Safety Data Sheet

Nitric Acid, 5-10 M

CAROLINA®
www.carolina.com

Section 1 Product Description

Product Name:	Nitric Acid, 5-10 M
Recommended Use:	Science education applications
Synonyms:	Aqua Fortis, Spirit of Nitre, Azotic 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. Harmful to aquatic life.

GHS Classification:
Skin Corrosion/Irritation Category 1B, Serious Eye Damage/Eye Irritation Category 1, Oxidizing Liquid Category 3, Hazardous to the aquatic environment - Acute Category 3

Section 3 Composition / Information on Ingredients

Chemical Name	CAS #	%
Water	7732-18-5	73
Nitric Acid	7697-37-2	27

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:	After contact with skin, wash immediately with plenty of water.
Ingestion:	IF SWALLOWED: rinse mouth. Do NOT induce vomiting.

Section 5 Firefighting Procedures

Extinguishing Media:	Use dry chemical, CO2 or appropriate foam.
Fire Fighting Methods and Protection:	Firefighters should wear full protective equipment and NIOSH approved self-contained breathing apparatus.
Fire and/or Explosion Hazards:	Product is a strong oxidizer. Contact with combustible materials, flammable materials, or powdered metals can cause fire or explosion. Can react violently with reducing agents.
Hazardous Combustion Products:	Carbon dioxide, Carbon monoxide, oxides of nitrogen

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.

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. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection. Keep away from combustible material. Do not breathe dust/vapor. Do not get in eyes, on skin, or on clothing. Retained residue may make empty containers hazardous; use caution.

Storage: Store locked up. Keep container tightly closed in a cool, well-ventilated place.
Store in a secure area suitable for corrosives and oxidizing agents.
Store separately and away from flammable and combustible materials.

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: No respiratory protection required under normal conditions of use.

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: Impervious rubber

Section 9 Physical Data

Formula: HNO3 (aq)
Molecular Weight: 63.01 (Nitric Acid)
Appearance: Colorless
Odor: Moderate Acrid
Odor Threshold: No data available
pH: 1.0, conc: 0.1 M (solution)
Melting Point: No data available
Boiling Point: No data available 83 C 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): No data available
Autoignition Temperature: No data available
Decomposition Temperature: No data available
Viscosity: No data available
Percent Volatile by Volume: N/A

Section 10 Reactivity Data

Reactivity: No data available
Chemical Stability: Stable under normal conditions.
Conditions to Avoid: None known.
Incompatible Materials: Water-reactive materials

Hazardous Decomposition Products: oxides of nitrogen, Carbon dioxide, Carbon monoxide
Hazardous Polymerization: Will not occur

Section 11 Toxicity Data

Routes of Entry Inhalation, ingestion, eye or skin contact.
Symptoms (Acute): Respiratory disorders
Delayed Effects: No data available

Acute Toxicity:

Chemical Name	CAS Number	Oral LD50	Dermal LD50	Inhalation LC50
Water	7732-18-5	Oral LD50 Rat 90000 mg/kg		
Nitric Acid	7697-37-2			INHALATION LC50 Rat 67 PPM(NO2) INHALATION LC50 Rat 260 MG/M3 INHALATION LC50 Rat 130 MG/M3

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: Reproductive data cited., 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.
Mobility: No data
Persistence: No data
Bioaccumulation: No data
Degradability: No data
Other Adverse Effects: No data

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

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): If discarded, this product is considered a RCRA corrosive waste, D002.

Section 14 Transport Information

Ground - DOT Proper Shipping Name:

Air - IATA Proper Shipping Name:

UN2031
NITRIC ACID
Class 8
P.G. II

UN2031 Class: 8, Packing group: II Proper shipping name: Nitric acid IATA Passenger: Not permitted for transport

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

California Prop 65: No California Proposition 65 ingredients

Section 16 Additional Information

Revised: 08/21/2018 **Replaces: 06/15/2018** **Printed: 08-25-2018**

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