SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

<table>
<thead>
<tr>
<th>Trade name/designation:</th>
<th>Nitric Acid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product No.:</td>
<td>BDH3044500MLPC</td>
</tr>
<tr>
<td></td>
<td>BDH3046-2.5LPC</td>
</tr>
<tr>
<td></td>
<td>BDH3048-24L</td>
</tr>
<tr>
<td></td>
<td>BDH3130-2.2LP</td>
</tr>
<tr>
<td>Other means of identification:</td>
<td>Aqua Fortis, Azotic acid, Hydrogen nitrate</td>
</tr>
</tbody>
</table>

1.2. Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses: Manufacturing and Laboratory use

1.3. Details of the supplier of the safety data sheet

Company: VWR International, LLC
Radnor Corporate Center
100 Matsonford Road
Radnor, PA 19087-8660
Telephone: 610.386.1700

1.4. Emergency Telephone number

CHEMTREC: 800.424.9300
CANUTEC: 613.996.6666

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

For the full text of the H-Statement(s) and R-phrase(s) mentioned in this Section, see Section 16.

<table>
<thead>
<tr>
<th>Hazard classes and hazard categories</th>
<th>Hazard statements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oxidizing liquids; Category 3</td>
<td>May intensify fire; oxidizer</td>
</tr>
<tr>
<td>Skin corrosion; Category 1A</td>
<td>Causes severe skin burns and eye damage</td>
</tr>
<tr>
<td>Serious eye damage; Category 1</td>
<td>Causes serious eye damage</td>
</tr>
</tbody>
</table>
2.2. GHS Label elements, including precautionary statements

Pictograms

Signal word  Danger

<table>
<thead>
<tr>
<th>Hazard statements</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>H272</td>
<td>May intensify fire; oxidizer.</td>
</tr>
<tr>
<td>H314</td>
<td>Causes severe skin burns and eye damage.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Precautionary statements</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>P210</td>
<td>Keep away from heat/sparks/open flames/hot surfaces. No smoking.</td>
</tr>
<tr>
<td>P220</td>
<td>Keep/Store away from clothing and other combustible materials.</td>
</tr>
<tr>
<td>P221</td>
<td>Take any precaution to avoid mixing with combustibles.</td>
</tr>
<tr>
<td>P260</td>
<td>Do not breathe dust/fume/gas/mist/vapors/spray.</td>
</tr>
<tr>
<td>P264</td>
<td>Wash hands thoroughly after handling.</td>
</tr>
<tr>
<td>P280</td>
<td>Wear protective gloves/protective clothing/eye protection/face protection.</td>
</tr>
<tr>
<td>P301+P330+P331</td>
<td>IF SWALLOWED: Rinse mouth. Do not induce vomiting.</td>
</tr>
<tr>
<td>P303+P361+P353</td>
<td>IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.</td>
</tr>
<tr>
<td>P304+P340</td>
<td>IF INHALED: Remove person to fresh air and keep comfortable for breathing.</td>
</tr>
<tr>
<td>P305+P351+P338</td>
<td>IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.</td>
</tr>
<tr>
<td>P310</td>
<td>Immediately call a POISON CENTER/doctor/physician.</td>
</tr>
<tr>
<td>P363</td>
<td>Wash contaminated clothing before reuse.</td>
</tr>
<tr>
<td>P370+P378</td>
<td>In case of fire: Use water spray, dry chemical or carbon dioxide to extinguish.</td>
</tr>
<tr>
<td>P405</td>
<td>Store locked up.</td>
</tr>
<tr>
<td>P501</td>
<td>Dispose of contents/container in accordance with local regulations.</td>
</tr>
</tbody>
</table>

2.3. WHIMS Classification

Class C: Oxidizing material
Class E: Corrosive material

2.4. Hazards not otherwise classified (HNOC) or not covered by GHS or WHIMS

Not Available
SECTION 3: Composition / information on ingredients

3.1. Hazard components

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Formula</th>
<th>Molecular weight</th>
<th>CAS#</th>
<th>Weight%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nitric acid</td>
<td>HNO₃</td>
<td>63.01 g/mol</td>
<td>7697-37-2</td>
<td>67-70</td>
</tr>
</tbody>
</table>

SECTION 4: First aid measures

4.1. General information

**In case of inhalation**
Move casualty to fresh air and keep at rest. If breathing is difficult, give oxygen. If not breathing, give artificial respirations.

**In case of skin contact**
Flush with plenty of water for at least 15 minutes while removing contaminated clothing and wash using soap. Get medical attention immediately.

**In case of eye contact**
Immediately rinse with plenty of water for at least 15 minutes and seek medical attention.

**In case of ingestion**
**Do Not Induce Vomiting!** Never give anything by mouth to an unconscious person. If conscious, wash out mouth with water. Get medical attention immediately.

4.2. Most important symptoms and effects, both acute and delayed
May cause deep, penetrating ulcers of the skin. Contact with skin may cause staining, inflammation, and thickening of the skin. Contact to eyes may cause severe burns and possible irreversible eye damage including corneal injury and cataracts. Inhalation may cause coughing burns and breathing difficulty. May cause acute pulmonary edema, pneumoconiosis, fibrosis, and even coma. Ingestion may cause burns, swelling of the lips, mouth, and larynx, throat constriction, nausea, vomiting, convulsions, shock, and may cause severe and permanent damage to gastrointestinal tract.

4.3. Indication of any immediate medical attention and special treatment needed
Not Available
SECTION 5: Firefighting measures

5.1. Extinguishing media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Use appropriate media for adjacent fire. Cool unopened containers with water.

5.2. Special hazards arising from the substance or mixture
Nitrogen oxides

5.3. Special protective equipment for firefighters
Not Available

5.4. Hazardous combustion products
Not Available

5.5. Advice for firefighters
Wear self-contained, approved breathing apparatus and full protective clothing, including eye protection and boots.

5.6. Additional information
Not Available

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
See section 8 for recommendations on the use of personal protective equipment.

6.2. Environmental precautions
Prevent spillage from entering drains. Any release to the environment may be subject to federal/national or local reporting requirements.

6.3. Methods and material for containment and cleaning up
Neutralize spill with sodium bicarbonate or soda lime. Absorb spill with noncombustible absorbent material, then place in a suitable container for disposal. Clean surfaces thoroughly with water to remove residual contamination. Dispose of all waste and cleanup materials in accordance with regulations.

6.4. Additional information
Not Available
SECTION 7: Handling and storage

7.1. Precautions for safe handling
See section 8 for recommendations on the use of personal protective equipment. Use with adequate ventilation. Wash thoroughly after using. Keep container closed when not in use. Avoid formation of aerosols.

7.2. Conditions for safe storage, including any incompatibilities
Store in cool, dry, well ventilated area. Keep away from incompatible materials (see section 10 for incompatibilities).

7.3. Specific end use(s)
Not Available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Limit value type &amp; Country of Origin</th>
<th>Exposure Limit value</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nitric Acid</td>
<td>2 ppm 5.2 mg/m³</td>
<td>TLV</td>
<td>ACGIH</td>
</tr>
<tr>
<td></td>
<td>4 ppm 10 mg/m³</td>
<td>STEL</td>
<td>ACGIH</td>
</tr>
<tr>
<td></td>
<td>2 ppm 5 mg/m³</td>
<td>PEL</td>
<td>OSHA</td>
</tr>
<tr>
<td></td>
<td>2 ppm 5 mg/m³</td>
<td>REL</td>
<td>NIOSH</td>
</tr>
<tr>
<td></td>
<td>4 ppm 10 mg/m³</td>
<td>STEL</td>
<td>NIOSH</td>
</tr>
<tr>
<td></td>
<td>25 ppm</td>
<td>IDLH</td>
<td>NIOSH</td>
</tr>
</tbody>
</table>

8.2. Exposure controls
Appropriate engineering controls
Showers
Eye wash stations
Ventilation system
Personal protection equipment

Eye/face protection
Safety glasses or goggles with face shield

Skin protection
Nitrile or rubber gloves and full body protection

Respiratory protection
Provide local exhaust, preferably mechanical. If exposure levels are excessive, use an approved respirator.

Hygiene measures
Handle in accordance with good industrial hygiene and safety practices.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Appearance:</td>
<td></td>
</tr>
<tr>
<td>Physical state</td>
<td>Liquid</td>
</tr>
<tr>
<td>Color</td>
<td>Clear, colorless</td>
</tr>
<tr>
<td>b) Odor</td>
<td>Not Available</td>
</tr>
<tr>
<td>c) Odor Threshold</td>
<td>Not Available</td>
</tr>
<tr>
<td>d) pH</td>
<td>&lt;1</td>
</tr>
<tr>
<td>e) Melting point/freezing point</td>
<td>Not Available</td>
</tr>
<tr>
<td>f) Initial boiling point and boiling range</td>
<td>120.5°C (248.9°F)</td>
</tr>
<tr>
<td>g) Flash point</td>
<td>Not Available</td>
</tr>
<tr>
<td>h) Evaporation rate</td>
<td>Not Available</td>
</tr>
<tr>
<td>i) Flammability (solid, gas)</td>
<td>Not Available</td>
</tr>
<tr>
<td>j) Upper/lower flammability or explosive limits</td>
<td>Not Available</td>
</tr>
<tr>
<td>k) Vapor pressure</td>
<td>287.9 kPa (@ 20°C)</td>
</tr>
<tr>
<td>l) Vapor density</td>
<td>Not Available</td>
</tr>
<tr>
<td>m) Relative density</td>
<td>1.48</td>
</tr>
<tr>
<td>n) Solubilities</td>
<td>Not Available</td>
</tr>
<tr>
<td>o) Partition coefficient (n-Octanol/Water)</td>
<td>Not Available</td>
</tr>
<tr>
<td>p) Auto-ignition temperature</td>
<td>Not Available</td>
</tr>
<tr>
<td>q) Decomposition temperature</td>
<td></td>
</tr>
<tr>
<td>r) Viscosity</td>
<td>Not Available</td>
</tr>
<tr>
<td>s) Explosive properties</td>
<td>Not Available</td>
</tr>
</tbody>
</table>
9.2. Other information
Not Available

SECTION 10: Stability and reactivity

10.1. Reactivity
Not Available

10.2. Chemical stability
Stable under normal storage conditions

10.3. Possibility of hazardous reactions
Not Available

10.4. Conditions to avoid
May discolor on exposure to air and light

10.5. Incompatible materials
Alkali metals, organic materials, acetic anhydride, acetonitrile, alcohols, acrylonitrile

10.6. Hazardous decomposition products
Nitrogen oxides

SECTION 11: Toxicology

11.1. Information on toxicological effects
Acute toxicity
- Oral LD₅₀
- Inhalation LC₅₀
- Dermal LD₅₀
- Other information on acute toxicity

Skin corrosion/irritation
Not Available

Serious eye damage/eye irritation
Not Available

Respiratory or skin sensitization
Not Available
Germ cell mutagenicity
Not Available

Carcinogenicity
Not Available

Reproductive toxicity
Not Available

Specific target organ toxicity-single exposure
Not Available

Specific target organ toxicity-repeated exposure
Not Available

Aspiration hazard
Not Available

Additional information
Not Available

SECTION 12: Ecological information

12.1. Ecotoxicity
LC50 – Gambusia affinis – 72 mg/L – 96h

12.2. Persistence and degradability
Not Available

12.3. Bioaccumulative potential
Not Available

12.4. Mobility in soil
Not Available

12.5. Results of PBT and vPvB assessment
Not Available

12.6. Other adverse effects
Not Available
SECTION 13: Disposal considerations

13.1. Waste treatment methods
Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging
Dispose of as unused product.

SECTION 14: Transport information

Land Transport DOT (U.S.)
UN Number 2031
Proper Shipping name Nitric acid
Transport Hazard Classes
   Class 8
   Hazard Label(s) 8, (5.1)
Packing Group II
Environmental hazard(s)
Special precautions for user

Sea Transport IMDG
UN Number 2031
Proper Shipping name Nitric acid
Transport Hazard Classes
   Class 8
   Hazard Label(s) 8, (5.1)
   EMS- No. F-A, S-Q
Packing Group II
Environmental hazard(s)
Segregation Group
Special precautions for user

Air Transport IATA
UN Number 2031
Proper Shipping name Nitric acid
Transport Hazard Classes
   Class 8
   Hazard Label(s) 8, (5.1)
Packing Group   II
Environmental hazard(s)
Special precautions for user

SECTION 15: Regulatory information

OSHA Hazards
Corrosive

SARA 302 Extremely Hazardous Substances
Nitric Acid

SARA 313 (TRI reporting)
Nitric Acid

SARA 311/312 Hazardous Chemicals
Reactivity Hazard, Acute Health Hazard, Chronic Health Hazard

Massachusetts Right-To-Know Substance List
Nitric Acid

Pennsylvania Right-To-Know Hazardous substances
Nitric Acid
Water

New Jersey Worker and Community Right-To-Know Components
Nitric Acid
Water

California Proposition 65
This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

Inventory status:
Canada DSL Inventory List: Listed
US TSCA Inventory List: Listed
EINECS, ELINCS or NLP: 231-417-2
SECTION 16: Other information

Full text of H-Statement(s) and R-phrase(s)

H272 May intensify fire; oxidizer.
H314 Causes severe skin burns and eye damage.

R8 Contact with combustible material may cause fire.
R34 Causes burns.

Canadian Carcinogenicity hazard class
PHNOC hazard class
HHNOC hazard class
Biohazardous Infectious Materials hazard class

NFPA Rating:
Health: 3
Flammability: 0
Reactivity: 2
Special Hazard: Ox

DISCLAIMER
The above information is believed to be correct but does not purport to be all-inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. VWR International and its Affiliates shall not be held liable for any damage resulting from handling.