

## Concentrated Nitric with 2% Sulfuric Acid

### 1. PRODUCT AND COMPANY IDENTIFICATION

**Product Name:** Concentrated Nitric with 2% Sulfuric Acid

**Synonyms/Generic Names:** None

**Product Number:** 5872

**Product Use:** Industrial, Manufacturing or Laboratory use

**Manufacturer:** Columbus Chemical Industries, Inc.  
N4335 Temkin Rd.  
Columbus, WI. 53925

**For More Information:** 920-623-2140 (Monday-Friday 8:00-4:30)  
[www.columbuschemical.com](http://www.columbuschemical.com)

**In Case of Emergency Call:** CHEMTREC - 800-424-9300 or 703-527-3887 (24 Hours/Day, 7 Days/Week)

### 2. HAZARDS IDENTIFICATION

**Hazard Not Otherwise Classified (HNOC):** None

**Signal Words:** Danger

**Pictograms:**



**GHS Classification:**

|                    |             |
|--------------------|-------------|
| Oxidizing liquids  | Category 3  |
| Skin corrosion     | Category 1A |
| Serious eye damage | Category 1  |

**GHS Label Elements, including precautionary statements:**

**Hazard Statements:**

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

**Precautionary Statements:**

|      |  |
|------|--|
| P210 | Keep away from heat/sparks/open flames/hot surfaces. No smoking. |
| P220 | Keep/Store away from clothing and other combustible materials.   |
| P221 | Take any precaution to avoid mixing with combustibles.           |
| P260 | Do not breathe dust/fume/gas/mist/vapors/spray.                  |
| P264 | Wash hands 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): 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/doctor/physician.   |
| P363           | Wash contaminated clothing before reuse.   |
| P370+P378      | In case of fire: Use water spray, dry chemical or carbon dioxide to extinguish.  |
| P405           | Store locked up.   |
| P501           | Dispose of contents/container in accordance with local regulations.  |

### Potential Health Effects

|                   |   |
|-------------------|---|
| <b>Eyes</b>       | Causes severe eye burns.  |
| <b>Inhalation</b> | May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract. |
| <b>Skin</b>       | May be harmful if absorbed through skin. Causes skin burns.   |
| <b>Ingestion</b>  | May be harmful if swallowed.  |

### NFPA Ratings

|                        |    |
|------------------------|----|
| <b>Health</b>          | 3  |
| <b>Flammability</b>    | 0  |
| <b>Reactivity</b>      | 2  |
| <b>Specific hazard</b> | OX |

### HMIS Ratings

|                   |   |
|-------------------|---|
| <b>Health</b>     | 3 |
| <b>Fire</b>       | 0 |
| <b>Reactivity</b> | 2 |

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

| Component     | Weight % | CAS #     | EINECS# / ELINCS# | Formula                        | Molecular Weight |
|---------------|----------|-----------|-------------------|--------------------------------|------------------|
| Nitric Acid   | 65-67    | 7697-37-2 | 231-714-2         | HNO <sub>3</sub>               | 63.01 g/mol      |
| Sulfuric Acid | 1-3      | 7664-93-9 | 231-939-5         | H <sub>2</sub> SO <sub>4</sub> | 98.08 g/mol      |
| Water         | Balance  | 7732-18-5 | 231-791-2         | H <sub>2</sub> O               | 18.00 g/mol      |

## 4. FIRST-AID MEASURES

|                   |  |
|-------------------|--|
| <b>Eyes</b>       | In case of eye contact, rinse with plenty of water for at least 15 minutes and seek medical attention immediately.   |
| <b>Inhalation</b> | Move casualty to fresh air and keep at rest. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention immediately. |
| <b>Skin</b>       | Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and wash using soap. Get medical attention immediately.            |
| <b>Ingestion</b>  | <b>Do Not Induce Vomiting!</b> Never give anything by mouth to an unconscious person. If conscious, wash out mouth with water. Get medical attention immediately.      |

## 5. FIRE-FIGHTING MEASURES

|  |  |
|--|--|
| <b>Suitable (and unsuitable) extinguishing media</b> | Product is not flammable. Use appropriate media for adjacent fire. Cool containers with water. |
|--|--|

|  |   |
|--|---|
| <b>Special protective equipment and precautions for firefighters</b> | Wear self-contained, approved breathing apparatus and full protective clothing, including eye protection and boots. |
| <b>Specific hazards arising from the chemical</b>                    | Emits toxic fumes (nitrogen oxides) under fire conditions. (See also Stability and Reactivity section).             |

## 6. ACCIDENTAL RELEASE MEASURES

|  |   |
|--|---|
| <b>Personal precautions, protective equipment and emergency procedures</b> | See section 8 for recommendations on the use of personal protective equipment.  |
| <b>Environmental precautions</b>   | Prevent spillage from entering drains. Any release to the environment may be subject to federal/national or local reporting requirements.   |
| <b>Methods and materials for containment and cleaning up</b>               | Neutralize spill with sodium bicarbonate or 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. |

## 7. HANDLING AND STORAGE

### 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.

### Conditions for safe storage, including any incompatibilities

Store in a cool, dry, well ventilated area. Keep away from incompatible materials (see section 10 for incompatibilities).

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### Occupational exposure controls:

| Component     | Exposure Limits                | Basis | Entity |
|---------------|--------------------------------|-------|--------|
| Nitric Acid   | 2 ppm<br>5.2 mg/m <sup>3</sup> | TLV   | ACGIH  |
|               | 4 ppm<br>10 mg/m <sup>3</sup>  | STEL  | ACGIH  |
|               | 2 ppm<br>5 mg/m <sup>3</sup>   | PEL   | OSHA   |
|               | 2 ppm<br>5 mg/m <sup>3</sup>   | REL   | NIOSH  |
|               | 4 ppm<br>10 mg/m <sup>3</sup>  | STEL  | NIOSH  |
| Sulfuric Acid | 25 ppm                         | IDLH  | NIOSH  |
|               | 0.2 mg/m <sup>3</sup>          | TLV   | ACGIH  |
|               | 1 mg/m <sup>3</sup>            | PEL   | OSHA   |
|               | 1 mg/m <sup>3</sup>            | REL   | NIOSH  |
|               | 15 mg/m <sup>3</sup>           | IDLH  | OSHA   |

TWA: Time Weighted Average over 8 hours of work.

TLV: Threshold Limit Value over 8 hours of work.

REL: Recommended Exposure Limit

PEL: Permissible Exposure Limit

STEL: Short Term Exposure Limit during x minutes.

IDLH: Immediately Dangerous to Life or Health

WEEL: Workplace Environmental Exposure Levels

CEIL: Ceiling

### Personal Protection

|                   |   |
|-------------------|---|
| <b>Eyes</b>       | Wear chemical safety glasses or goggles and face shield.  |
| <b>Inhalation</b> | Provide local exhaust, preferably mechanical. If exposure levels are excessive, use an approved respirator.   |
| <b>Skin</b>       | Wear nitrile or rubber gloves and a full body suit. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace. |
| <b>Other</b>      | Not Available   |

### Other Recommendations

Provide eyewash stations, quick-drench showers and washing facilities accessible to areas of use and handling.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

|   |  |
|---|--|
| Appearance (physical state, color, etc.)    | Colorless liquid.                            |
| Odor  | Not Available                                |
| Odor threshold                              | Not Available                                |
| pH  | <1 at 20°C (68°F) (nitric acid)              |
| Melting point/freezing point                | Not Available                                |
| Initial boiling point and boiling range     | 120.5°C (248.9°F) (nitric acid)              |
| Flash point                                 | Not Flammable                                |
| Evaporation rate                            | Not Available                                |
| Flammability (solid, gas)                   | Not Flammable                                |
| Upper/lower flammability or explosive limit | Not Explosive                                |
| Vapor pressure                              | 11 hPa (8 mmHg) at 20°C (68°F) (nitric acid) |
| Vapor density                               | 2.3 (air=1)                                  |
| Specific gravity                            | 1.41 – 1.42                                  |
| Solubility (ies)                            | Soluble in water.                            |
| Partition coefficient: n-octanol/water      | Not Available                                |
| Auto-ignition temperature                   | Not Available                                |
| Decomposition temperature                   | Not Available                                |

## 10. STABILITY AND REACTIVITY

|   |  |
|---|--|
| <b>Chemical Stability</b>                 | Stable   |
| <b>Possibility of Hazardous Reactions</b> | Will not occur.  |
| <b>Conditions to Avoid</b>                | May discolor on exposure to air and light.   |
| <b>Incompatible Materials</b>             | Alkali metals, organic materials, acetic anhydride, acetonitrile, alcohols, acrylonitrile. |
| <b>Hazardous Decomposition Products</b>   | Nitrogen oxides.   |

## 11. TOXICOLOGICAL INFORMATION

### Acute Toxicity

*Nitric Acid*

|             |               |
|-------------|---------------|
| <b>Skin</b> | Not Available |
|-------------|---------------|

|                    |                               |
|--------------------|-------------------------------|
| <b>Eyes</b>        | Not Available                 |
| <b>Respiratory</b> | Not Available                 |
| <b>Ingestion</b>   | LDLO Oral – Human – 430 mg/kg |

**Sulfuric Acid**

|                    |   |
|--------------------|---|
| <b>Skin</b>        | Not Available                           |
| <b>Eyes</b>        | Not Available                           |
| <b>Respiratory</b> | LD50 – Rat – 510 mg/m <sup>3</sup> – 2h |
| <b>Ingestion</b>   | LD50 – Rat – 2,140 mg/kg                |

**Carcinogenicity**

|              |  |
|--------------|--|
| <b>IARC</b>  | 1: Carcinogenic to humans (Sulfuric Acid-Aerosol).   |
| <b>ACGIH</b> | A2: Suspected human carcinogen (Sulfuric Acid-Aerosol).  |
| <b>NTP</b>   | No components of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.     |
| <b>OSHA</b>  | No components of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA. |

**Signs & Symptoms of Exposure**

|                    |   |
|--------------------|---|
| <b>Skin</b>        | Itching, swelling, redness, burning.                                  |
| <b>Eyes</b>        | Itching, redness, burning, watering eyes.                             |
| <b>Respiratory</b> | Burning, choking, shortness of breath, coughing, wheezing, dizziness. |
| <b>Ingestion</b>   | Burning, choking, nausea, vomiting, severe pain.                      |

|                                       |                                     |
|---------------------------------------|-------------------------------------|
| <b>Chronic Toxicity</b>               | Not Available                       |
| <b>Teratogenicity</b>                 | Tetotoxicity (except death)         |
| <b>Mutagenicity</b>                   | Not Available                       |
| <b>Embryotoxicity</b>                 | Tetotoxicity (except death)         |
| <b>Target Organ(s)</b>                | Lungs, Teeth, Cardiovascular system |
| <b>Reproductive Toxicity</b>          | Not Available                       |
| <b>Respiratory/Skin Sensitization</b> | Not Available                       |

**12. ECOLOGICAL INFORMATION****Ecotoxicity***Nitric Acid*

|                             |               |
|-----------------------------|---------------|
| <b>Aquatic Vertebrate</b>   | Not Available |
| <b>Aquatic Invertebrate</b> | Not Available |
| <b>Terrestrial</b>          | Not Available |

*Sulfuric Acid*

|                             |   |
|-----------------------------|---|
| <b>Aquatic Vertebrate</b>   | LC50 – Gambusia affinis – 42 mg/L – 96h |
| <b>Aquatic Invertebrate</b> | Not Available                           |
| <b>Terrestrial</b>          | Not Available                           |

|                                      |               |
|--------------------------------------|---------------|
| <b>Persistence and Degradability</b> | Not Available |
| <b>Bioaccumulative Potential</b>     | Not Available |
| <b>Mobility in Soil</b>              | Not Available |
| <b>PBT and vPvB Assessment</b>       | Not Available |
| <b>Other Adverse Effects</b>         | Not Available |

**13. DISPOSAL CONSIDERATIONS**

|                                  |   |
|----------------------------------|---|
| <b>Waste Product or Residues</b> | Users should review their operations in terms of the applicable federal/national or local regulations and consult with appropriate regulatory agencies if necessary before disposing of waste product or residue. |
|----------------------------------|---|

|                           |  |
|---------------------------|--|
| <b>Product Containers</b> | Users should review their operations in terms of the applicable federal/national or local regulations and consult with appropriate regulatory agencies if necessary before disposing of waste product container. |
|---------------------------|--|

The information offered in section 13 is for the product as shipped. Use and/or alterations to the product may significantly change the characteristics of the material and alter the waste classification and proper disposal methods.

## 14. TRANSPORTATION INFORMATION

|                  |   |
|------------------|---|
| US DOT           | UN3093, Corrosive liquids, oxidizing, n.o.s., (nitric acid and sulfuric acid), 8, (5.1), PGII |
| TDG              | UN3093, CORROSIVE LIQUIDS, OXIDIZING, N.O.S., (NITRIC ACID AND SULFURIC ACID), 8, (5.1), PGII |
| IMDG             | UN3093, CORROSIVE LIQUIDS, OXIDIZING, N.O.S., (NITRIC ACID AND SULFURIC ACID), 8, (5.1), PGII |
| Marine Pollutant | No  |
| IATA/ICAO        | UN3093, Corrosive liquids, oxidizing, n.o.s., (nitric acid and sulfuric acid), 8, (5.1), PGII |

## 15. REGULATORY INFORMATION

|   |  |
|---|--|
| TSCA Inventory Status   | All ingredients are listed on the TSCA Active inventory.   |
| DSL / NDSL  | All ingredients are listed on the DSL inventory.   |
| California Proposition 65                                       | Not Listed   |
| Rhode Island: Hazardous Substance List                          | Listed: Sulfuric Acid, Nitric Acid   |
| Massachusetts: Toxic or Hazardous Substance List, Right to Know | Listed: Nitric Acid  |
| Pennsylvania: Hazardous Substance List                          | Listed: Sulfuric Acid, Nitric Acid   |
| New Jersey: Right to Know Hazardous Substance List              | Listed: Sulfuric Acid, Nitric Acid   |
| SARA 302  | Listed: Sulfuric Acid, Nitric Acid   |
| SARA 304  | Listed: Sulfuric Acid, Nitric Acid   |
| SARA 311  | Fire Hazard, Acute Health Hazard.  |
| SARA 312  | Fire Hazard, Acute Health Hazard.  |
| SARA 313  | Listed: Sulfuric Acid (aerosol forms only), Nitric Acid  |
| WHMIS Canada  | Class C: Oxidizing material.<br>Class D1A: Poisonous and infectious material – Immediate and serious effects – Very toxic.<br>Class E: Corrosive material. |

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**16. OTHER INFORMATION**

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| <b>Revision</b> | <b>Date</b> |
|-----------------|-------------|
| Original        | 01/20/2014  |
| Revision 1      | 03/09/2015  |
| Revision 2      | 02/15/2018  |
| Revision 3      | 12/13/2021  |

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