SECTION 1: Identification

1.1. Identification
Product form: Mixtures
Product name: Nitric Acid, 1.0N (1.0M)
Product code: LC17840

1.2. Recommended use and restrictions on use
Use of the substance/mixture: For laboratory and manufacturing use only.
Recommended use: Laboratory chemicals
Restrictions on use: Not for food, drug or household use

1.3. Supplier
LabChem, Inc.
1010 Jackson's Pointe Ct.
Zelienople, PA 16063 - USA
T 412-826-5230 - F 724-473-0647
info@labchem.com - www.labchem.com

1.4. Emergency telephone number
Emergency number: CHEMTREC: 1-800-424-9300 or +1-703-741-5970

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture
GHS US classification
- Corrosive to metals Category 1: H290 - May be corrosive to metals
- Skin corrosion/irritation Category 1B: H314 - Causes severe skin burns and eye damage
- Serious eye damage/eye irritation Category 1: H318 - Causes serious eye damage
Full text of H statements: see section 16

2.2. GHS Label elements, including precautionary statements
GHS US labeling
- Hazard pictograms: 
- Signal word (GHS US): Danger
- Hazard statements (GHS US): H290 - May be corrosive to metals
  H314 - Causes severe skin burns and eye damage
- Precautionary statements (GHS US): P234 - Keep only in original container.
  P260 - Do not breathe mist, vapors, spray.
  P264 - Wash exposed skin thoroughly after handling.
  P280 - Wear protective gloves, protective clothing, eye protection, face protection.
  P301+P330+P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
  P303+P361+P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
  P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.
  P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
  P310 - Immediately call a poison center or doctor/physician.
  P363 - Wash contaminated clothing before reuse.
  P390 - Absorb spillage to prevent material-damage.
  P405 - Store locked up.
  P406 - Store in corrosive resistant container with a resistant inner liner.
  P501 - Dispose of contents/container to comply with local, state and federal regulations.
Nitric Acid, 1.0N (1.0M)
Safety Data Sheet
according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

2.3. Other hazards which do not result in classification
Other hazards not contributing to the classification: None.

2.4. Unknown acute toxicity (GHS US)
Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances
Not applicable

3.2. Mixtures

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>GHS US classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>(CAS-No.) 7732-18-5</td>
<td>93.9</td>
<td>Not classified</td>
</tr>
</tbody>
</table>

Full text of hazard classes and H-statements: see section 16

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures general: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

First-aid measures after inhalation: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a poison center or doctor/physician.

First-aid measures after skin contact: Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Immediately call a poison center or doctor/physician.

First-aid measures after eye contact: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center or doctor/physician.

First-aid measures after ingestion: Rinse mouth. Do NOT induce vomiting. Immediately call a poison center or doctor/physician.

4.2. Most important symptoms and effects (acute and delayed)

Potential Adverse human health effects and symptoms: Based on available data, the classification criteria are not met.

Symptoms/effects: Causes severe skin burns and eye damage.

Symptoms/effects after inhalation: Possible inflammation of the respiratory tract.

Symptoms/effects after skin contact: Caustic burns/corrosion of the skin.

Symptoms/effects after eye contact: Causes serious eye damage.

Symptoms/effects after ingestion: Burns or irritation of the linings of the mouth, throat, and gastrointestinal tract.

4.3. Immediate medical attention and special treatment, if necessary

Obtain medical assistance.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media


Unsuitable extinguishing media: Do not use a heavy water stream.

5.2. Specific hazards arising from the chemical

Reactivity in case of fire: Reacts with (some) metals. Reacts with combustible materials.

Hazardous decomposition products in case of fire: On burning: release of toxic and corrosive gases/vapours (nitrous vapours).

5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions: Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.

Protection during firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures: Clean up any spills as soon as possible, using an absorbent material to collect it. Absorb spillage to prevent material-damage.
Nitric Acid, 1.0N (1.0M)
Safety Data Sheet

6.1. For non-emergency personnel
Emergency procedures: Evacuate unnecessary personnel.

6.1.2. For emergency responders
Protective equipment: Equip cleanup crew with proper protection.
Emergency procedures: Ventilate area.

6.2. Environmental precautions
Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up
For containment: Cover spill with non combustible material, e.g.: sand, earth, vermiculite.
Methods for cleaning up: Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials. Absorb spillage to prevent material-damage.

6.4. Reference to other sections
See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling
Additional hazards when processed: May be corrosive to metals.
Precautions for safe handling: Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapor. Do not breathe mist, vapors, spray.
Hygiene measures: Wash exposed skin thoroughly after handling. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities
Technical measures: Comply with applicable regulations.
Storage conditions: Keep only in the original container in a cool, well ventilated place away from: incompatible materials. Keep container closed when not in use.
Incompatible materials: Sources of ignition. Direct sunlight.
Packaging materials: Store in corrosive resistant container with a resistant inner liner.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

<table>
<thead>
<tr>
<th>Material Description</th>
<th>USA - ACGIH - Occupational Exposure Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nitric Acid, 1.0N (1.0M)</td>
<td>No additional information available</td>
</tr>
<tr>
<td>Nitric Acid, 70% w/w (7697-37-2)</td>
<td>ACGIH TWA (ppm) 2 ppm (Nitric acid; USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value)</td>
</tr>
<tr>
<td></td>
<td>ACGIH STEL (ppm) 4 ppm (Nitric acid; USA; Short time value; TLV - Adopted Value)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Material Description</th>
<th>USA - OSHA - Occupational Exposure Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nitric Acid, 1.0N (1.0M)</td>
<td>OSHA PEL (TWA) (mg/m³) 5 mg/m³</td>
</tr>
<tr>
<td>Nitric Acid, 70% w/w (7697-37-2)</td>
<td>OSHA PEL (TWA) (ppm) 2 ppm</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Material Description</th>
<th>USA - IDLH - Occupational Exposure Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nitric Acid, 1.0N (1.0M)</td>
<td>US IDLH (ppm) 25 ppm</td>
</tr>
<tr>
<td>Nitric Acid, 70% w/w (7697-37-2)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Material Description</th>
<th>USA - NIOSH - Occupational Exposure Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nitric Acid, 1.0N (1.0M)</td>
<td>NIOSH REL (TWA) (mg/m³) 5 mg/m³</td>
</tr>
<tr>
<td>Nitric Acid, 70% w/w (7697-37-2)</td>
<td>NIOSH REL (TWA) [ppm] 2 ppm</td>
</tr>
<tr>
<td>Nitric Acid, 70% w/w (7697-37-2)</td>
<td>NIOSH REL (STEL) (mg/m³) 10 mg/m³</td>
</tr>
<tr>
<td>Nitric Acid, 70% w/w (7697-37-2)</td>
<td>NIOSH REL (STEL) [ppm] 4 ppm</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Material Description</th>
<th>Water (7732-18-5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nitric Acid, 1.0N (1.0M)</td>
<td>No additional information available</td>
</tr>
</tbody>
</table>
Nitric Acid, 1.0N (1.0M)
Safety Data Sheet

8.2. Appropriate engineering controls

Appropriate engineering controls:
Emergency eye wash fountains should be available in the immediate vicinity of any potential exposure. Provide adequate general and local exhaust ventilation.

8.3. Individual protection measures/Personal protective equipment

Personal protective equipment:
Gloves. Protective goggles. Chemical resistant apron. Gas mask with filter type A at conc. in air > 5 ppm.

Hand protection:
Wear protective gloves.

Eye protection:
Chemical goggles or face shield

Skin and body protection:
Wear suitable protective clothing

Respiratory protection:
Wear appropriate mask

Personal protective equipment symbol(s):

Other information:
Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state: Liquid
Appearance: Colorless to pale yellow liquid.
Color: Colourless to light yellow
Odor: Characteristic pungent
Odor threshold: No data available
pH: No data available
Melting point: No data available
Freezing point: No data available
Boiling point: No data available
Flash point: No data available
Relative evaporation rate (butyl acetate=1): No data available
Flammability (solid, gas): Non flammable.
Vapor pressure: No data available
Relative vapor density at 20 °C: No data available
Relative density: No data available
Specific gravity / density: 1.03 g/ml
Solubility: Soluble in water.
Log Pow: No data available
Auto-ignition temperature: No data available
Decomposition temperature: No data available
Viscosity, kinematic: 0.99 mm²/s
Viscosity, dynamic: No data available
Explosion limits: No data available
Explosive properties: No data available
Nitric Acid, 1.0N (1.0M)
Safety Data Sheet
according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Oxidizing properties : No data available

9.2. Other information
VOC content : 0 g/l

SECTION 10: Stability and reactivity
10.1. Reactivity
Thermal decomposition generates: Corrosive vapors.

10.2. Chemical stability
Decomposes slowly on exposure to light: release of toxic and corrosive gases/vapours (nitrous vapours).

10.3. Possibility of hazardous reactions
Reacts with combustible materials.

10.4. Conditions to avoid
Direct sunlight. Extremely high or low temperatures.

10.5. Incompatible materials

10.6. Hazardous decomposition products
Nitrogen oxides. Thermal decomposition generates: Corrosive vapors.

SECTION 11: Toxicological information
11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified

Water (7732-18-5)
LD50 oral rat ≥ 90000 mg/kg
ATE US (oral) 90000 mg/kg body weight

Skin corrosion/irritation : Causes severe skin burns.
Serious eye damage/irritation : Causes serious eye damage.
Respiratory or skin sensitization : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified

Reproductive toxicity : Not classified

STOT-single exposure : Not classified
STOT-repeated exposure : Not classified

Aspiration hazard : Not classified
Viscosity, kinematic : 0.99 mm²/s

Likely routes of exposure : Skin and eye contact. Inhalation.
Potential Adverse human health effects and symptoms : Based on available data, the classification criteria are not met.

Symptoms/effects : Causes severe skin burns and eye damage.
Symptoms/effects after inhalation : Possible inflammation of the respiratory tract.
Symptoms/effects after skin contact : Caustic burns/corrosion of the skin.
Symptoms/effects after eye contact : Causes serious eye damage.
Symptoms/effects after ingestion : Burns or irritation of the linings of the mouth, throat, and gastrointestinal tract.

SECTION 12: Ecological information
12.1. Toxicity
Nitric Acid, 1.0N (1.0M)
Safety Data Sheet

Nitric Acid, 70% w/w (7697-37-2)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>EC50 Daphnia 1</td>
<td>180 mg/l (EC50; 48 h)</td>
</tr>
<tr>
<td>LC50 fish 2</td>
<td>72 ppm (LC50; 96 h)</td>
</tr>
<tr>
<td>Threshold limit algae 1</td>
<td>&gt; 19 mg/l (EC0)</td>
</tr>
</tbody>
</table>

12.2. Persistence and degradability

Nitric Acid, 1.0N (1.0M)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Persistence and degradability</td>
<td>Not established.</td>
</tr>
</tbody>
</table>

Nitric Acid, 70% w/w (7697-37-2)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Persistence and degradability</td>
<td>Biodegradability: not applicable. No test data on mobility of the components available.</td>
</tr>
<tr>
<td>Biochemical oxygen demand (BOD)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Chemical oxygen demand (COD)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>ThOD</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

Water (7732-18-5)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Persistence and degradability</td>
<td>Not established.</td>
</tr>
</tbody>
</table>

12.3. Bioaccumulative potential

Nitric Acid, 1.0N (1.0M)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bioaccumulative potential</td>
<td>Not established.</td>
</tr>
</tbody>
</table>

Nitric Acid, 70% w/w (7697-37-2)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>BCF fish 1</td>
<td>≤ 1 (BCF)</td>
</tr>
<tr>
<td>Log Pow</td>
<td>-2.3 (OECD 107: Partition Coefficient (n-octanol/water): Shake Flask Method)</td>
</tr>
<tr>
<td>Bioaccumulative potential</td>
<td>Bioaccumulation: not applicable.</td>
</tr>
</tbody>
</table>

Water (7732-18-5)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bioaccumulative potential</td>
<td>Not established.</td>
</tr>
</tbody>
</table>

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Other information: Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Disposal methods

Waste disposal recommendations: Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to comply with local, state and federal regulations.

Ecology - waste materials: Avoid release to the environment.

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Transport document description: UN2031 Nitric acid other than (red fuming, with not more than 20 percent nitric acid), 8, II
UN-No.(DOT): UN2031
Proper Shipping Name (DOT): Nitric acid other than red fuming, with not more than 20 percent nitric acid
Transport hazard class(es) (DOT): 8 - Class 8 - Corrosive material 49 CFR 173.136
Packing group (DOT): II - Medium Danger
### Nitric Acid, 1.0N (1.0M)

**Safety Data Sheet**

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

| DOT Packaging Non Bulk (49 CFR 173.xxx) | 158 |
| DOT Packaging Bulk (49 CFR 173.xxx) | 242 |
| DOT Special Provisions (49 CFR 172.102) | A6 - For combination packaging, if plastic inner packaging are used, they must be packed in tightly closed metal receptacles before packing in outer packaging. B2 - MC 300, MC 301, MC 302, MC 303, MC 305, and MC 306 and DOT 406 cargo tanks are not authorized. B47 - Each tank may have a reclosing pressure relief device having a start-to-discharge pressure setting of 310 kPa (45 psig). B53 - Packaging must be made of either aluminum or steel. IB2 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized. T8 - 4 178.274(d)(2) Normal.............. Prohibited TP2 - a. The maximum degree of filling must not exceed the degree of filling determined by the following: (image) Where: $t_r$ is the maximum mean bulk temperature during transport, $t_f$ is the temperature in degrees celsius of the liquid during filling, and $a$ is the mean coefficient of cubical expansion of the liquid between the mean temperature of the liquid during filling ($t_f$) and the maximum mean bulk temperature during transportation ($t_r$) both in degrees celsius. b. For liquids transported under ambient conditions may be calculated using the formula: (image) Where: $d_{15}$ and $d_{50}$ are the densities (in units of mass per unit volume) of the liquid at 15 C (59 F) and 50 C (122 F), respectively. TP12 - This material is considered highly corrosive to steel. |

### DOT Packaging Exceptions (49 CFR 173.xxx) None

### DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) 1 L

### DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) 30 L

### DOT Vessel Stowage Location D - The material must be stowed “on deck only” on a cargo vessel and on a passenger vessel carrying a number of passengers limited to not more than the larger of 25 passengers or one passenger per each 3 m of overall vessel length, but the material is prohibited on passenger vessels in which the limiting number of passengers is exceeded.

### Other information No supplementary information available.

#### Transport by sea

Transport document description (IMDG) UN 2031 NITRIC ACID, 8, II

UN-No. (IMDG) 2031

Proper Shipping Name (IMDG) NITRIC ACID

Class (IMDG) 8 - Corrosive substances

Packing group (IMDG) II - substances presenting medium danger

#### Air transport

Transport document description (IATA) UN 2031 Nitric acid, 8, II

UN-No. (IATA) 2031

Proper Shipping Name (IATA) Nitric acid

Class (IATA) 8 - Corrosives

Packing group (IATA) II - Medium Danger
Nitric Acid, 1.0N (1.0M)
Safety Data Sheet

SECTION 15: Regulatory information

15.1. US Federal regulations

Nitric Acid, 1.0N (1.0M)

<table>
<thead>
<tr>
<th>SARA Section 311/312 Hazard Classes</th>
<th>Health hazard - Skin corrosion or Irritation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Physical hazard - Corrosive to metals</td>
</tr>
<tr>
<td></td>
<td>Health hazard - Serious eye damage or eye irritation</td>
</tr>
</tbody>
</table>

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

Chemical(s) subject to the reporting requirements of Section 313 or Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR Part 372.

<table>
<thead>
<tr>
<th>Nitric Acid, 70% w/w</th>
<th>CAS-No. 7697-37-2</th>
<th>6.1%</th>
</tr>
</thead>
<tbody>
<tr>
<td>RQ (Reportable quantity, section 304 of EPA's List of Lists)</td>
<td>1000 lb</td>
<td></td>
</tr>
<tr>
<td>RQ (Reportable quantity, section 304 of EPA's List of Lists)</td>
<td>1000 lb</td>
<td></td>
</tr>
<tr>
<td>SARA Section 302 Threshold Planning Quantity (TPQ)</td>
<td>1000 lb</td>
<td></td>
</tr>
</tbody>
</table>

15.2. International regulations

CANADA

Water (7732-18-5)

Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations
No additional information available

National regulations
No additional information available

15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

SECTION 16: Other information

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Revision date : 10/23/2020
Other information : None.

Full text of H-phrases: see section 16:

| H272 | May intensify fire; oxidizer |
| H290 | May be corrosive to metals |
| H314 | Causes severe skin burns and eye damage |
| H318 | Causes serious eye damage |

NFPA health hazard : 3 - Materials that, under emergency conditions, can cause serious or permanent injury.

NFPA fire hazard : 0 - Materials that will not burn under typical fire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand.

NFPA reactivity : 1 - Materials that in themselves are normally stable but can become unstable at elevated temperatures and pressures.

NFPA specific hazard : OX - Materials that posses oxidizing properties.
Nitric Acid, 1.0N (1.0M)
Safety Data Sheet
according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Hazard Rating

Health : 3 Serious Hazard - Major injury likely unless prompt action is taken and medical treatment is given

Flammability : 0 Minimal Hazard - Materials that will not burn

Physical : 1 Slight Hazard - Materials that are normally stable but can become unstable (self-react) at high temperatures and pressures. Materials may react non-violently with water or undergo hazardous polymerization in the absence of inhibitors.

Personal protection : H

H - Splash goggles, Gloves, Synthetic apron, Vapor respirator

SDS US LabChem

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