

NITRIC ACID ABT 70%

GHS Safety Data Sheet

Version No:3

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Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME

NITRIC ACID

OTHER NAMES

HNO₃, "aqua fortis", "azotic acid", "hydrogen nitrate", "engravers acid"

PROPER SHIPPING NAME

NITRIC ACID, other than red fuming, with more than 70% nitric acid

NITRIC ACID, other than red fuming, with not more than 70% nitric acid

NITRIC ACID

PRODUCT USE

Manufacture of organic and inorganic nitrates and nitro compounds for fertilisers, dye intermediates and many organic chemicals.

Used for etching and cleaning metals.

Operators should be trained in procedures for safe use of this material.

SUPPLIER

Company: S D FINE- CHEM LIMITED

Address:

315- 317, T.V. INDUSTRIAL ESTATE,

248, WORLI,

MUMBAI- 400030.INDIA.

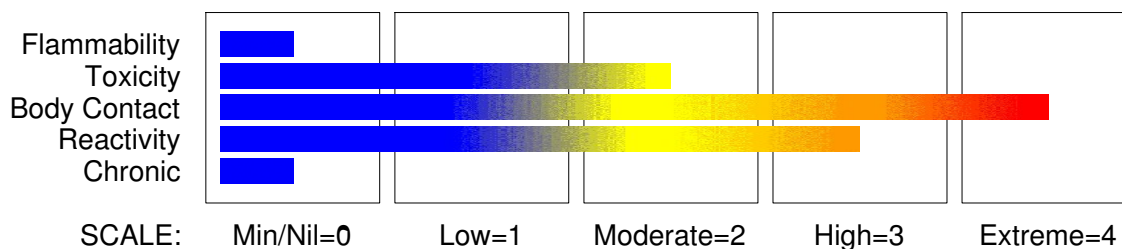
technical@sdfine.com

Telephone: 91- 22- 24959898

Telephone: 91- 22- 24959899

Fax: 91- 22- 24937232

HAZARD RATINGS



Section 2 - HAZARDS IDENTIFICATION

GHS Classification

Acute Toxicity (Inhalation) Category 1

Acute Toxicity (Oral) Category 4

continued...

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Section 2 - HAZARDS IDENTIFICATION

Metal Corrosion Category 1
Oxidizing Liquid Category 3
Skin Corrosion/Irritation Category 1A



EMERGENCY OVERVIEW

HAZARD

DANGER

Determined by using GHS criteria:

H274 H330 H302 H290 H314

May intensify fire; oxidizer

Fatal if inhaled

Harmful if swallowed

May be corrosive to metals

Causes severe skin burns and eye damage

PRECAUTIONARY STATEMENTS

Prevention

Do not eat, drink or smoke when using this product.

Do not breathe dust or mist.

Do not breathe dust/fume/gas/mist/vapours/spray.

Wear protective gloves/clothing and eye/face protection.

Wash thoroughly after handling.

Wash hands thoroughly after handling.

Keep away from heat.

Wear respiratory protection.

Use only outdoors or in a well ventilated area.

Take any precautions to avoid mixing with combustibles or incompatible materials.

Response

IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.

Immediately call a POISON CENTER or doctor/physician.

Keep container tightly closed.

If on skin or hair: remove/take off immediately all contaminated clothing. Rinse with water/shower.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

Wash contaminated clothing before reuse.

Specific treatment: refer to Label or MSDS.

Absorb spillage to prevent material damage.

Storage

Store in a corrosive resistant container with a resistant inliner.

Store away from combustibles and incompatible materials

Store locked up.

Disposal

Dispose of contents and container in accordance with relevant legislation.

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Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

NAME	CAS RN	%
nitric acid	7697-37-2	>69

Section 4 - FIRST AID MEASURES

SWALLOWED

For advice, contact a Poisons Information Centre or a doctor.

- If swallowed do NOT induce vomiting.
 - If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.
 - Observe the patient carefully.
 - Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious
 - Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink.
 - Seek medical advice.
- Immediately transport to hospital or doctor.
DO NOT delay.

EYE

If this product comes in contact with the eyes:

- Immediately hold eyelids apart and flush the eye continuously with running water.
 - Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.
 - Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes.
 - Transport to hospital or doctor without delay.
 - Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
- Immediately transport to hospital or doctor.
DO NOT delay.

SKIN

If skin or hair contact occurs:

- Immediately flush body and clothes with large amounts of water, using safety shower if available.
 - Quickly remove all contaminated clothing, including footwear.
 - Wash skin and hair with running water. Continue flushing with water until advised to stop by the Poisons Information Centre.
 - Transport to hospital, or doctor.
- DO NOT delay.

INHALED

- If fumes or combustion products are inhaled remove from contaminated area.
- Lay patient down. Keep warm and rested.
- Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.
- Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary.
- Transport to hospital, or doctor, without delay.

NOTES TO PHYSICIAN

For acute or short term repeated exposures to strong acids:

- Airway problems may arise from laryngeal edema and inhalation exposure. Treat with 100%

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oxygen initially.

- Respiratory distress may require cricothyroidotomy if endotracheal intubation is contraindicated by excessive swelling
- Intravenous lines should be established immediately in all cases where there is evidence of circulatory compromise.
- Strong acids produce a coagulation necrosis characterised by formation of a coagulum (eschar) as a result of the dessicating action of the acid on proteins in specific tissues.

INGESTION:

- Immediate dilution (milk or water) within 30 minutes post ingestion is recommended.
- DO NOT attempt to neutralise the acid since exothermic reaction may extend the corrosive injury.
- Be careful to avoid further vomit since re-exposure of the mucosa to the acid is harmful. Limit fluids to one or two glasses in an adult.
- Charcoal has no place in acid management.
- Some authors suggest the use of lavage within 1 hour of ingestion.

SKIN:

- Skin lesions require copious saline irrigation. Treat chemical burns as thermal burns with non-adherent gauze and wrapping.
- Deep second-degree burns may benefit from topical silver sulfadiazine.

EYE:

- Eye injuries require retraction of the eyelids to ensure thorough irrigation of the conjunctival cul-de-sacs. Irrigation should last at least 20-30 minutes. DO NOT use neutralising agents or any other additives. Several litres of saline are required.
- Cycloplegic drops, (1% cyclopentolate for short-term use or 5% homatropine for longer term use) antibiotic drops, vasoconstrictive agents or artificial tears may be indicated dependent on the severity of the injury.
- Steroid eye drops should only be administered with the approval of a consulting ophthalmologist).

[Ellenhorn and Barceloux: Medical Toxicology].

Section 5 - FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

- Water spray or fog.
- Foam.
- Dry chemical powder.
- BCF (where regulations permit).
- Carbon dioxide.

FIRE FIGHTING

- Alert Fire Brigade and tell them location and nature of hazard.
- May be violently or explosively reactive.
- Wear full body protective clothing with breathing apparatus.
- Prevent, by any means available, spillage from entering drains or water courses.
- Consider evacuation (or protect in place).
- Fight fire from a safe distance, with adequate cover.
- Extinguishers should be used only by trained personnel.
- Use water delivered as a fine spray to control fire and cool adjacent area.
- Avoid spraying water onto liquid pools.
- DO NOT approach containers suspected to be hot.
- Cool fire exposed containers with water spray from a protected location.
- If safe to do so, remove containers from path of fire.
- If fire gets out of control withdraw personnel and warn against entry.

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Section 5 - FIRE FIGHTING MEASURES

- Equipment should be thoroughly decontaminated after use.

FIRE/EXPLOSION HAZARD

- Will not burn but increases intensity of fire.
 - Heating may cause expansion or decomposition leading to violent rupture of containers.
 - Heat affected containers remain hazardous.
 - Contact with combustibles such as wood, paper, oil or finely divided metal may produce spontaneous combustion or violent decomposition.
 - May emit irritating, poisonous or corrosive fumes.
- Decomposes on heating and produces toxic fumes of nitrogen oxides (NO_x) and nitric acid.

FIRE INCOMPATIBILITY

Oxidising agents as a class are not necessarily combustible themselves, but can increase the risk and intensity of fire in many other substances.

Reacts vigorously with water and alkali.

Avoid reaction with.

organic materials / compounds powdered metals.

reducing agents and hydrogen sulfide (H₂S).

as ignition may result.

Reacts with metals producing flammable / explosive hydrogen gas.

Personal Protective Equipment

Breathing apparatus.

Chemical splash suit.

Section 6 - ACCIDENTAL RELEASE MEASURES

EMERGENCY PROCEDURES

MINOR SPILLS

Dangerous levels of nitrogen oxides may form during spills of nitric acid.

Wear fully protective PVC clothing and breathing apparatus.

- Clean up all spills immediately.
- No smoking, naked lights, ignition sources.
- Avoid all contact with any organic matter including fuel, solvents, sawdust, paper or cloth and other incompatible materials, as ignition may result.
- Avoid breathing dust or vapours and all contact with skin and eyes.
- Control personal contact by using protective equipment.
- Contain and absorb spill with dry sand, earth, inert material or vermiculite.
- DO NOT use sawdust as fire may result.
- Scoop up solid residues and seal in labelled drums for disposal.
- Neutralise/decontaminate area.

Use soda ash or slaked lime to neutralise.

MAJOR SPILLS

DO NOT touch the spill material.

Restrict access to area.

- Clear area of personnel and move upwind.
- Alert Fire Brigade and tell them location and nature of hazard.
- May be violently or explosively reactive.
- Wear full body protective clothing with breathing apparatus.
- Prevent, by any means available, spillage from entering drains or water course.
- Consider evacuation (or protect in place).
- No smoking, flames or ignition sources.
- Increase ventilation.
- Contain spill with sand, earth or other clean, inert materials.
- NEVER use organic absorbents such as sawdust, paper, cloth; as fire may result.

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Section 6 - ACCIDENTAL RELEASE MEASURES

- Avoid any contamination by organic matter.
 - Use spark-free and explosion-proof equipment.
 - Collect any recoverable product into labelled containers for possible recycling.
 - DO NOT mix fresh with recovered material.
 - Collect residues and seal in labelled drums for disposal.
 - Wash area and prevent runoff into drains.
 - Decontaminate equipment and launder all protective clothing before storage and re-use.
 - If contamination of drains or waterways occurs advise emergency services.
- DO NOT USE WATER OR NEUTRALISING AGENTS INDISCRIMINATELY ON LARGE SPILLS.

EMERGENCY RESPONSE PLANNING GUIDELINES (ERPG)

The maximum airborne concentration below which it is believed that nearly all individuals could be exposed for up to one hour WITHOUT experiencing or developing

life-threatening health effects is:

nitric acid 78 ppm

irreversible or other serious effects or symptoms which could impair an individual's ability to take protective action is:

nitric acid 6 ppm

other than mild, transient adverse effects without perceiving a clearly defined odour is:

nitric acid 1 ppm

The threshold concentration below which most people will experience no appreciable risk of health effects:

nitric acid 1 ppm

American Industrial Hygiene Association (AIHA)

Ingredients considered according to the following cutoffs

Very Toxic (T+)	$\geq 0.1\%$	Toxic (T)	$\geq 3.0\%$
R50	$\geq 0.25\%$	Corrosive (C)	$\geq 5.0\%$
R51	$\geq 2.5\%$		
else	$\geq 10\%$		

where percentage is percentage of ingredient found in the mixture

SAFE STORAGE WITH OTHER CLASSIFIED CHEMICALS



X X X X + 0

+: May be stored together

O: May be stored together with specific preventions

X: Must not be stored together

Personal Protective Equipment advice is contained in Section 8 of the MSDS.

Section 7 - HANDLING AND STORAGE

PROCEDURE FOR HANDLING

Avoid generating and breathing mist.

DO NOT allow clothing wet with material to stay in contact with skin.

- Avoid all personal contact, including inhalation.
- Wear protective clothing when risk of exposure occurs.

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Section 7 - HANDLING AND STORAGE

- Use in a well-ventilated area.
- WARNING: To avoid violent reaction, ALWAYS add material to water and NEVER water to material.
- Avoid smoking, naked lights or ignition sources.
- Avoid contact with incompatible materials.
- When handling, DO NOT eat, drink or smoke.
- Keep containers securely sealed when not in use.
- Avoid physical damage to containers.
- Always wash hands with soap and water after handling.
- Work clothes should be laundered separately. Launder contaminated clothing before re-use.
- Use good occupational work practice.
- Observe manufacturer's storing and handling recommendations.
- Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions are maintained.

SUITABLE CONTAINER

Stainless steel drum.

- Check that containers are clearly labelled.
- Packaging as recommended by manufacturer.

STORAGE INCOMPATIBILITY

Segregate from.
reducing agents.
finely divided combustible materials.
combustible materials.
sawdust.
metals and powdered metals.
Avoid contamination of water, foodstuffs, feed or seed.
Segregate from alkalies, oxidising agents and chemicals readily decomposed by acids, i.e. cyanides, sulfides, carbonates.

STORAGE REQUIREMENTS

- Store in original containers.
 - Keep containers securely sealed as supplied.
 - Store in a cool, well ventilated area.
 - Keep dry.
 - Store under cover and away from sunlight.
 - Store away from flammable or combustible materials, debris and waste. Contact may cause fire or violent reaction.
 - Store away from incompatible materials and foodstuff containers.
 - DO NOT stack on wooden floors or pallets.
 - Protect containers from physical damage.
 - Check regularly for leaks.
 - Observe manufacturer's storage and handling recommendations.
- Floors should be covered or coated with acid resistant material.

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE CONTROLS

The following materials had no OELs on our records

- nitric acid: CAS:7697- 37- 2 CAS:802862- 59- 5 CAS:218625- 70- 8 CAS:78989- 43- 2

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Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

EMERGENCY EXPOSURE LIMITS

Material	Revised IDLH Value (mg/m3)	Revised IDLH Value (ppm)
nitric acid		25

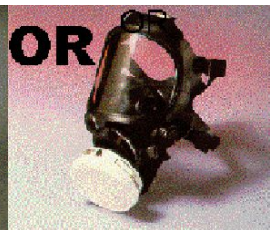
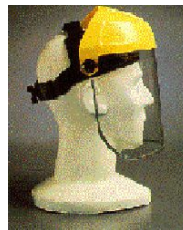
MATERIAL DATA

Odour Threshold Value: 0.27 ppm (detection)

NOTE: Detector tubes for nitric acid, measuring in excess of 5 ppm, are commercially available.

The TLV-TWA is protective against corrosion of the skin, tissue and other membranes, against irritation to the eyes and mucous membranes, and against acute pulmonary oedema or chronic obstructive lung disease. It is not clear whether the TLV-TWA and STEL values will prevent potentiation of the toxicity of inhaled nitrogen dioxide.

PERSONAL PROTECTION



EYE

- Chemical goggles.
- Full face shield may be required for supplementary but never for primary protection of eyes
- Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lens or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly. [CDC NIOSH Current Intelligence Bulletin 59].

HANDS/FEET

Bare unprotected skin should not be exposed to this material.
Impervious, gauntlet length gloves i.e. Butyl rubber gloves or Neoprene rubber gloves or
Wear chemical protective gloves, eg. PVC.
Wear safety footwear or safety gumboots, eg. Rubber.

OTHER

Operators should be trained in procedures for safe use of this material.
Acid-resistant overalls or Rubber apron or PVC apron.
Ensure there is ready access to an emergency shower.
· Ensure that there is ready access to eye wash unit.
Ensure that there is ready access to breathing apparatus.

GLOVE SELECTION INDEX

Glove selection is based on a modified presentation of the:
"Forsberg Clothing Performance Index".

The effect(s) of the following substance(s) are taken into account in the computer-generated selection: nitric acid

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Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

Protective Material:

BUTYL	A
HYPALON	A
NEOPRENE	A
NEOPRENE/NATURAL	A
PE/EVAL/PE	A
SARANEX- 23	A
NATURAL RUBBER	B
NATURAL+NEOPRENE	B
PVC	C
NITRILE+PVC	C

A: Best Selection

B: Satisfactory; may degrade after 4 hours continuous immersion

C: Poor to Dangerous Choice for other than short term immersion

NOTE: As a series of factors will influence the actual performance of the glove, a final selection must be based on detailed observation. -

* Where the glove is to be used on a short term, casual or infrequent basis, factors such as "feel" or convenience (e.g. disposability), may dictate a choice of gloves which might otherwise be unsuitable following long-term or frequent use. A qualified practitioner should be consulted.

RESPIRATOR

Selection of the Class and Type of respirator will depend upon the level of breathing zone contaminant and the chemical nature of the contaminant. Protection Factors (defined as the ratio of contaminant outside and inside the mask) may also be important.

Breathing Zone Level ppm (volume)	Maximum Protection Factor	Half- face Respirator	Full- Face Respirator
1000	10	E- AUS P	-
1000	50	-	E- AUS P
5000	50	Airline *	-
5000	100	-	E- 2 P
10000	100	-	E- 3 P
	100+		Airline**

* - Continuous Flow

** - Continuous-flow or positive pressure demand.

The local concentration of material, quantity and conditions of use determine the type of personal protective equipment required.

For further information consult your

Occupational Health and Safety Advisor.

ENGINEERING CONTROLS

Use in a well-ventilated area.

Local exhaust ventilation may be required for safe working, i.e. to keep exposures below required standards, otherwise PPE is required.

If risk of overexposure exists, wear SAA approved respirator. Correct fit is essential to obtain adequate protection.

In confined spaces where there is inadequate ventilation, wear full-face air supplied breathing apparatus.

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Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE

Clear, colourless to slightly yellow liquid. Sharp strong odour.
CAUTION: dilution hazard; do not add water to acid. Adding water to acid generates intense heat, violent boiling, spattering, steam.
HIGHLY CORROSIVE. Corrosive to most metals. Powerful oxidising agent.
Darkens to brownish colour on ageing and exposure to light.
Available in range of strengths. Commercial concentrated is 58-63%.
Fuming acid is 98%.

PHYSICAL PROPERTIES

Liquid.
Mixes with water.
Corrosive.
Acid.

Molecular Weight: 63.02
Melting Range (°C): - 42
Solubility in water (g/L): Miscible
pH (1% solution): 1
Volatile Component (%vol): 100 (nominal)
Relative Vapour Density (air=1): 1.5
Lower Explosive Limit (%): Not applicable
Autoignition Temp (°C): Not applicable
State: Liquid

Boiling Range (°C): 86 (122 @ 68%)
Specific Gravity (water=1): 1.3- 1.42
pH (as supplied): < 1
Vapour Pressure (kPa): 8.26
Evaporation Rate: Not available
Flash Point (°C): Not applicable
Upper Explosive Limit (%): Not applicable
Decomposition Temp (°C): Not available
Viscosity: Not available

Section 10 - CHEMICAL STABILITY AND REACTIVITY INFORMATION

CONDITIONS CONTRIBUTING TO INSTABILITY

Presence of incompatible materials.
Avoid mixing with.
combustible materials.
as ignition may result.
Presence of heat source and direct sunlight.
.
Storage in unsealed containers.
Hazardous polymerisation will not occur.

Section 11 - TOXICOLOGICAL INFORMATION

POTENTIAL HEALTH EFFECTS

ACUTE HEALTH EFFECTS

SWALLOWED

Accidental ingestion of the material may be seriously damaging to the health of the individual; animal experiments indicate that ingestion of less than 40 gram may be fatal. The material can produce severe chemical burns within the oral cavity and gastrointestinal tract following ingestion.
Considered an unlikely route of entry in commercial/industrial environments.

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Section 11 - TOXICOLOGICAL INFORMATION

EYE

The material can produce severe chemical burns to the eye following direct contact.

Vapours or mists may be extremely irritating.

When applied to the eye(s) of animals, the material produces severe ocular lesions which are present twenty-four hours or more after instillation.

The material may produce severe irritation to the eye causing pronounced inflammation.

Repeated or prolonged exposure to irritants may produce conjunctivitis.

SKIN

The material can produce severe chemical burns following direct contact with the skin.

Bare unprotected skin should not be exposed to this material.

The material may produce severe skin irritation after prolonged or repeated exposure, and may produce a contact dermatitis (nonallergic). This form of dermatitis is often characterised by skin redness (erythema) thickening of the epidermis.

Histologically there may be intercellular oedema of the spongy layer (spongiosis) and intracellular oedema of the epidermis. Prolonged contact is unlikely, given the severity of response, but repeated exposures may produce severe ulceration.

INHALED

Evidence shows, or practical experience predicts, that the material produces irritation of the respiratory system in a substantial number of individuals following inhalation.

Inhalation hazard is increased at higher temperatures.

Reactions may occur following a single acute exposure or may only appear after repeated exposures.

Reactions may not occur on exposure but response may be delayed with symptoms only appearing many hours later.

The material may produce respiratory tract irritation. Symptoms of pulmonary irritation may include coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and a burning sensation.

Unlike most organs, the lung can respond to a chemical insult or a chemical agent, by first removing or neutralising the irritant and then repairing the damage (inflammation of the lungs may be a consequence).

The repair process (which initially developed to protect mammalian lungs from foreign matter and antigens) may, however, cause further damage to the lungs (fibrosis for example) when activated by hazardous chemicals. Often, this results in an impairment of gas exchange, the primary function of the lungs. Therefore prolonged exposure to respiratory irritants may cause sustained breathing difficulties.

CHRONIC HEALTH EFFECTS

The material is considered to be harmful by all exposure routes.

Bare unprotected skin should not be exposed to this material.

Principal routes of exposure are usually by skin contact.

eye contact and inhalation of vapour.

Prolonged or repeated overexposure to low concentrations of vapour may cause chronic bronchitis, corrosion of teeth, even chemical pneumonitis.

TOXICITY AND IRRITATION

TOXICITY

Oral (human) LDLo: 430 mg/kg

Inhalation (rat) LC50: 2500 ppm/1h * * DuPont

Oral (?) LD50: 50- 500 mg/kg *

Unreported (man) LDLo: 110 mg/kg

[Various Manufacturers]

IRRITATION

Nil Reported

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Section 12 - ECOLOGICAL INFORMATION

This material and its container must be disposed of as hazardous waste.

Section 13 - DISPOSAL CONSIDERATIONS

- Recycle wherever possible. Special hazard may exist - specialist advice may be required.
- Consult manufacturer for recycling options.
- Consult State Land Waste Management Authority for disposal.
- Treat and neutralise residue at an approved site.
- Decontaminate empty containers. Observe all label safeguards until containers are cleaned and destroyed.
- Puncture containers to prevent re-use and bury at an authorised landfill.

WASTE DISPOSAL PROCEDURES

- Wear nitrile rubber gloves, eye protection and protective clothing to control personal contact from nitric acid. Wear a body shield. Add the acid to a container of cold water. Neutralise the solution with sodium carbonate. Wash the nitric acid into the drain [Armour 1996].

SPILLAGE DISPOSAL

- Wear nitrile rubber gloves, protective clothing, eye protection and a face shield to control personal contact from nitric acid. A self contained breathing apparatus may be required depending on the size of the spill. Cover and contain the spill with a 1:1:1 mixture by weight of sodium carbonate or calcium carbonate, bentonite and sand. Scoop the absorbed nitric acid mixture into a plastic container and transfer to a well ventilated area. Add the mixture to a container of cold water. Test the pH of the solution and neutralise if necessary with sodium carbonate. Empty the solution into the drain, and discard the solid with normal refuse [Armour 1996].

Section 14 - TRANSPORTATION INFORMATION



Labels Required: CORROSIVE, OXIDIZING AGENT
HAZCHEM: 2PE

UNDG:

Dangerous Goods Class:	8	Subrisk:	5.1
UN Number:	2031	Packing Group:	II
Shipping Name: NITRIC ACID, other than red fuming, with more than 70% nitric acid			
NITRIC ACID, other than red fuming, with not more than 70% nitric acid			
NITRIC ACID, other than red fuming, with more than 70% nitric acid			
NITRIC ACID, other than red fuming, with not more than 70% nitric acid			

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Section 14 - TRANSPORTATION INFORMATION

Air Transport IATA:

ICAO/IATA Class:	8	ICAO/IATA Subrisk:	5.1
UN/ID Number:	2031	Packing Group:	II
ERG Code:	8X		

Shipping name: NITRIC ACID, other than red fuming, with more than 70% nitric acid

NITRIC ACID, other than red fuming, with not more than 70% nitric acid

NITRIC ACID

Maritime Transport IMDG:

IMDG Class:	8	IMDG Subrisk:	5.1
UN Number:	2031	Packing Group:	II
EMS Number:	F- A, S- Q		

Shipping name: NITRIC ACID, other than red fuming, with more than 70% nitric acid

NITRIC ACID, other than red fuming, with not more than 70% nitric acid

NITRIC ACID

Section 15 - REGULATORY INFORMATION

REGULATIONS

nitric acid (CAS: 7697-37-2) is found on the following regulatory lists;
IMO MARPOL 73/78 (Annex II) - List of Noxious Liquid Substances Carried in Bulk
International Council of Chemical Associations (ICCA) - High Production Volume List
OECD Representative List of High Production Volume (HPV) Chemicals

No data available for nitric acid as CAS: 802862-59-5, CAS: 218625-70-8, CAS: 78989-43-2.

Section 16 - OTHER INFORMATION

INGREDIENTS WITH MULTIPLE CAS NUMBERS

Ingredient Name	CAS
nitric acid	7697- 37- 2, 802862- 59- 5, 218625- 70- 8, 78989- 43- 2

The above information is believed to be accurate and represent the best information currently available to us, but does not represent any warranty expressed or implied of the properties of the product. User should make their own investigation to determine the suitability of the information for their particular purpose.

Issue Date: 17-Jun-2017