



DEEPAK FERTILISERS AND
PETROCHEMICALS CORPRN.LTD.

MATERIAL SAFETY DATA SHEET

STRONG NITRIC ACID

SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Chemical Name	:	Strong Nitric Acid
Chemical Formula	:	HNO ₃
CAS Number	:	7697-37-2 UN No. : 2031
Synonyms	:	Nitric Acid
General Use	:	Acid, Strong Oxidizer, for nitration
Manufacturer's Name	:	Deepak Fertilisers And Petrochemicals Corporation. Ltd.
Address :	:	Plot K-1, MIDC Indl Area, Taloja A.V., Dist: Raigad – 410 208
Telephone no.for info.	:	+91 - 022 - 67684000

SECTION 2 - COMPOSITION / INFORMATION ON INGREDIENTS

Composition	:	Nitric Acid 68% to 70%
Balance	:	Water
ACGIH TLV	:	TWA - 2ppm (5.2mg/m ³), STEL - 4ppm (10.0mg/m ³)

SECTION 3 - HAZARDS IDENTIFICATION

Primary Entry Routes	:	Inhalation, skin, eyes and ingestion
Eyes	:	Causes chemical burns. May cause blindness
Skin	:	Causes chemical burns
Inhalation	:	Harmful if inhaled. May cause respiratory tract irritation or chemical burns
Ingestion	:	Harmful if swallowed. May cause chemical burns to mouth, throat and stomach.
Target Organ	:	Eyes. Respiratory system. Skin.
Chronic Effect	:	Prolonged or repeated exposure to dilutions can cause drying, deflating and dermatitis.
Signs & Symptoms	:	The product causes burns of eyes, skin and mucous membranes. Symptoms may include redness, edema, drying, defatting and cracking of the skin.

SECTION 4 - FIRST AID MESURES

Eyes	:	Immediately flush with cool water. Remove contact lenses, if applicable, and continue flushing for 20 minutes. Obtain medical attention immediately.
Skin	:	Immediately flush with cool water for 20 minutes while removing contaminated clothing and shoes. Discard or wash well before reuse. Obtain medical attention if irritation persists.



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Inhalation	:	If symptoms develop, move victim to fresh air. If symptoms persist, obtain medical attention. If breathing has stopped, trained personnel should administer CPR immediately.
Ingestion	:	Do not induce vomiting. Never give anything by mouth if victim is unconscious, or is convulsing. Obtain medical attention.
General Advice	:	Keep out of reach of children. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Avoid contact with eyes and skin. Wear impervious gloves and chemical splash goggles.

SECTION 5 - FIRE FIGHTING MEASURES

Flammable Properties	:	Not flammable by WHMIS criteria. Not flammable, but reacts with most metals to form flammable hydrogen gas. Oxidizing agent, may cause spontaneous ignition of combustible materials.
Suitable Extinguishing Media	:	Use water on fires involving nitric acid to dilute and to absorb liberated oxides of nitrogen.
Unsuitable Extinguishing Media	:	Do not use dry chemical powders containing sodium bicarbonate, potassium bicarbonate, sodium carbonate, calcium carbonate, ammonium phosphate or ammonium sulfate. Nitric acid can react violently with these extinguishing agents.
Specific Hazard Arising from the Chemical	:	Container may explode in heat of fire.
Protective Equipment for Firefighters	:	Firefighters should wear full protective clothing including self contained breathing apparatus.
Hazardous Combustion Products	:	May include and are not limited to: Oxides of nitrogen. Toxic fumes.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Personal Precautions	:	Keep unnecessary personnel away. Do not touch or walk through spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep people away from and upwind of spill/leak.
Environmental Precautions	:	Prevent entry into waterways, sewers, basements or confined areas.
Method of containment	:	Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Stop leak if you can do so without risk.
Method of cleaning up	:	Should not be released into the environment. Before attempting clean up, refer to hazard data given above. Small spills may be absorbed with non-reactive absorbent and placed in suitable,



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covered, labeled containers. Prevent large spills from entering sewers or waterways. Contact emergency services and supplier for advice. Never return spills in original containers for re-use.

SECTION 7 - HANDLING AND STORAGE

- Handling Precautions** : Use good industrial hygiene practices in handling this material. Do not get in eyes, on skin or on clothing. Keep away from combustible material. Use only with adequate ventilation. Keep container tightly closed. Wash thoroughly after handling.
- Storage Requirements** : Keep out of reach of children. Keep away from heat, open flames or other sources of ignition. Store in a tightly closed container in a cool, dry, well ventilated and dark place away from incompatible materials.

SECTION 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

Ingredients	Exposure Limits
Nitric Acid	TWA – 2ppm (5.2mg/m ³) STEL – 4ppm (10mg/m ³)
Engineering Controls	: Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.
Eye Protection	: Chemical splash goggles.
Hand Protection	: Impervious gloves. Confirm with reputable supplier first.
Skin and Body Protection	: Use of an impervious apron is recommended.
Respiratory Protection	: If airborne concentrations are above the applicable exposure limits, use NIOSH approved respiratory protection.
General Hygiene Considerations	: Handle in accordance with good industrial hygiene and safety practice. When using do not eat or drink. Wash hands before breaks and immediately after handling the product.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

- Physical State** : Liquid
- Appearance & Odour** : Colourless to light yellow liquid
- Odour** : Sweet / Pungent
- Odour Threshold** : Not available
- Melting Point** : - 42 °C
- Freezing Point** : - 41 °C
- Boiling Point** : 121.6°C
- Flash Point** : Not applicable
- Flammability Limits in air** : Not applicable
- Auto-ignitionTemp.** : Not applicable



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Vapour Pressure	: 56 hPa @ 20 °C
Vapour Density	: 2.17 (air = 1)
Specific Gravity	: 1.51 @ 20 °C
Relative Density	: 1.4134g/cm ³ @20°C
Water Solubility	: Complete
Molecular weight	: 63.02 g/mole
Molecular Formula	: H-O-N(O)=O

SECTION 10 - STABILITY AND REACTIVITY

Reactivity	: Very reactive. Reacts vigorously with alkaline material. Reacts with soft metals producing flammable hydrogen gas.
Possibility of hazardous reactions	: Hazardous polymerization does not occur.
Chemical Stability	: Stable under recommended storage conditions.
Conditions to Avoid	: Heat. Do not mix with other chemicals.
Incompatible Chemicals	: Caustics. Reducing agents. Combustible materials. Soft metals.
Hazardous Decomposition product	: May include and are not limited to: Oxides of nitrogen. Toxic fumes.

SECTION 11 - TOXICOLOGICAL INFORMATION

Component Analysis LC-50	LC50
Ingredients	
Nitric Acid	7mg/l 4hr in rat
Component Analysis Oral LD50	LD50
Ingredients	
Nitric Acid	Not available
Effect of acute exposure	
Eye	: Causes chemical burns. May cause blindness.
Skin	: Causes chemical burns.
Inhalation	: Harmful if inhaled. May cause respiratory tract irritation or chemical burns.
Ingestion	: Harmful if swallowed. May cause chemical burns to mouth, throat and stomach.

SECTION 12 - ECOLOGICAL INFORMATION

Eco toxicity	: Because of the low pH of this product, it would be expected to produce significant ecotoxicity upon exposure to aquatic organisms and aquatic systems.
Environmental Effects	: Harmful to aquatic life.



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SECTION 13 - DISPOSAL CONSIDERATIONS

Disposal Instructions : Waste must be disposed of in accordance with federal, state/provincial and local environmental control regulations..

SECTION - 14 - TRANSPORT INFORMATION

Transportation of Dangerous Goods - TDG

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

Shipping name	NITRIC ACID, other than red fuming with not more than 70% nitric acid	
Hazard class	8	
UN Number	UN2031	
Packing Group	II	

SECTION 15 - REGULATORY INFORMATION

Oxidizing Material. Corrosive Material

SECTION 16 - OTHER INFORMATION

Prepared by : Deepak Fertilisers and Petrochemicals corporation Ltd.

Disclaimer : **Disclaimer** Information contained herein was obtained from sources considered technically accurate and reliable. While every effort has been made to ensure full disclosure of product hazards, in some cases data is not available and is so stated. Since conditions of actual product use are beyond control of the supplier, it is assumed that users of this material have been fully trained according to the requirements of all applicable legislation and regulatory instruments. No warranty, expressed or implied, is made and supplier will not be liable for any losses, injuries or consequential damages which may result from the use of or reliance on any information contained in this document.

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