clothing and other combustible materials.
P234	Keep only in original packaging.
P260	Do not breathe dust, fume, gas, mist, vapours or spray.
P264	Wash hands and face thoroughly after handling.
P280	Wear protective gloves, protective clothing, and eye/face protection.
P301+P330+P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTER or doctor.
P321	Specific treatment (see first-aid information on this label).
P363	Wash contaminated clothing before reuse.
P370+P378	In case of fire: Use appropriate media to extinguish.
P405	Store locked up.
P501	

	Dispose of contents and container in accordance with local, regional, national, and international regulations.

3. COMPOSITION / INFORMATION ON INGREDIENTS

COMPONENT	% MIN	% MAX	CAS #	EINECS# / ELINCS#	FORMULA	MOLECULAR WEIGHT
Nitric Acid	5	5	7697-37-2	231-714-2	HNO_3	63.013 g/mol
Water	95	95	7732-18-5	231-791-2	H_2O	18.02 g/mol

4. FIRST-AID MEASURES

Eyes	Eye: IRRIGATE IMMEDIATELY - If this chemical contacts the eyes, immediately wash (irrigate) the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately.
Skin	Skin: WATER FLUSH IMMEDIATELY - If this chemical contacts the skin, immediately flush the contaminated skin with water. If this chemical penetrates the clothing, immediately remove the clothing and flush the skin with water. Get medical attention promptly.
Inhalation	Breathing: RESPIRATORY SUPPORT - If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform artificial respiration. Keep the affected person warm and at rest. Get medical attention as soon as possible.
Ingestion	Swallow: MEDICAL ATTENTION IMMEDIATELY - If this chemical has been swallowed, get medical attention immediately. (NIOSH, 2024)

5. FIRE-FIGHTING MEASURES

Suitable Media	Dry chemical, CO2, water spray. Use water spray to cool containers.
Unsuitable Media	Do not use a solid water stream as it may scatter and spread fire.
Protective Equipment	Wear self-contained breathing apparatus and full protective clothing.
Combustion Products	May include carbon oxides and other toxic fumes. See Section 10.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions	Use PPE as described in Section 8. Ensure adequate ventilation. Evacuate personnel to safe areas.
Environmental	Prevent leakage or spillage from entering drains, sewers, or waterways.
Containment & Cleanup	Absorb with inert material. Collect in appropriate waste container. Dispose per applicable regulations.

7. HANDLING AND STORAGE

Safe Handling	Use with adequate ventilation. Avoid contact with skin, eyes, and clothing. Wash thoroughly after handling. Keep container closed when not in use.
Safe Storage	Store in a cool, dry, well-ventilated area. Use corrosion-resistant containers. Keep away from incompatible materials (see Section 10). Keep containers tightly closed.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls: Use adequate ventilation. Provide eyewash stations and quick-drench showers accessible to areas of use.

Occupational Exposure Limits:

AGENCY	EXPOSURE LIMIT
OSHA PEL	2 ppm TWA
NIOSH REL	2 ppm TWA / 4 ppm STEL
IDLH	25 ppm

Eyes	Wear chemical safety goggles or face shield.
Skin	Wear chemical-resistant gloves and protective clothing.

Inhalation	For mist or aerosol applications (e.g., spray, atomization, pressure washing), use a NIOSH-approved half-face air-purifying respirator with combination acid gas / P100 cartridges. For dust exposure, an N95 or P100 particulate filter is acceptable. Ensure local exhaust ventilation.

Exposure limits sourced from NIOSH Pocket Guide and OSHA 29 CFR 1910.1000. Hazard classification from ECHA Classification and Labelling Inventory (CLP Annex VI).

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Colorless, fuming liquid
Odor	Characteristic
Median Particle Size	Not Applicable
Particle Size Distribution	Not Applicable
Particle Shape	Not Applicable
Surface Area	Not Applicable
Dustiness	Not Applicable
Hygroscopicity	Not Applicable
pH	Not Available
Melting Point	Not characterized for the solution
Boiling Point	Not characterized for the solution
Flash Point	Not Available
Vapor Pressure	Not Available
Specific Gravity	1.025
Solubility	Soluble in water, alcohols, and most organic solvents
Molecular Formula	HNO_3
Molecular Weight	63.013 g/mol

10. STABILITY AND REACTIVITY

Chemical Stability	Stable under recommended storage conditions.
Hazardous Reactions	None under normal processing conditions.
Conditions to Avoid	Heat, sparks, open flame, and incompatible materials.
Incompatible Materials	Strong acids, strong bases, reactive metals, water (for some concentrated forms).
Decomposition Products	May produce carbon oxides and other toxic fumes when heated to decomposition.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity: See Section 2 for GHS hazard classification.

IARC	Not listed as carcinogen.
NTP	Not listed as carcinogen.
OSHA	Not listed as carcinogen.

12. ECOLOGICAL INFORMATION

Ecotoxicity	Daphnia EC50: ~ 100 mg/L (48 h, Marine invertebrates — pH-driven; Carcinus maenas 180, Asterias rubens 100–300 mg/L); Fish LC50: ~ 100 mg/L (48 h, Agonus cataphractus — pH-driven; range 100–330 mg/L)
Persistence	Not applicable (inorganic; dissociates to nitrate and hydronium ions)
Bioaccumulation	log Kow −0.21
Mobility in Soil	High; mobile toward groundwater after partial neutralization

13. DISPOSAL CONSIDERATIONS

Dispose of contents/container in accordance with applicable federal, state, and local regulations. Do not dispose of into drains or waterways.

14. TRANSPORT INFORMATION

US DOT	UN2031, Nitric acid, other than red fuming, with less than 65 percent nitric acid, 8 (5.1), PG II
IMDG	UN2031, Nitric acid, other than red fuming, with less than 65 percent nitric acid, 8 (5.1), PG II
IATA/ICAO	UN2031, Nitric acid, other than red fuming, with less than 65 percent nitric acid, 8 (5.1), PG II
Marine Pollutant	No

15. REGULATORY INFORMATION

Regulatory listings not yet on file in this system; consult OSHA, EPA TSCA, EPCRA TRI, and California OEHHA directly.	
SARA 311/312	See Section 2 for hazard classifications.

16. OTHER INFORMATION

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