



The Worldwide Resource...

THE BTTCO OVERSEAS

A GOVT. OF INDIA RECOGNIZED *STAR EXPORT HOUSE*
A D&B CERTIFIED COMPANY - DUNS NUMBER: 87-229-6440

Material Safety Data Sheet Nitric Acid

Section 1 - Chemical Product and Company Identification

Product Name	: Nitric Acid
Synonyms	: Aqua Fortis; Azotic Acid; nitric acid 68-70%, nitric acid 50-55%, nitric 60-62%
Company Identification	: THE BTTCO OVERSEAS 6, ASHIRVAD COMPLEX, NR. SARDAR PATEL SEVA SAMAJ HALL, NAVARANGPURA, AHMEDABAD-380009 GUJARAT, INDIA
Company Phone Number	: +91-79-26467891
Emergency Phone Number	: +91-9426596891

Section 2 - Composition, Information on Ingredients

CAS#	:7697-37-2
Molecular Weight	: 63.01
Chemical Name	: Nitric Acid
Percent	: 100%
Chemical Formula	: HNO ₃

Section 3 - Hazards Identification

Emergency Overview	: POISON! DANGER! STRONG OXIDIZER. CONTACT WITH OTHER MATERIAL MAY CAUSE FIRE. CORROSIVE. LIQUID AND MIST CAUSE SEVERE BURNS TO ALL BODY TISSUE. MAY BE FATAL IF SWALLOWED OR INHALED. INHALATION MAY CAUSE LUNG AND TOOTH DAMAGE. NITRIC ACID IS EXTREMELY HAZARDOUS; IT IS CORROSIVE, REACTIVE, AN OXIDIZER, AND A POISON.
Potential Health Effects	
Eye	: Corrosive! Vapors are irritating and may cause damage to the eyes. Contact may cause severe burns and permanent eye damage



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Skin	: Corrosive! Can cause redness, pain, and severe skin burns. Concentrated solutions cause deep ulcers and stain skin a yellow or yellow-brown color.
Inhalation	: Corrosive! Inhalation of vapors can cause breathing difficulties and lead to pneumonia and pulmonary edema, which may be fatal. Other symptoms may include coughing, choking, and irritation of the nose, throat, and respiratory tract.
Ingestion	: Corrosive! Swallowing nitric acid can cause immediate pain and burns of the mouth, throat, esophagus and gastrointestinal tract
Chronic	: Long-term exposure to concentrated vapors may cause erosion of teeth and lung damage. Long-term exposures seldom occur due to the corrosive properties of the acid.
Aggravation of Pre-existing Conditions	: Persons with pre-existing skin disorders, eye disease, or cardiopulmonary diseases may be more susceptible to the effects of this substance.

Section 4 - First Aid Measures

Immediate first aid treatment reduces the health effects of this substance.

Eye Contact	: Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.
Skin Contact	: In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.
Inhalation	: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.
Ingestion	: DO NOT INDUCE VOMITING! Give large quantities of water or milk if available. Never give anything by mouth to an unconscious person. Get medical attention immediately.



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Section 5 - Fire Fighting Measures

- Fire** : Not combustible, but substance is a strong oxidizer and its heat of reaction with reducing agents or combustibles may cause ignition. Can react with metals to release flammable hydrogen gas.
- Explosion** : Reacts explosively with combustible organic or readily oxidizable materials such as: alcohols, turpentine, charcoal, organic refuse, metal powder, hydrogen sulfide, etc. Reacts with most metals to release hydrogen gas, which can form explosive mixtures with air.
- Fire Extinguishing Media** : Water spray may be used to keep fire-exposed containers cool. Do not get water inside container.
- Special Information** : Increases the flammability of combustible, organic and readily oxidizable materials. In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

Section 6 - Accidental Release Measures

Ventilate area of leak or spill. Wear appropriate personal protective equipment as specified in Section 8. Isolate hazard area. Keep unnecessary and unprotected personnel from entering. Contain and recover liquid when possible. Neutralize with alkaline material (soda ash, lime), then absorb with an inert material (e. g., vermiculite, dry sand, earth), and place in a chemical waste container. Do not use combustible materials, such as saw dust.

Section 7 - Handling and Storage

Store in a cool, dry, ventilated storage area with acid resistant floors and good drainage. Protect from physical damage. Keep out of direct sunlight and away from heat, water, and incompatible materials. Do not wash out container and use it for other purposes. When diluting, the acid should always be added slowly to water and in small amounts. Never use hot water and never add water to the acid. Water added to acid can cause uncontrolled boiling and splashing. Containers of this material may be hazardous when empty since they retain product residues (vapors, liquid); observe all warnings and Precautions listed for the product.



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Section 8 - Exposure Controls, Personal Protection

Airborne Exposure Limits:

OSHA Permissible Exposure Limit (PEL) : 2 ppm (TWA), 4 ppm (STEL)
ACGIH Threshold Limit Value (TLV) : 2 ppm (TWA); 4 ppm (STEL)

Ventilation System

: A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, Industrial Ventilation, A Manual of Recommended Practices, most recent edition, for details.

Personal Respirators (NIOSH Approved)

: If the exposure limit is exceeded, wear a supplied air, full-facepiece respirator, airlined hood, or full-facepiece Self-contained breathing apparatus. Nitric acid is an oxidizer and should not come in contact with cartridges and canisters that contain oxidizable materials, such as activated charcoal. Canister-type respirators using sorbents are ineffective.

Eye Protection

: Use chemical safety goggles and/or a full-face shield where splashing is possible. Maintain eyewash fountain and quick-drench facilities in work area.

Skin Protection

: Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Section 9 - Physical and Chemical Properties

Appearance : Colourless to yellowish liquid
Odor : Suffocating, acrid
Solubility : Infinitely soluble
Specific Gravity : 1.41
pH : 1.0 (0.1M solution)
% Volatiles by volume @ 21C (70F) : 100 (as water and acid)
Boiling Point : 122C (252F)
Melting Point : -42C (-44F)
Vapor Density (Air=1) : 2-3
Vapor Pressure (mm Hg) : 48 @ 20C (68F)
Evaporation Rate (BuAc=1) : No information found.



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Section 10 - Stability and Reactivity

- Stability** : Stable under ordinary conditions of use and storage.
Containers may burst when heated.
- Hazardous Decomposition Products** : When heated to decomposition, emits toxic nitrogen oxides fumes and hydrogen nitrate. Will react with water or steam to produce heat and toxic and corrosive fumes.
- Hazardous Polymerization** : Will not occur.
- Incompatibilities** : A dangerously powerful oxidizing agent, concentrated nitric acid is incompatible with most substances, especially strong bases, metallic powders, carbides, hydrogen sulfide, turpentine, and combustible organics.
- Conditions to Avoid** : Light and heat

Section 11 - Toxicological Information

- Nitric acid:**
- Inhalation rat LC50 : 244 ppm (NO₂)/30M;
Investigated as a mutagen,
reproductive effector.
- Oral (human) LD₅₀ : 430 mg/kg.
- \Cancer Lists\-----
---NTP Carcinogen---
Ingredient Known Anticipated IARC Category

Nitric Acid (7697-37-2) No No None
Water (7732-18-5) No No None

Section 12 - Ecological Information

- Environmental Fate** : No information found
- Environmental Toxicity** : No information found

Section 13 - Disposal Considerations

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste facility. Although not a listed RCRA hazardous waste, this material may exhibit one or more characteristics of a hazardous waste and require appropriate analysis to determine specific disposal requirements. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.



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Section 14 - Transport Information

Domestic (Land, D.O.T.)

Proper Shipping Name : NITRIC ACID
Hazard Class : 8, 5.1
UN/NA : UN 2031
Packing Group : II
Information reported for product/size : 6.5GL

International (Water, I.M.O.)

Proper Shipping Name : NITRIC ACID
Hazard Class : 8, 5.1
UN/NA : UN 2031
Packing Group : II
Information reported for product/size : 6.5GL

International (Air, I.C.A.O.)

Proper Shipping Name : NITRIC ACID
Hazard Class : 8, 5.1
UN/NA : UN 2031
Packing Group : II
Information reported for product/size :

Section 16 - Other Information

Label Hazard Warning : POISON! DANGER! STRONG OXIDIZER. CONTACT WITH OTHER MATERIAL MAY CAUSE FIRE. CORROSIVE. LIQUID AND MIST CAUSE SEVERE BURNS TO ALL BODY TISSUE. MAY BE FATAL IF SWALLOWED OR INHALED. INHALATION MAY CAUSE LUNG AND TOOTH DAMAGE.

Label Precautions : Do not get in eyes, on skin, or on clothing.
Do not breathe vapor or mist.
Use only with adequate ventilation.
Wash thoroughly after handling.
Keep from contact with clothing and other combustible materials.



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Do not store near combustible materials.
Store in a tightly closed container.
Remove and wash contaminated clothing promptly.

Label First Aid

: In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. If swallowed, DO NOT INDUCE VOMITING. Give large quantities of water. Never give anything by mouth to an unconscious person. If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. In all cases get medical attention immediately.

Product Use

: Laboratory Reagent.

Revision Information

: MSDS Section(s) changed since last revision of document include: 14.

Disclaimer:

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