Safety Data Sheet

Nitric Acid, 15.6 M, Concentrated

CAROLINA®
www.carolina.com

Section 1 Product Description

Product Name:	Nitric Acid, 15.6 M, Concentrated
Recommended Use:	Science education applications
Synonyms:	Inorganic Acid
Distributor:	Carolina Biological Supply Company 2700 York Road, Burlington, NC 27215 1-800-227-1150
Chemical Information:	800-227-1150 (8am-5pm (ET) M-F)
Chemtrec:	800-424-9300 (Transportation Spill Response 24 hours)

Section 2 Hazard Identification

Classification of the chemical in accordance with paragraph (d) of §1910.1200;

DANGER

May intensify fire; oxidizer. Causes severe skin burns and eye damage. Causes serious eye damage. Fatal if inhaled. Harmful to aquatic life.

GHS Classification:
Acute Toxicity - Inhalation Vapor Category 1, Skin Corrosion/Irritation Category 1A, Serious Eye Damage/Eye Irritation Category 1, Acute Toxicity - Inhalation Dust / Mist Category 2, Oxidizing Liquid Category 3, Hazardous to the aquatic environment - Acute Category 3

Section 3 Composition / Information on Ingredients

Chemical Name	CAS #	%
Nitric Acid	7697-37-2	70
Water	7732-18-5	30

Section 4 First Aid Measures

Emergency and First Aid Procedures

Inhalation:	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
Eyes:	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Skin Contact:	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse.
Ingestion:	If swallowed, rinse mouth with water (only if the person is conscious). Do NOT induce vomiting. IF NECESSARY SEEK MEDICAL ATTENTION

Section 5 Firefighting Procedures

Extinguishing Media:	Use media suitable to extinguish surrounding fire.
Fire Fighting Methods and Protection:	Firefighters should wear full protective equipment and NIOSH approved self-contained breathing apparatus.
Fire and/or Explosion Hazards:	Can react explosively with certain reducing agents and combustibles such as metal powders, carbides, H2S, turpentine.

Hazardous Combustion Products: Carbon dioxide, Carbon monoxide, Nitrogen containing gases, Not Flammable, but reacts with most metals to form flammable hydrogen gas.

Section 6 Spill or Leak Procedures

Steps to Take in Case Material Is Released or Spilled: Exposure to the spilled material may be irritating or harmful. Follow personal protective equipment recommendations found in Section 8 of this SDS. Additional precautions may be necessary based on special circumstances created by the spill including; the material spilled, the quantity of the spill, the area in which the spill occurred. Also consider the expertise of employees in the area responding to the spill. Ventilate the contaminated area.
Prevent the spread of any spill to minimize harm to human health and the environment if safe to do so. Wear complete and proper personal protective equipment following the recommendation of Section 8 at a minimum. Dike with suitable absorbent material like granulated clay. Gather and store in a sealed container pending a waste disposal evaluation. Do not allow the spilled product to enter public drainage system or open waterways. Large spills may be neutralized with dilute alkaline solutions of soda ash, or lime

Section 7 Handling and Storage

Handling: Keep away from heat/sparks/open flames/hot surfaces. – No smoking. Keep/Store away from clothing/…/combustible materials. Take any precaution to avoid mixing with combustibles. Do not breathe dust/fume/gas/mist/vapors/spray. Wash thoroughly after handling. Use only outdoors or in a well-ventilated area. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection. Wear respiratory protection. Do not breathe dust. Avoid contact with skin and eyes.

Storage: Store in a well-ventilated place. Keep container tightly closed. Store locked up. Keep container tightly closed in a cool place.

Storage Code: White - Corrosive. Separate acids from bases; separate oxidizer acids from organic acids.

Section 8 Protection Information

	ACGIH		OSHA PEL	
Chemical Name	**(TWA)**	**(STEL)**	**(TWA)**	**(STEL)**
Nitric Acid	2 ppm TWA	4 ppm STEL	2 ppm TWA; 5 mg/m3 TWA	4 ppm TWA; 10 mg/m3 TWA

Control Parameters

Engineering Measures: No exposure limits exist for the constituents of this product. General room ventilation might be required to maintain operator comfort under normal conditions of use.

Personal Protective Equipment (PPE): Lab coat, apron, eye wash, safety shower.

Respiratory Protection: Respiratory protection may be required to avoid overexposure when handling this product. General or local exhaust ventilation is the preferred means of protection. Use a respirator if general room ventilation is not available or sufficient to eliminate symptoms.

Respirator Type(s): NIOSH approved air purifying respirator with acid gas cartridge.

Eye Protection: Wear chemical splash goggles when handling this product. Have an eye wash station available.

Skin Protection: Avoid skin contact by wearing chemically resistant gloves, an apron and other protective equipment depending upon conditions of use. Inspect gloves for chemical break-through and replace at regular intervals. Clean protective equipment regularly. Wash hands and other exposed areas with mild soap and water before eating, drinking, and when leaving work.

Gloves: Neoprene, Natural rubber

Section 9 Physical Data

Formula: Concentrated HNO3
Molecular Weight: 63.01 g/mol
Appearance: Colorless to pale yellow Colorless Liquid
Odor: Strong Acrid
Odor Threshold: 0.29 - 0.98 ppm; 0.75 - 2.5 mg/m³
pH: 1
Melting Point: -42 - -38 C
Boiling Point: 83 C
Flash Point: No data available
Flammable Limits in Air: N/A

Vapor Pressure: 7.1 mmHg at 20 °C
Evaporation Rate (BuAc=1): N/A
Vapor Density (Air=1): 2.17
Specific Gravity: 1.51
Solubility in Water: Soluble
Log Pow (calculated): -2.3 at 25 °C
Autoignition Temperature: No data available
Decomposition Temperature: No data available
Viscosity: No data available
Percent Volatile by Volume: N/A

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Section 10 Reactivity Data

Reactivity: No data available
Chemical Stability: Stable under normal conditions.
Conditions to Avoid: None known.
Incompatible Materials: Water-reactive materials, Organics,, Metals, Strong reducing agents, Alcohols, Aldehydes, Ammonia
Hazardous Decomposition Products: Not Flammable, but reacts with most metals to form flammable hydrogen gas., Nitrogen containing gases, Carbon dioxide, Carbon monoxide
Hazardous Polymerization: Will not occur

Section 11 Toxicity Data

Routes of Entry Inhalation, Ingestion, and Skin contact.
Symptoms (Acute): Respiratory disorders
Delayed Effects: No data available

Acute Toxicity:

Chemical Name	CAS Number	Oral LD50	Dermal LD50	Inhalation LC50
Nitric Acid	7697-37-2			INHALATION LC50 Rat 67 PPM(NO2)
Water	7732-18-5	Oral LD50 Rat 90000 mg/kg		

Carcinogenicity:

Chemical Name	CAS Number	IARC	NTP	OSHA
Nitric Acid	7697-37-2	Listed	Not listed	Not listed

Chronic Effects:
Mutagenicity: No evidence of a mutagenic effect.
Teratogenicity: No evidence of a teratogenic effect (birth defect).
Sensitization: No evidence of a sensitization effect.
Reproductive: No evidence of negative reproductive effects.
Target Organ Effects:
Acute: See Section 2
Chronic: Not listed as a carcinogen by IARC, NTP or OSHA.

Section 12 Ecological Data

Overview: Slight ecological hazard. In high concentrations, this product may be dangerous to plants and/or wildlife. Because of the low pH of this product, it would be expected to produce significant ecotoxicity upon exposure to aquatic organisms and aquatic systems.
Mobility: No data
Persistence: No data
Bioaccumulation: No data
Degradability: No data
Other Adverse Effects: No data

Chemical Name	CAS Number	Eco Toxicity
Nitric Acid	7697-37-2	96 HR LC50 GAMBUSIA AFFINIS 72 MG/L
Water	7732-18-5	No data available

Section 13 Disposal Information

Disposal Methods: Dispose in accordance with all applicable Federal, State and Local regulations. Always contact a permitted waste disposer (TSD) to assure compliance.
Waste Disposal Code(s): D002

Section 14 Transport Information

Ground - DOT Proper Shipping Name:
UN2031
Nitric Acid
Class 8(5.1)
Packing Group II

Air - IATA Proper Shipping Name:
UN2031, Nitric Acid, 8, pg II

Section 15 Regulatory Information

TSCA Status: All components in this product are on the TSCA Inventory.

Chemical Name	CAS Number	§ 313 Name	§ 304 RQ	CERCLA RQ	§ 302 TPQ	CAA 112(2) TQ
Nitric Acid	7697-37-2	Nitric acid	1000 lb RQ	1000 lb final RQ; 454 kg final RQ	1000 lb TPQ	No

Section 16 Additional Information

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The information provided in this (Material) Safety Data Sheet represents a compilation of data drawn directly from various sources available to us. Carolina Biological Supply makes no representation or guarantee as to the suitability of this information to a particular application of the substance covered in the (Material) Safety Data Sheet.

Glossary

ACGIH	American Conference of Governmental Industrial Hygienists
CAS	Chemical Abstract Service Number
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
DOT	U.S. Department of Transportation
IARC	International Agency for Research on Cancer
N/A	Not Available
NTP	National Toxicology Program
OSHA	Occupational Safety and Health Administration
PEL	Permissible Exposure Limit
ppm	Parts per million
RCRA	Resource Conservation and Recovery Act
SARA	Superfund Amendments and Reauthorization Act
TLV	Threshold Limit Value
TSCA	Toxic Substances Control Act
IDLH	Immediately dangerous to life and health