



## MATERIAL SAFETY DATA SHEET

### STRONG NITRIC ACID

#### **SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION**

|                         |   |                                                               |
|-------------------------|---|---------------------------------------------------------------|
| Chemical Name           | : | Strong Nitric Acid                                            |
| Chemical Formula        | : | HNO <sub>3</sub>                                              |
| 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                                          |
| Date prepared           | : | Apr, 2020                                                     |
| Revision #              | : | 00                                                            |

#### **SECTION 2 - COMPOSITION / INFORMATION ON INGREDIENTS**

|             |   |                                                                          |
|-------------|---|--------------------------------------------------------------------------|
| Composition | : | Nitric Acid 68% to 70%, CAS NO. 7697-37-2                                |
| Balance     | : | Water, CAS NO. 7732-18-5                                                 |
| ACGIH TLV   | : | TWA - 2ppm (5.2mg/m <sup>3</sup> ), STEL - 4ppm (10.0mg/m <sup>3</sup> ) |

#### **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, defatting 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. |
| 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.         |



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|                |                                                                                                                                                                                                                                                                                                                                                                           |
|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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.                                               |
| Extinguishing Media                       |                                                                                                                                                                                                                                       |
| 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. |
| Protection of Fire Fighters               | :                                                                                                                                                                                                                                     |
| 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, covered, labelled 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. |



## MATERIAL SAFETY DATA SHEET

### **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/m3)                                                                                                                                                       | STEL – 4ppm (10mg/m3) |
| 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-ignition Temperature  | : | Not applicable                    |
| Vapour Pressure            | : | 56 hPa @ 20 °C                    |
| Vapour Density             | : | 2.17 (air = 1)                    |
| Specific Gravity           | : | 1.51 @ 20 °C                      |
| Relative Density           | : | 1.4134g/cm <sup>3</sup> @20°C     |
| Water Solubility           | : | Complete                          |
| Molecular weight           | : | 63.02 g/mole                      |



## MATERIAL SAFETY DATA SHEET

**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 polymerisation 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

|                       |                                                                                                                                                          |
|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
| Ecotoxicity           | : 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.                                                                                                                               |

### 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



DEEPAK FERTILISERS AND  
PETROCHEMICALS CORPRN.LTD.

## MATERIAL SAFETY DATA SHEET

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                                                                     |  |
| Sub Risk      | 5.1                                                                   |  |
| UN Number     | UN2031                                                                |  |
| Packing Group | II                                                                    |  |

### SECTION 15 - REGULATORY INFORMATION

Oxidizing Material. Corrosive Material

### SECTION 16 - OTHER INFORMATION

Prepared by : SHE DEPT.

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.

**Issue date** 01 Apr-2020

**Effective Date** 01-Apr-2020

**Expiry Date** 31-Mar-2024

**Prepared by** Deepak Fertilisers & Petrochemicals Corporation Limited - India

**Other Information** For an updated MSDS, please contact the supplier/manufacturer listed on the first page of the document.

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DEEPAK FERTILISERS AND PETROCHEMICALS CORPORATION LIMITED

## **MATERIAL SAFETY DATA SHEET**

### **STRONG NITRIC ACID (SNA)**

#### **SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION**

|                         |   |                                                                                         |
|-------------------------|---|-----------------------------------------------------------------------------------------|
| Chemical Name           | : | Strong Nitric Acid                                                                      |
| Chemical Formula        | : | HNO <sub>3</sub>                                                                        |
| CAS Number              | : | 7697 - 37 - 2                                                                           |
| Synonyms                | : | Aqua Fortis, Azotic Acid                                                                |
| General Use             | : | Industrial Chemical                                                                     |
| Manufacturer's Name     | : | Deepak Fertilisers and Petrochemicals Corporation Limited                               |
| Address :               | : | Plot No. D/II/7/A, GIDC Dahej, Village Rahiyad, Taluka Vagra, District Bharuch - 392130 |
| Telephone no. for info. | : | +91-6357931062, 02641-689110 / 02641-689140                                             |
| Date prepared           | : | June, 2024                                                                              |
| Revision #              | : | 01                                                                                      |

#### **SECTION 2 - COMPOSITION / INFORMATION ON INGREDIENTS**

|                      |                 |
|----------------------|-----------------|
| Composition          | Nitric Acid 72% |
| Hazardous components | : Nitric Acid   |
| ACGIH TLV            | : 2 ppm         |

#### **SECTION 3 - HAZARDS IDENTIFICATION**

|                      |   |                                                                                                                                                                                                                                                                                                                                    |
|----------------------|---|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Primary Entry Routes | : | Inhalation, Skin & Eye contact and ingestion                                                                                                                                                                                                                                                                                       |
| Acute Effects        | : | Inhalation of vapours can cause breathing difficulties, severe exposure may lead to pneumonia and pulmonary edema. Ingestion can cause immediate pain & burns of mouth, throat and gastrointestinal tract, Skin contact can cause redness, pain and skin burns. Eye contact - vapours are irritating and may cause damage to eyes. |
| Carcinogenicity      | : | Not listed as carcinogenic                                                                                                                                                                                                                                                                                                         |
| Chronic Effects      | : | Long term exposures seldom occur due to corrosive properties of the acid, it may cause erosion of teeth and lung damage.                                                                                                                                                                                                           |
| NFPA rating          | : | Health - 3, Flammability - 0, Reactivity - 0, Other - Oxidizer                                                                                                                                                                                                                                                                     |

#### **SECTION 4 - FIRST AID MEASURES**

|            |   |                                                                                                                                                                         |
|------------|---|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Eyes       | : | Immediate flush eyes with plenty of water for at least 15 minutes, lifting lower and upper lids occasionally, get medical attention immediately.                        |
| Skin       | : | Remove contaminated clothing and shoes, flush skin with plenty of water for at least 15 minutes, get medical attention immediately.                                     |
| Inhalation | : | Remove to fresh air, if not breathing give artificial respiration, if breathing is difficult, give oxygen and get medical attention immediately.                        |
| Ingestion  | : | Do not induce vomiting, give large quantities of water or milk if available; do not give anything by mouth to an unconscious person, get medical attention immediately. |



## **MATERIAL SAFETY DATA SHEET**

### **SECTION 5 - FIRE FIGHTING MEASURES**

|                                   |   |                                                                                                                                                                     |
|-----------------------------------|---|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Flash point                       | : | Not Flammable                                                                                                                                                       |
| Flash point method                | : | Not Applicable                                                                                                                                                      |
| Auto ignition temp.               | : | Not Applicable                                                                                                                                                      |
| L E L                             | : | Not Applicable                                                                                                                                                      |
| U E L                             | : | Not Applicable                                                                                                                                                      |
| Flammability classifn.            | : | Not Flammable                                                                                                                                                       |
| Extinguishing media               | : | It is not combustible, however, water spray may be used to keep fire exposed containers cool.                                                                       |
| Unusual fire or explosion hazards | : | It is not combustible but reacts explosively with combustible organic or readily oxidisable material, reacts with most metals to release hydrogen gas               |
| Hazardous combustion products     | : | Emits toxic nitrogen oxide fumes and hydrogen nitrate when heated to decomposition.<br>Will react with water or steam to produce heat and toxic and corrosive fumes |
| Fire fighting instructions        | : | Water spray may be used to keep fire exposed containers cool, Ensure that water doesn't enter inside the containers.                                                |

### **SECTION 6 - ACCIDENTAL RELEASE MEASURES**

|              |   |                                                                           |
|--------------|---|---------------------------------------------------------------------------|
| Small Spills | : | Shut off leaks if without risk, dilute with alkali and drench with water. |
| Containment  | : | Prevent spillage from entering drains or water sources                    |
| Clean up     | : | Dilute with alkali and wash with water                                    |

### **SECTION 7 - HANDLING AND STORAGE**

|                      |   |                                                                                                                                 |
|----------------------|---|---------------------------------------------------------------------------------------------------------------------------------|
| Handling Precautions | : | Protect from physical damage                                                                                                    |
| Storage Requirements | : | Store in a cool dry ventilated storage area with acid resistance floors. Keep away from heat, water and incompatible materials. |

### **SECTION 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION**

|                                 |   |                                                                                          |
|---------------------------------|---|------------------------------------------------------------------------------------------|
| Engineering Controls            | : | Provide proper ventilation so as to maintain environment below air borne exposure limit. |
| Respiratory Protection          | : | If exposure limit is exceeded, use respiratory protection                                |
| Protective Clothing / equipment | : | Use full PVC Suit, PVC hand gloves and boots                                             |

### **SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES**

|                    |   |                                                |
|--------------------|---|------------------------------------------------|
| Physical State     | : | Liquid                                         |
| Appearance & Odour | : | Colourless to yellowish liquid , choking odour |
| Vapor Pressure     | : | 48 mmHg at 20 °C                               |
| Specific Gravity   | : | 1.36                                           |
| Water Solubility   | : | Soluble                                        |
| Boiling Point      | : | 122 °C                                         |
| Freezing Point     | : | (-) 42 °C                                      |
| Vapor Density      | : | 2 - 3                                          |



## **MATERIAL SAFETY DATA SHEET**

### **SECTION 10 - STABILITY AND REACTIVITY**

|                            |   |                                                                                                                                                         |
|----------------------------|---|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| Stability                  | : | Stable under ordinary condition                                                                                                                         |
| Chemical incompatibilities | : | It is powerful oxidizing agent and is incompatible with strong bases, metallic powders, carbides, hydrogen sulfide, turpentine and combustible organics |
| Conditions to Avoid        | : | Light and heat                                                                                                                                          |
| Hazardous                  | : | Emits toxic nitrogen oxides, fumes and hydrogen nitrate                                                                                                 |
| Decomposition product      | : | when heated to decomposition                                                                                                                            |

### **SECTION 11 - TOXICOLOGICAL INFORMATION**

|                          |   |                                                                                                                           |
|--------------------------|---|---------------------------------------------------------------------------------------------------------------------------|
| TLV as per ACIGH         | : | 2 ppm                                                                                                                     |
| Acute Inhalation Effects | : | Corrosive. Inhalation of vapour can cause breathing difficulties, over exposure may lead to pneumonia and pulmonary edema |

### **SECTION 12 - ECOLOGICAL INFORMATION**

Information not available

### **SECTION 13 - DISPOSAL CONSIDERATIONS**

|          |   |                                                                         |
|----------|---|-------------------------------------------------------------------------|
| Disposal | : | It may be disposed off by neutralizing with alkaline material and water |
|----------|---|-------------------------------------------------------------------------|

### **SECTION - 14 - TRANSPORT INFORMATION**

|               |             |             |
|---------------|-------------|-------------|
|               | DOT         | IMO         |
| Shipping name | Nitric Acid | Nitric Acid |
| Hazard class  | 8           | 8           |
| UN Number     | 2031        | 2031        |
| Packing Group | II          | II          |

### **SECTION 15 - REGULATORY INFORMATION**

Corrosive, oxidizer and poison

### **SECTION 16 - OTHER INFORMATION**

Prepared by : Deepak Fertilisers and Petrochemicals Corporation Limited

**Disclaimer :** This MSDS and the information it contains is offered to you in good faith as accurate. We believe that information to be correct but cannot guarantee its accuracy or completeness. Health and safety precautions in this data sheet may not be adequate for all individual and/or situations. It is the user's obligation to evaluate and use this product safely and to comply with all applicable laws and regulations. No statement made in this data sheet shall be construed as a permission or recommendation for the use of any product in a manner that might infringe existing patents.



DEEPAK FERTILISERS  
AND PETROCHEMICALS  
CORPORATION LIMITED

## MSDS - STRONG NITRIC ACID (SNA)

### SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

|                         |                                                                 |
|-------------------------|-----------------------------------------------------------------|
| Chemical Name           | : Nitric Acid 68 -70 %                                          |
| Chemical Formula        | : HNO <sub>3</sub>                                              |
| CAS Number              | : 7697-37-2      UN No. : 2031                                  |
| Synonyms                | : Aqua fortis, Azotic Acid                                      |
| General Use             | : Industrial chemicals                                          |
| Manufacturer's Name     | : Deepak Fertilisers And Petrochemicals Corporation. Ltd.       |
| Address :               | : Plot K-1, MIDC Indl Area, Talaja A.V., Dist: Raigad – 410 208 |
| Telephone no. for info. | : +91 - 022 - 50684000                                          |

### SECTION 2 - COMPOSITION / INFORMATION ON INGREDIENTS

|                      |                                               |
|----------------------|-----------------------------------------------|
| Composition          | : Nitric Acid 68- 70%                         |
| Hazardous components | : Nitric Acid                                 |
| ACGIH TLV            | : 2 ppm ,STEL - 4ppm (10.0mg/m <sup>3</sup> ) |

### SECTION 3 - HAZARDS IDENTIFICATION

|                      |                                                                                                                                                                                                                                                                                                                                          |
|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Primary Entry Routes | : Inhalation, skin, eyes and ingestion                                                                                                                                                                                                                                                                                                   |
| Acute Effects        | : Inhalation of vapours can cause breathing difficulties,severe exposure may lead to pneumonia and pulmonary edema. Ingestion can cause immediate pain & burns of mouth, throat and gastrointestinal tract,<br>Skin contact can cause redness,pain and skin burns.<br>Eye contact – vapours are irritating and may cause damage to eyes. |
| Carcinogenicity      | : Not listed as carcinogenic.                                                                                                                                                                                                                                                                                                            |
| Chronic Effects      | : Long term exposures seldom occur due to corrosive properties of the acid,it may cause erosion of teeth and lung damage.                                                                                                                                                                                                                |
| NFPA rating          | : Health -3, Reactivity -0, Flammability- 0                                                                                                                                                                                                                                                                                              |

### SECTION 4 - FIRST AID MEASURES

|            |                                                                                                                                                          |
|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
| Eyes       | : Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper lids occasionally get medical attention immediately.      |
| Skin       | : Remove contaminated clothing and shoes, flush skin with plenty of water for at least 15 minutes, get medical attention immediately.                    |
| Inhalation | : Remove victim to fresh air. If not breathing give artificial respiration, If breathing is difficult, give oxygen and get medical attention immediately |

### 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**

|              |                                                                                                   |
|--------------|---------------------------------------------------------------------------------------------------|
| Small Spills | : Shut off leaks without risk, dilute with alkali and drench with water.                          |
| Clean Up     | : Prevent spillage from entering drains or water sources. Dilute with alkali and wash with water. |

#### **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**

|                                |                                                                                                                                                                               |
|--------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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, Chocking odour.                                                                                                                                                                                                                                                                                                                                                             |
| Vapor Pressure                                              | : 48 mmHg at 20°C                                                                                                                                                                                                                                                                                                                                                                                                |
| Specific Gravity                                            | : 1.36                                                                                                                                                                                                                                                                                                                                                                                                           |
| Water Solubility                                            | : Soluble                                                                                                                                                                                                                                                                                                                                                                                                        |
| Freezing Point                                              | : (-) 42 °C                                                                                                                                                                                                                                                                                                                                                                                                      |
| Boiling Point                                               | : 84 °C                                                                                                                                                                                                                                                                                                                                                                                                          |
| Vapour density                                              | : 2 - 3                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>SECTION 10 - STABILITY AND REACTIVITY</b>                |                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Stability                                                   | : Stable under ordinary condition.                                                                                                                                                                                                                                                                                                                                                                               |
| Chemical incompatibilities                                  | : It is powerful oxidizing agent and is incompatible with strong bases, metallic powder, carbides, hydrogen sulphide, turpentine and combustible organics.                                                                                                                                                                                                                                                       |
| Conditions to Avoid hazards Hazardous Decomposition product | : Light and heat. Emits toxic nitrogen oxides, fumes and hydrogen nitrate when heated to decomposition.                                                                                                                                                                                                                                                                                                          |
| <b>SECTION 11 - TOXICOLOGICAL INFORMATION</b>               |                                                                                                                                                                                                                                                                                                                                                                                                                  |
| TLV as per ACIGH                                            | : 2 ppm                                                                                                                                                                                                                                                                                                                                                                                                          |
| Acute - Inhalation                                          | : Corrosive Inhalation of vapour can cause breathing difficulties, over                                                                                                                                                                                                                                                                                                                                          |
| <b>SECTION 12 - ECOLOGICAL INFORMATION</b>                  |                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Environmental toxicity                                      | : Ecotoxicity: Not available.<br>: BOD5 and COD: Not available.<br>: Products of Biodegradation:<br>: Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.<br>Toxicity of the Products of Biodegradation: The product itself and its products of degradation are not toxic.<br>Special Remarks on the Products of Biodegradation: Not available |
| <b>SECTION 13 - DISPOSAL CONSIDERATIONS</b>                 |                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Disposal                                                    | : It may be disposed off by neutralizing with alkaline materials and water.                                                                                                                                                                                                                                                                                                                                      |
| <b>SECTION - 14 - TRANSPORT INFORMATION</b>                 |                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Shipping Name                                               | : Nitric Acid                                                                                                                                                                                                                                                                                                                                                                                                    |
| Shipping Lables                                             | : Nitric Acid                                                                                                                                                                                                                                                                                                                                                                                                    |
| Hazard class                                                | : 8                                                                                                                                                                                                                                                                                                                                                                                                              |
| UN Number                                                   | : 2031                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>SECTION 15 - REGULATORY INFORMATION</b>                  |                                                                                                                                                                                                                                                                                                                                                                                                                  |
| : Oxidizing, Corrosive Material                             |                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>SECTION 16 - OTHER INFORMATION</b>                       |                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Prepared by                                                 | Deepak Fertilisers and Petrochemicals Corporation Ltd.                                                                                                                                                                                                                                                                                                                                                           |

|                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Disclaimer                  | <p>This MSDS and the information it contains is offered to you in good faith as accurate. We believe that information to be correct but cannot guarantee its accuracy or completeness. Health and safety precautions in this data sheet may not be adequate for all individual and/or situations. It is the user's obligation to evaluate and use this product safely and to comply with all applicable laws and regulations. No statement made in this data sheet shall be construed as a permission or recommendation for the use of any product in a manner that might infringe existing patents</p> |
| Review No. & Date of Review | 01-03-2021                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Date of Next Review         | 01-03-2026                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |



DEEPAK FERTILISERS  
AND PETROCHEMICALS  
CORPORATION LIMITED

## MSDS - CONCENTRATED NITRIC ACID

### SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

|                         |                                                                 |
|-------------------------|-----------------------------------------------------------------|
| Chemical Name           | : Concentrated Nitric Acid                                      |
| Chemical Formula        | : $\text{HNO}_3$                                                |
| CAS Number              | : 7697-37-2 UN No. : 2031                                       |
| Synonyms                | : Aqua fortis, Azotic Acid                                      |
| General Use             | : Industrial chemicals                                          |
| 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 - 50684000                                          |

### SECTION 2 - COMPOSITION / INFORMATION ON INGREDIENTS

|                      |                   |
|----------------------|-------------------|
| Composition          | : Nitric Acid 98% |
| Hazardous components | : Nitric Acid     |
| ACGIH TLV            | : 2 ppm           |

### SECTION 3 - HAZARDS IDENTIFICATION

|                      |                                                                                                                                                                                                                                                                                                                                            |
|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Primary Entry Routes | : Inhalation, skin, eyes and ingestion                                                                                                                                                                                                                                                                                                     |
| Acute Effects        | : Inhalation of vapours can cause breathing difficulties, severe exposure may lead to pneumonia and pulmonary edema. Ingestion can cause immediate pain & burns of mouth, throat and gastrointestinal tract,<br>Skin contact can cause redness, pain and skin burns.<br>Eye contact – vapours are irritating and may cause damage to eyes. |
| Carcinogenicity      | : Not listed as carcinogenic.                                                                                                                                                                                                                                                                                                              |
| Chronic Effects      | : Long term exposures seldom occur due to corrosive properties of the acid, it may cause erosion of teeth and lung damage.                                                                                                                                                                                                                 |
| NFPA rating          | : Health -3, Reactivity -0, Flammability- 0                                                                                                                                                                                                                                                                                                |

### SECTION 4 - FIRST AID MEASURES

|            |                                                                                                                                                          |
|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
| Eyes       | : Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper lids occasionally get medical attention immediately.      |
| Skin       | : Remove contaminated clothing and shoes, flush skin with plenty of water for at least 15 minutes, get medical attention immediately.                    |
| Inhalation | : Remove victim to fresh air. If not breathing give artificial respiration, If breathing is difficult, give oxygen and get medical attention immediately |

### SECTION 5 - FIRE FIGHTING MEASURES

|                                  |                                                                                                                                                                                                    |
|----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Flash point                      | : Not Flammable.                                                                                                                                                                                   |
| Flash point method               | ; Not applicable                                                                                                                                                                                   |
| Auto ignition temp.              | ; Not applicable.                                                                                                                                                                                  |
| L E L                            | : Not applicable.                                                                                                                                                                                  |
| U E L                            | : Not applicable.                                                                                                                                                                                  |
| Flammability classifn.           | : Not applicable.                                                                                                                                                                                  |
| Extinguishing media              | : It is not combustible,however,water spray may be used to keep fire exposed containers cool.                                                                                                      |
| Unusual fire or explosion Hazard | : It is not combustible but reacts with explosively with combustible organic or readily oxidisable materials,react with most metal to release hydrogen gas.                                        |
| Hazardous combustion products    | : Emits toxic nitrogen oxides fumes and hydrogen nitrate fumes and hydrogen nitrate when heated to decomposition.<br>Will react with water or steam to produce heat and toxic and corrosive fumes. |
| Fire fighting instructions       | : Water spray may be used to keep fire exposed containers cool, Ensure that water doesn't enter inside the containers.                                                                             |

#### **SECTION 6 - ACCIDENTAL RELEASE MEASURES**

|              |                                                                                                      |
|--------------|------------------------------------------------------------------------------------------------------|
| Small Spills | : Shut off leaks without risk, dilute with alkali and drench with water.                             |
| Clean Up     | : Prevent spillage from entering drains or water sources.<br>Dilute with alkali and wash with water. |

#### **SECTION 7 - HANDLING AND STORAGE**

|                      |                                                                                                                                   |
|----------------------|-----------------------------------------------------------------------------------------------------------------------------------|
| Handling Precautions | : Protect from physical damage.                                                                                                   |
| Storage Requirements | : Store in a cool dry ventilated storage area with acid resistance floors. Keep away from heat, water and incompatible materials. |

#### **SECTION 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION**

|                                 |                                                                                            |
|---------------------------------|--------------------------------------------------------------------------------------------|
| Engineering Controls            | : Provide proper ventilation so as to maintain environment below air borne exposure limit. |
| Respiratory Protection          | : If exposure limit is exceeded,use respiratory protection.                                |
| Protective Clothing / Equipment | : Use full PVC Suit, PVC hand gloves and safety shoes.                                     |

#### **SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES**

|                    |                                                            |
|--------------------|------------------------------------------------------------|
| Physical State     | : Liquid                                                   |
| Appearance & Odour | : Colourless to light yellow fuming liquid,Chocking odour. |
| Vapor Pressure     | : 48 mmHg at 20°C                                          |
| Specific Gravity   | : 1.36                                                     |
| Water Solubility   | : Soluble                                                  |
| Freezing Point     | : (-) 42 °C                                                |
| Boiling Point      | : 84 °C                                                    |
| Vapour density     | : 2 - 3                                                    |

#### **SECTION 10 - STABILITY AND REACTIVITY**

|                                                             |                                                                                                                                                        |
|-------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| Stability                                                   | : Stable under ordinary condition.                                                                                                                     |
| Chemical incompatibilities                                  | : It is powerful oxidizing agent and is incompatible with strong bases,metallic powder,carbides,hydrogen sulphide,turpentine and combustible organics. |
| Conditions to Avoid hazards Hazardous Decomposition product | : Light and heat.Emits toxic nitrogen oxides,fumes and hydrogen nitrate when heated to decomposition.                                                  |

#### **SECTION 11 - TOXICOLOGICAL INFORMATION**

|                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|---------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TLV as per ACIGH                            | ; 2 ppm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Acute - Inhalation                          | : Corrosive Inhalation of vapour can cause breathing difficulties, over                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>SECTION 12 - ECOLOGICAL INFORMATION</b>  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Environmental toxicity                      | : Ecotoxicity: Not available.<br>: BOD5 and COD: Not available.<br>: Products of Biodegradation:<br>; Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.<br>Toxicity of the Products of Biodegradation: The product itself and its products of degradation are not toxic.<br>Special Remarks on the Products of Biodegradation: Not available                                                                                                                                                                                 |
| <b>SECTION 13 - DISPOSAL CONSIDERATIONS</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Disposal                                    | : It may be disposed off by neutralizing with alkaline materials and water.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>SECTION - 14 - TRANSPORT INFORMATION</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Shipping Name                               | : Nitric Acid                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Shipping Labels                             | : Nitric Acid                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Hazard class                                | : 8                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| UN Number                                   | : 2031                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>SECTION 15 - REGULATORY INFORMATION</b>  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| : Oxidizing, Corrosive Material             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>SECTION 16 - OTHER INFORMATION</b>       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Prepared by                                 | Deepak Fertilisers and Petrochemicals Corporation Ltd.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Disclaimer                                  | This MSDS and the information it contains is offered to you in good faith as accurate. We believe that information to be correct but cannot guarantee its accuracy or completeness. Health and safety precautions in this data sheet may not be adequate for all individual and/or situations. It is the user's obligation to evaluate and use this product safely and to comply with all applicable laws and regulations. No statement made in this data sheet shall be construed as a permission or recommendation for the use of any product in a manner that might infringe existing patents |
| Review No. & Date of Review                 | 01-03-2021                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Date of Next Review                         | 01-03-2026                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |



DEEPAK FERTILISERS AND PETROCHEMICALS CORPORATION LIMITED

## **MATERIAL SAFETY DATA SHEET**

### **CONCENTRATED NITRIC ACID (CNA)**

#### **SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION**

|                         |   |                                                                                         |
|-------------------------|---|-----------------------------------------------------------------------------------------|
| Chemical Name           | : | Concentrated Nitric Acid                                                                |
| Chemical Formula        | : | HNO <sub>3</sub>                                                                        |
| CAS Number              | : | 7696 - 37 - 2                                                                           |
| Synonyms                | : | Aqua Fortis Azotic Acid                                                                 |
| General Use             | : | Industrial Chemical                                                                     |
| Manufacturer's Name     | : | Deepak Fertilisers and Petrochemicals Corporation Limited                               |
| Address :               | : | Plot No. D/II/7/A, GIDC Dahej, Village Rahiyad, Taluka Vagra, District Bharuch - 392130 |
| Telephone no. for info. | : | +91-6357931062, 02641-689110 / 02641-689140                                             |
| Date prepared           | : | June, 2024                                                                              |
| Revision #              | : | 01                                                                                      |

#### **SECTION 2 - COMPOSITION / INFORMATION ON INGREDIENTS**

|                      |                 |
|----------------------|-----------------|
| Composition          | Nitric Acid 98% |
| Hazardous components | : Nitric Acid   |
| ACGIH TLV            | : 2 ppm         |

#### **SECTION 3 - HAZARDS IDENTIFICATION**

|                      |   |                                                                                                                                                                                                                                                                                                                                    |
|----------------------|---|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Primary Entry Routes | : | Inhalation, Skin & Eye contact and ingestion                                                                                                                                                                                                                                                                                       |
| Acute Effects        | : | Inhalation of vapours can cause breathing difficulties, severe exposure may lead to pneumonia and pulmonary edema. Ingestion can cause immediate pain & burns of mouth, throat and gastrointestinal tract, Skin contact can cause redness, pain and skin burns. Eye contact - vapours are irritating and may cause damage to eyes. |
| Carcinogenicity      | : | Not listed as carcinogenic                                                                                                                                                                                                                                                                                                         |
| Chronic Effects      | : | Long term exposures seldom occur due to corrosive properties of the acid, it may cause erosion of teeth and lung damage.                                                                                                                                                                                                           |
| NFPA rating          | : | Health - 3, Flammability - 0, Reactivity - 0, Other - Oxidizer                                                                                                                                                                                                                                                                     |

#### **SECTION 4 - FIRST AID MEASURES**

|            |   |                                                                                                                                                                         |
|------------|---|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Eyes       | : | Immediate flush eyes with plenty of water for at least 15 minutes, lifting lower and upper lids occasionally, get medical attention immediately.                        |
| Skin       | : | Remove contaminated clothing and shoes, flush skin with plenty of water for at least 15 minutes, get medical attention immediately.                                     |
| Inhalation | : | Remove to fresh air, if not breathing give artificial respiration, if breathing is difficult, give oxygen and get medical attention immediately.                        |
| Ingestion  | : | Do not induce vomiting, give large quantities of water or milk if available; do not give anything by mouth to an unconscious person, get medical attention immediately. |



## **MATERIAL SAFETY DATA SHEET**

### **SECTION 5 - FIRE FIGHTING MEASURES**

|                                   |   |                                                                                                                                                                     |
|-----------------------------------|---|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Flash point                       | : | Not Flammable                                                                                                                                                       |
| Flash point method                | : | Not Applicable                                                                                                                                                      |
| Auto ignition temp.               | : | Not Applicable                                                                                                                                                      |
| L E L                             | : | Not Applicable                                                                                                                                                      |
| U E L                             | : | Not Applicable                                                                                                                                                      |
| Flammability classifn.            | : | Not Flammable                                                                                                                                                       |
| Extinguishing media               | : | It is not combustible, however, water spray may be used to keep fire exposed containers cool.                                                                       |
| Unusual fire or explosion hazards | : | It is not combustible but reacts explosively with combustible organic or readily oxidisable material, reacts with most metals to release hydrogen gas               |
| Hazardous combustion products     | : | Emits toxic nitrogen oxide fumes and hydrogen nitrate when heated to decomposition.<br>Will react with water or steam to produce heat and toxic and corrosive fumes |
| Fire fighting instructions        | : | Water spray may be used to keep fire exposed containers cool, Ensure that water doesn't enter inside the containers.                                                |

### **SECTION 6 - ACCIDENTAL RELEASE MEASURES**

|              |   |                                                                           |
|--------------|---|---------------------------------------------------------------------------|
| Small Spills | : | Shut off leaks if without risk, dilute with alkali and drench with water. |
| Containment  | : | Prevent spillage from entering drains or water sources                    |
| Clean up     | : | Dilute with alkali and wash with water                                    |

### **SECTION 7 - HANDLING AND STORAGE**

|                      |                                                                                                                                 |
|----------------------|---------------------------------------------------------------------------------------------------------------------------------|
| Handling Precautions | Protect from physical damage                                                                                                    |
| Storage Requirements | Store in a cool dry ventilated storage area with acid resistance floors. Keep away from heat, water and incompatible materials. |

### **SECTION 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION**

|                                 |   |                                                                                          |
|---------------------------------|---|------------------------------------------------------------------------------------------|
| Engineering Controls            | : | Provide proper ventilation so as to maintain environment below air borne exposure limit. |
| Respiratory Protection          | : | If exposure limit is exceeded, use respiratory protection                                |
| Protective Clothing / equipment | : | Use full PVC Suit, PVC hand gloves and boots                                             |

### **SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES**

|                    |   |                                           |
|--------------------|---|-------------------------------------------|
| Physical State     | : | Liquid                                    |
| Appearance & Odour | : | Colourless to pale yellow , choking odour |
| Vapor Pressure     | : | 48 mmHg at 20 °C                          |
| Specific Gravity   | : | 1.49                                      |
| Water Solubility   | : | Soluble                                   |
| Boiling Point      | : | 84° C                                     |
| Freezing Point     | : | (-) 42 °C                                 |
| Vapor Density      | : | 2 - 3                                     |



## **MATERIAL SAFETY DATA SHEET**

### **SECTION 10 - STABILITY AND REACTIVITY**

|                                 |   |                                                                                                                                                         |
|---------------------------------|---|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| Stability                       | : | Stable under ordinary condition                                                                                                                         |
| Chemical incompatibilities      | : | It is powerful oxidizing agent and is incompatible with strong bases, metallic powders, carbides, hydrogen sulfide, turpentine and combustible organics |
| Conditions to Avoid             | : | Light and heat                                                                                                                                          |
| Hazardous Decomposition product | : | Emits toxic nitrogen oxides, fumes and hydrogen nitrate when heated to decomposition                                                                    |

### **SECTION 11 - TOXICOLOGICAL INFORMATION**

|                          |   |                                                                                                                           |
|--------------------------|---|---------------------------------------------------------------------------------------------------------------------------|
| TLV as per ACIGH         | : | 2 ppm                                                                                                                     |
| Acute Inhalation Effects | : | Corrosive. Inhalation of vapour can cause breathing difficulties, over exposure may lead to pneumonia and pulmonary edema |

### **SECTION 12 - ECOLOGICAL INFORMATION**

Information not available

### **SECTION 13 - DISPOSAL CONSIDERATIONS**

Disposal : It may be disposed off by neutralizing with alkaline material and water

### **SECTION - 14 - TRANSPORT INFORMATION**

|               |             |
|---------------|-------------|
|               | DOT         |
| Shipping name | Nitric Acid |
| Hazard class  | 8           |
| UN Number     | 2031        |

### **SECTION 15 - REGULATORY INFORMATION**

Corrosive, oxidizer and poison

### **SECTION 16 - OTHER INFORMATION**

Prepared by : Deepak Fertilisers and Petrochemicals Corporation Limited

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DEEPAK FERTILISERS AND PETROCHEMICALS CORPORATION LIMITED

## **MATERIAL SAFETY DATA SHEET**

### **WEAK NITRIC ACID (WNA)**

#### **SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION**

|                         |   |                                                                                         |
|-------------------------|---|-----------------------------------------------------------------------------------------|
| Chemical Name           | : | Weak Nitric Acid                                                                        |
| Chemical Formula        | : | HNO <sub>3</sub>                                                                        |
| CAS Number              | : | 7697 - 37 - 2                                                                           |
| Synonyms                | : | Aqua Fortis, Azotic Acid                                                                |
| General Use             | : | Industrial Chemical                                                                     |
| Manufacturer's Name     | : | Deepak Fertilisers and Petrochemicals Corporation Limited                               |
| Address :               | : | Plot No. D/II/7/A, GIDC Dahej, Village Rahiyad, Taluka Vagra, District Bharuch - 392130 |
| Telephone no. for info. | : | +91-6357931062, 02641-689110 / 02641-689140                                             |
| Date prepared           | : | June, 2024                                                                              |
| Revision #              | : | 01                                                                                      |

#### **SECTION 2 - COMPOSITION / INFORMATION ON INGREDIENTS**

|                      |                 |
|----------------------|-----------------|
| Composition          | Nitric Acid 60% |
| Hazardous components | : Nitric Acid   |
| ACGIH TLV            | : 2 ppm         |

#### **SECTION 3 - HAZARDS IDENTIFICATION**

|                      |   |                                                                                                                                                                                                                                                                                                                                    |
|----------------------|---|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Primary Entry Routes | : | Inhalation, Skin & Eye contact and ingestion                                                                                                                                                                                                                                                                                       |
| Acute Effects        | : | Inhalation of vapours can cause breathing difficulties, severe exposure may lead to pneumonia and pulmonary edema. Ingestion can cause immediate pain & burns of mouth, throat and gastrointestinal tract, Skin contact can cause redness, pain and skin burns. Eye contact - vapours are irritating and may cause damage to eyes. |
| Carcinogenicity      | : | Not listed as carcinogenic                                                                                                                                                                                                                                                                                                         |
| Chronic Effects      | : | Long term exposures seldom occur due to corrosive properties of the acid, it may cause erosion of teeth and lung damage.                                                                                                                                                                                                           |
| NFPA rating          | : | Health - 3, Flammability - 0, Reactivity - 0, Other - Oxidizer                                                                                                                                                                                                                                                                     |

#### **SECTION 4 - FIRST AID MEASURES**

|            |   |                                                                                                                                                  |
|------------|---|--------------------------------------------------------------------------------------------------------------------------------------------------|
| Eyes       | : | Immediate flush eyes with plenty of water for at least 15 minutes, lifting lower and upper lids occasionally, get medical attention immediately. |
| Skin       | : | Remove contaminated clothing and shoes, flush skin with plenty of water for at least 15 minutes, get medical attention immediately.              |
| Inhalation | : | Remove to fresh air, if not breathing give artificial respiration, if breathing is difficult, give oxygen and get medical attention immediately. |



## **MATERIAL SAFETY DATA SHEET**

|           |   |                                                                                                                                                                         |
|-----------|---|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Ingestion | : | Do not induce vomiting, give large quantities of water or milk if available; do not give anything by mouth to an unconscious person, get medical attention immediately. |
|-----------|---|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

### **SECTION 5 - FIRE FIGHTING MEASURES**

|                                   |   |                                                                                                                                                                     |
|-----------------------------------|---|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Flash point                       | : | Not Flammable                                                                                                                                                       |
| Flash point method                | : | Not Applicable                                                                                                                                                      |
| Auto ignition temp.               | : | Not Applicable                                                                                                                                                      |
| L E L                             | : | Not Applicable                                                                                                                                                      |
| U E L                             | : | Not Applicable                                                                                                                                                      |
| Flammability classifn.            | : | Not Flammable                                                                                                                                                       |
| Extinguishing media               | : | It is not combustible, however, water spray may be used to keep fire exposed containers cool.                                                                       |
| Unusual fire or explosion hazards | : | It is not combustible but reacts explosively with combustible organic or readily oxidisable material, reacts with most metals to release hydrogen gas               |
| Hazardous combustion products     | : | Emits toxic nitrogen oxide fumes and hydrogen nitrate when heated to decomposition.<br>Will react with water or steam to produce heat and toxic and corrosive fumes |
| Fire fighting instructions        | : | Water spray may be used to keep fire exposed containers cool, Ensure that water doesn't enter inside the containers.                                                |

### **SECTION 6 - ACCIDENTAL RELEASE MEASURES**

|              |   |                                                                           |
|--------------|---|---------------------------------------------------------------------------|
| Small Spills | : | Shut off leaks if without risk, dilute with alkali and drench with water. |
| Containment  | : | Prevent spillage from entering drains or water sources                    |
| Clean up     | : | Dilute with alkali and wash with water                                    |

### **SECTION 7 - HANDLING AND STORAGE**

|                      |                                                                                                                                 |
|----------------------|---------------------------------------------------------------------------------------------------------------------------------|
| Handling Precautions | Protect from physical damage                                                                                                    |
| Storage Requirements | Store in a cool dry ventilated storage area with acid resistance floors. Keep away from heat, water and incompatible materials. |

### **SECTION 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION**

|                                 |   |                                                                                          |
|---------------------------------|---|------------------------------------------------------------------------------------------|
| Engineering Controls            | : | Provide proper ventilation so as to maintain environment below air borne exposure limit. |
| Respiratory Protection          | : | If exposure limit is exceeded, use respiratory protection                                |
| Protective Clothing / equipment | : | Use full PVC Suit, PVC hand gloves and boots                                             |



DEEPAK FERTILISERS AND PETROCHEMICALS CORPORATION LIMITED

## **MATERIAL SAFETY DATA SHEET**

### **SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES**

|                    |   |                                                |
|--------------------|---|------------------------------------------------|
| Physical State     | : | Liquid                                         |
| Appearance & Odour | : | Colourless to yellowish liquid , choking odour |
| Vapor Pressure     | : | 48 mmHg at 20 °C                               |
| Specific Gravity   | : | 1.36                                           |
| Water Solubility   | : | Soluble                                        |
| Boiling Point      | : | 122 °C                                         |
| Freezing Point     | : | (-) 42 °C                                      |
| Vapor Density      | : | 2 - 3                                          |

### **SECTION 10 - STABILITY AND REACTIVITY**

|                                 |   |                                                                                                                                                         |
|---------------------------------|---|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| Stability                       | : | Stable under ordinary condition                                                                                                                         |
| Chemical incompatibilities      | : | It is powerful oxidizing agent and is incompatible with strong bases, metallic powders, carbides, hydrogen sulfide, turpentine and combustible organics |
| Conditions to Avoid             | : | Light and heat                                                                                                                                          |
| Hazardous Decomposition product | : | Emits toxic nitrogen oxides, fumes and hydrogen nitrate when heated to decomposition                                                                    |

### **SECTION 11 - TOXICOLOGICAL INFORMATION**

|                          |   |                                                                                                                           |
|--------------------------|---|---------------------------------------------------------------------------------------------------------------------------|
| TLV as per ACIGH         | : | 2 ppm                                                                                                                     |
| Acute Inhalation Effects | : | Corrosive. Inhalation of vapour can cause breathing difficulties, over exposure may lead to pneumonia and pulmonary edema |

### **SECTION 12 - ECOLOGICAL INFORMATION**

Information not available

### **SECTION 13 - DISPOSAL CONSIDERATIONS**

|          |   |                                                                         |
|----------|---|-------------------------------------------------------------------------|
| Disposal | : | It may be disposed off by neutralizing with alkaline material and water |
|----------|---|-------------------------------------------------------------------------|

### **SECTION - 14 - TRANSPORT INFORMATION**

|               |             |             |
|---------------|-------------|-------------|
|               | DOT         | IMO         |
| Shipping name | Nitric Acid | Nitric Acid |
| Hazard class  | 8           | 8           |
| UN Number     | 2031        | 2031        |
| Packing Group | II          | II          |



DEEPAK FERTILISERS AND PETROCHEMICALS CORPORATION LIMITED

## **MATERIAL SAFETY DATA SHEET**

### **SECTION 15 - REGULATORY INFORMATION**

Corrosive, oxidizer and poison

### **SECTION 16 - OTHER INFORMATION**

Prepared by : Deepak Fertilisers and Petrochemicals Corporation Limited

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**DEEPAK FERTILISERS  
AND PETROCHEMICALS  
CORPORATION LIMITED**

**MSDS - WNA**

**SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION**

|                         |                                                                 |
|-------------------------|-----------------------------------------------------------------|
| Chemical Name           | : Weak Nitric Acid 58 %                                         |
| Chemical Formula        | : HNO <sub>3</sub>                                              |
| CAS Number              | : 7697-37-2 UN No. : 2031                                       |
| Synonyms                | : Aqua fortis, Azotic Acid                                      |
| General Use             | : Industrial chemicals                                          |
| 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 60% |
| Hazardous components | : Nitric Acid     |
| ACGIH TLV            | : 2 ppm           |

**SECTION 3 - HAZARDS IDENTIFICATION**

|                      |                                                                                                                                                                                                                                                                                                                                            |
|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Primary Entry Routes | : Inhalation, skin, eyes and ingestion                                                                                                                                                                                                                                                                                                     |
| Acute Effects        | : Inhalation of vapours can cause breathing difficulties, severe exposure may lead to pneumonia and pulmonary edema. Ingestion can cause immediate pain & burns of mouth, throat and gastrointestinal tract,<br>Skin contact can cause redness, pain and skin burns.<br>Eye contact – vapours are irritating and may cause damage to eyes. |
| Carcinogenicity      | : Not listed as carcinogenic.                                                                                                                                                                                                                                                                                                              |
| Chronic Effects      | : Long term exposures seldom occur due to corrosive properties of the acid, it may cause erosion of teeth and lung damage.                                                                                                                                                                                                                 |
| NFPA rating          | : Health -3, Reactivity -0, Flammability- 0                                                                                                                                                                                                                                                                                                |

**SECTION 4 - FIRST AID MEASURES**

|            |                                                                                                                                                          |
|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
| Eyes       | : Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper lids occasionally get medical attention immediately.      |
| Skin       | : Remove contaminated clothing and shoes, flush skin with plenty of water for at least 15 minutes, get medical attention immediately.                    |
| Inhalation | : Remove victim to fresh air. If not breathing give artificial respiration, If breathing is difficult, give oxygen and get medical attention immediately |

**SECTION 5 - FIRE FIGHTING MEASURES**

|                                  |                                                                                                                                                                                                    |
|----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Flash point                      | : Not Flammable.                                                                                                                                                                                   |
| Flash point method               | ; Not applicable                                                                                                                                                                                   |
| Auto ignition temp.              | ; Not applicable.                                                                                                                                                                                  |
| L E L                            | : Not applicable.                                                                                                                                                                                  |
| U E L                            | : Not applicable.                                                                                                                                                                                  |
| Flammability classifn.           | : Not applicable.                                                                                                                                                                                  |
| Extinguishing media              | : It is not combustible,however,water spray may be used to keep fire exposed containers cool.                                                                                                      |
| Unusual fire or explosion Hazard | : It is not combustible but reacts with explosively with combustible organic or readily oxidisable materials,react with most metal to release hydrogen gas.                                        |
| Hazardous combustion products    | : Emits toxic nitrogen oxides fumes and hydrogen nitrate fumes and hydrogen nitrate when heated to decomposition.<br>Will react with water or steam to produce heat and toxic and corrosive fumes. |
| Fire fighting instructions       | : Water spray may be used to keep fire exposed containers cool, Ensure that water doesn't enter inside the containers.                                                                             |

#### **SECTION 6 - ACCIDENTAL RELEASE MEASURES**

|              |                                                                                                      |
|--------------|------------------------------------------------------------------------------------------------------|
| Small Spills | : Shut off leaks without risk, dilute with alkali and drench with water.                             |
| Clean Up     | : Prevent spillage from entering drains or water sources.<br>Dilute with alkali and wash with water. |

#### **SECTION 7 - HANDLING AND STORAGE**

|                      |                                                                                                                                   |
|----------------------|-----------------------------------------------------------------------------------------------------------------------------------|
| Handling Precautions | : Protect from physical damage.                                                                                                   |
| Storage Requirements | : Store in a cool dry ventilated storage area with acid resistance floors. Keep away from heat, water and incompatible materials. |

#### **SECTION 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION**

|                                 |                                                                                            |
|---------------------------------|--------------------------------------------------------------------------------------------|
| Engineering Controls            | : Provide proper ventilation so as to maintain environment below air borne exposure limit. |
| Respiratory Protection          | : If exposure limit is exceeded,use respiratory protection.                                |
| Protective Clothing / Equipment | : Use full PVC Suit, PVC hand gloves and safety shoes.                                     |

#### **SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES**

|                    |                                                     |
|--------------------|-----------------------------------------------------|
| Physical State     | : Liquid                                            |
| Appearance & Odour | : Colourless to light yellow liquid,Chocking odour. |
| Vapor Pressure     | : 48 mmHg at 200C                                   |
| Specific Gravity   | : 1.36                                              |
| Water Solubility   | : Soluble                                           |
| Freezing Point     | : (-) 42 0C                                         |
| Boiling Point      | : 122 0C                                            |
| Vapour density     | : 2 - 3                                             |

#### **SECTION 10 - STABILITY AND REACTIVITY**

|                                                             |                                                                                                                                                        |
|-------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| Stability                                                   | : Stable under ordinary condition.                                                                                                                     |
| Chemical incompatibilities                                  | : It is powerful oxidizing agent and is incompatible with strong bases,metallic powder,carbides,hydrogen sulphide,turpentine and combustible organics. |
| Conditions to Avoid hazards Hazardous Decomposition product | : Light and heat.Emits toxic nitrogen oxides,fumes and hydrogen nitrate when heated to decomposition.                                                  |

#### **SECTION 11 - TOXICOLOGICAL INFORMATION**

|                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|---------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TLV as per ACIGH                            | ; 2 ppm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Acute - Inhalation                          | : Corrosive Inhalation of vapour can cause breathing difficulties, over                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>SECTION 12 - ECOLOGICAL INFORMATION</b>  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Environmental toxicity                      | : Ecotoxicity: Not available.<br>: BOD5 and COD: Not available.<br>: Products of Biodegradation:<br>; Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.<br>Toxicity of the Products of Biodegradation: The product itself and its products of degradation are not toxic.<br>Special Remarks on the Products of Biodegradation: Not available                                                                                                                                                                                 |
| <b>SECTION 13 - DISPOSAL CONSIDERATIONS</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Disposal                                    | : It may be disposed off by neutralizing with alkaline materials and water.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>SECTION - 14 - TRANSPORT INFORMATION</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Shipping Name                               | : Nitric Acid                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Shipping Lables                             | : DOT<br>UN-No UN2031<br>Proper Shipping Name NITRIC ACID<br>Hazard Class 8<br>Subsidiary Hazard Class 5.1<br>Packing Group II<br>TDG<br>UN-No UN2031<br>Proper Shipping Name NITRIC ACID<br>Hazard Class 8<br>Subsidiary Hazard Class 5.1<br>Packing Group II<br>IATA<br>UN-No UN2031<br>Proper Shipping Name NITRIC ACID<br>Hazard Class 8<br>Subsidiary Hazard Class 5.1<br>Packing Group II                                                                                                                                                                                                  |
| <b>SECTION 15 - REGULATORY INFORMATION</b>  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| : Oxidizing, Corrosive Material             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>SECTION 16 - OTHER INFORMATION</b>       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Prepared by                                 | Deepak Fertilisers and Petrochemicals Corporation Ltd.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Disclaimer                                  | This MSDS and the information it contains is offered to you in good faith as accurate. We believe that information to be correct but cannot guarantee its accuracy or completeness. Health and safety precautions in this data sheet may not be adequate for all individual and/or situations. It is the user's obligation to evaluate and use this product safely and to comply with all applicable laws and regulations. No statement made in this data sheet shall be construed as a permission or recommendation for the use of any product in a manner that might infringe existing patents |

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|-----------------------------|------------|
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