



SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:
US OSHA Hazard Communication Standard (29 CFR 1910.1200)

Revision date 12-Mar-2024

Revision Number 2

1. Identification

Product identifier

Product Name Nitric Acid 10% (w/w), SEMI Grade

Other means of identification

Product Code(s) 2627

UN number or ID number UN2031

Synonyms No information available

Recommended use of the chemical and restrictions on use

Recommended use Industrial use
Laboratory use
Industrial Manufacturing (all)

Restrictions on use No information available

Details of the supplier of the safety data sheet

Supplier Address

Columbus Chemical Industries, Inc.
N4335 Temkin Rd.
Columbus, WI 53925 USA
Phone: (920) 623-2140
Fax: (920) 623-2577
www.columbuschemical.com

Emergency telephone number

24 Hour Emergency Phone Number CHEMTREC: 1-800-424-9300 for US / 703-527-3887 outside US

Emergency Telephone 911

2. Hazard(s) identification

Classification

| | |
|--|------------|
| Skin corrosion/irritation | Category 1 |
| Serious eye damage/eye irritation | Category 1 |
| Specific target organ toxicity (single exposure) | Category 1 |
| Specific target organ toxicity (repeated exposure) | Category 1 |
| Corrosive to metals | Category 1 |

Hazards not otherwise classified (HNOC)

Not applicable

Label elements**Danger****Hazard statements**

H314 - Causes severe skin burns and eye damage

H370 - Causes damage to organs

H372 - Causes damage to organs through prolonged or repeated exposure

H290 - May be corrosive to metals.

**Precautionary Statements - Prevention**

P264 - Wash face, hands and any exposed skin thoroughly after handling

P280 - Wear protective gloves/protective clothing/eye protection/face protection

P260 - Do not breathe dust/fume/gas/mist/vapors/spray

P270 - Do not eat, drink or smoke when using this product

P234 - Keep only in original packaging

Precautionary Statements - Response

P321 - Specific treatment (see First-Aid Measures on SDS)

P310 - Immediately call a POISON CENTER or doctor/physician

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

P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower

P363 - Wash contaminated clothing before reuse

P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing

P310 - Immediately call a POISON CENTER or doctor/physician

P301 + P330 + P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting

P390 - Absorb spillage to prevent material damage

Precautionary Statements - Storage

P405 - Store locked up

P406 - Store in corrosive resistant container with resistant inner liner

Precautionary Statements - Disposal

P501 - Dispose of contents/ container to an approved waste disposal plant

Other information

No information available.

3. Composition/information on ingredients**Mixture**

| Chemical name | CAS No | Weight-% | Formula | Molecular Weight |
|---------------|-----------|----------|------------------|------------------|
| Water | 7732-18-5 | Balance | H ₂ O | 18.00 g/mol |
| Nitric acid | 7697-37-2 | 9.5-10.5 | HNO ₃ | 63.01 g/mol |

4. First-aid measures

Description of first aid measures

| | |
|---|---|
| General advice | Show this safety data sheet to the doctor in attendance. Immediate medical attention is required. |
| Inhalation | Remove to fresh air. If breathing has stopped, give artificial respiration. Get medical attention immediately. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If breathing is difficult, (trained personnel should) give oxygen. Delayed pulmonary edema may occur. Get immediate medical attention. |
| Eye contact | Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open while rinsing. Do not rub affected area. Get immediate medical attention. |
| Skin contact | Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get immediate medical attention. |
| Ingestion | Rinse mouth. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Get immediate medical attention. |
| Self-protection of the first aider | Avoid contact with skin, eyes or clothing. Wear personal protective clothing (see section 8). Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. |

Most important symptoms and effects, both acute and delayed

| | |
|-----------------|--------------------|
| Symptoms | Burning sensation. |
|-----------------|--------------------|

Indication of any immediate medical attention and special treatment needed

| | |
|---------------------------|--|
| Note to physicians | Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure. |
|---------------------------|--|

5. Fire-fighting measures

| | |
|---|--|
| Suitable Extinguishing Media | Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. |
| Large Fire | CAUTION: Use of water spray when fighting fire may be inefficient. |
| Unsuitable extinguishing media | Do not scatter spilled material with high pressure water streams. |
| Specific hazards arising from the chemical | The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating gases and vapors. |
| Explosion data | |
| Sensitivity to mechanical impact | None. |
| Sensitivity to static discharge | None. |
| Special protective equipment and precautions for fire-fighters | Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment. |

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

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|-----------------------------|---|
| Personal precautions | Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required. Attention! Corrosive material. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. |
| Other information | Refer to protective measures listed in Sections 7 and 8. |

Methods and material for containment and cleaning up

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|--------------------------------|---|
| Methods for containment | Prevent further leakage or spillage if safe to do so. |
| Methods for cleaning up | Pick up and transfer to properly labeled containers. |

7. Handling and storage

Precautions for safe handling

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|--------------------------------|--|
| Advice on safe handling | Handle in accordance with good industrial hygiene and safety practice. Do not breathe dust/fume/gas/mist/vapors/spray. Avoid contact with skin, eyes or clothing. In case of insufficient ventilation, wear suitable respiratory equipment. Handle product only in closed system or provide appropriate exhaust ventilation. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse. |
|--------------------------------|--|

Conditions for safe storage, including any incompatibilities

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|---------------------------|--|
| Storage Conditions | Keep containers tightly closed in a dry, cool and well-ventilated place. Protect from moisture. Store locked up. Keep out of the reach of children. Store away from other materials. |
|---------------------------|--|

8. Exposure controls/personal protection

Control parameters

Exposure Limits

| Chemical name | ACGIH TLV | OSHA PEL | NIOSH |
|---------------|---------------------------|---|---|
| Nitric acid | STEL: 4 ppm TWA: 2 ppm | TWA: 2 ppm TWA: 5 mg/m ³ (vacated) TWA: 2 ppm (vacated) TWA: 5 mg/m ³ (vacated) STEL: 4 ppm (vacated) STEL: 10 mg/m ³ | IDLH: 25 ppm TWA: 2 ppm TWA: 5 mg/m ³ STEL: 4 ppm STEL: 10 mg/m ³ |

Appropriate engineering controls

| | |
|-----------------------------|---|
| Engineering controls | Showers Eyewash stations Ventilation systems. |
|-----------------------------|---|

Individual protection measures, such as personal protective equipment

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|---------------------------------------|---|
| Eye/face protection | Tight sealing safety goggles. Face protection shield. |
| Hand protection | Wear suitable gloves. Impervious gloves. |
| Skin and body protection | Wear suitable protective clothing. Long sleeved clothing. Chemical resistant apron. |
| Respiratory protection | No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required. |
| General hygiene considerations | Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Regular cleaning of equipment, work area and clothing is recommended. Avoid contact with skin, eyes or clothing. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Contaminated work clothing should not be allowed out of the workplace. Wash hands before breaks and immediately after handling the product. |

9. Physical and chemical properties

Information on basic physical and chemical properties

| | |
|-----------------------|----------------|
| Physical state | Liquid |
| Appearance | Clear |
| Color | Colorless |
| Odor | Odorless |
| Odor threshold | Not applicable |

| <u>Property</u> | <u>Values</u> | <u>Remarks • Method</u> |
|--|-------------------|-------------------------|
| pH | No data available | None known |
| pH (as aqueous solution) | No data available | None known |
| Melting point / freezing point | No data available | None known |
| Initial boiling point and boiling range | No data available | None known |
| Flash point | No data available | None known |
| Evaporation rate | No data available | None known |
| Flammability | No data available | None known |
| Flammability Limit in Air | | None known |
| Upper flammability or explosive limits | No data available | |
| Lower flammability or explosive limits | No data available | |
| Vapor pressure | No data available | None known |
| Relative vapor density | No data available | None known |
| Relative density | 1.0560 | None known |
| Water solubility | Soluble in water | None known |
| Solubility(ies) | No data available | None known |
| Partition coefficient | Not applicable | None known |
| Autoignition temperature | No data available | None known |
| Decomposition temperature | | None known |
| Kinematic viscosity | No data available | None known |
| Dynamic viscosity | No data available | None known |

Other information

| | |
|-----------------------------|--------------------------|
| Explosive properties | No information available |
| Oxidizing properties | No information available |
| Softening point | No information available |
| Molecular weight | No information available |
| VOC content | No information available |
| Liquid Density | No information available |
| Bulk density | No information available |

10. Stability and reactivity

| | |
|---|---|
| Reactivity | No information available. |
| Chemical stability | Stable under normal conditions. |
| Possibility of hazardous reactions | None under normal processing. |
| Conditions to avoid | Exposure to air or moisture over prolonged periods. |
| Incompatible materials | Oxidizing agent. Acids. Bases. |
| Hazardous decomposition products | None known based on information supplied. |

11. Toxicological information

Information on likely routes of exposure

Product Information

| | |
|---------------------|---|
| Inhalation | Specific test data for the substance or mixture is not available. Corrosive by inhalation. (based on components). Inhalation of corrosive fumes/gases may cause coughing, choking, headache, dizziness, and weakness for several hours. Pulmonary edema may occur with tightness in the chest, shortness of breath, bluish skin, decreased blood pressure, and increased heart rate. Inhaled corrosive substances can lead to a toxic edema of the lungs. Pulmonary edema can be fatal. |
| Eye contact | Specific test data for the substance or mixture is not available. Causes serious eye damage. (based on components). Corrosive to the eyes and may cause severe damage including blindness. May cause irreversible damage to eyes. |
| Skin contact | Specific test data for the substance or mixture is not available. Corrosive. (based on components). Causes burns. |
| Ingestion | Specific test data for the substance or mixture is not available. Causes burns. (based on components). Ingestion causes burns of the upper digestive and respiratory tracts. May cause severe burning pain in the mouth and stomach with vomiting and diarrhea of dark blood. Blood pressure may decrease. Brownish or yellowish stains may be seen around the mouth. Swelling of the throat may cause shortness of breath and choking. May cause lung damage if swallowed. May be fatal if swallowed and enters airways. |

Symptoms related to the physical, chemical and toxicological characteristics

| | |
|-----------------|---|
| Symptoms | Redness. Burning. May cause blindness. Coughing and/ or wheezing. |
|-----------------|---|

Acute toxicity

Numerical measures of toxicity

The following values are calculated based on chapter 3.1 of the GHS document

| | |
|----------------------------------|------------------|
| ATEmix (oral) | 99,999.00 mg/kg |
| ATEmix (dermal) | 99,999.00 mg/kg |
| ATEmix (inhalation-gas) | 99,999.00 ppm |
| ATEmix (inhalation-vapor) | 99,999.0000 mg/l |

Component Information

| Chemical name | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|---------------|-----------------|-------------|----------------------|
| Water | >90 mL/kg (Rat) | - | - |
| Nitric acid | - | - | = 2500 ppm (Rat) 1 h |

Delayed and immediate effects as well as chronic effects from short and long-term exposure

| | |
|--|--|
| Skin corrosion/irritation | Classification based on data available for ingredients. Causes severe skin burns and eye damage. |
| Serious eye damage/eye irritation | Classification based on data available for ingredients. Causes serious eye damage. Causes burns. |
| Respiratory or skin sensitization | No information available. |
| Germ cell mutagenicity | No information available. |
| Carcinogenicity | No information available. |
| Reproductive toxicity | No information available. |
| STOT - single exposure | Based on the classification criteria of the Globally Harmonized System as adopted in the country or region with which this safety data sheet complies, this product has been determined to cause systemic target organ toxicity from acute exposure. (STOT SE). Causes damage to organs. |
| STOT - repeated exposure | Causes damage to organs through prolonged or repeated exposure. |
| Target organ effects | Respiratory system, Eyes, Skin, Teeth. |
| Aspiration hazard | No information available. |
| Other adverse effects | No information available. |
| Interactive effects | No information available. |

12. Ecological information**Ecotoxicity**

| Chemical name | Algae/aquatic plants | Fish | Toxicity to microorganisms | Crustacea |
|---------------|----------------------|--|----------------------------|-----------|
| Nitric acid | - | 96h LC50: = 72 mg/L (Gambusia affinis) | - | - |

| | |
|--------------------------------------|---------------------------|
| Persistence and degradability | No information available. |
|--------------------------------------|---------------------------|

Bioaccumulation**Component Information**

| Chemical name | Partition coefficient |
|---------------|-----------------------|
| Nitric acid | -2.3 |

Other adverse effects No information available.

13. Disposal considerations**Disposal methods**

Waste from residues/unused products Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging Do not reuse empty containers. Dispose of contents/containers in accordance with local regulations.

California Hazardous Waste Status This product contains one or more substances that are listed with the State of California as a hazardous waste.

14. Transport information

DOT Regulated
UN number or ID number UN2031
Proper shipping name Nitric acid
Transport hazard class(es) 8
Packing group II
DOT Marine Pollutant No

TDG Regulated
UN number or ID number UN2031
UN proper shipping name Nitric acid
Transport hazard class(es) 8
Packing group II

ICAO (air) Regulated
UN number or ID number UN2031
UN proper shipping name Nitric acid
Transport hazard class(es) 8
Packing group II

IATA Regulated
UN number or ID number UN2031
UN proper shipping name Nitric acid
Transport hazard class(es) 8
Packing group II

IMDG Regulated
UN number or ID number UN2031
UN proper shipping name Nitric acid
Transport hazard class(es) 8
Packing group II

15. Regulatory information

International Inventories

| | |
|----------------------|---|
| TSCA | Complies. |
| DSL/NDL | Complies. |
| EINECS/ELINCS | Contact supplier for inventory compliance status. |
| ENCS | Contact supplier for inventory compliance status. |
| IECSC | Contact supplier for inventory compliance status. |
| KECL | Contact supplier for inventory compliance status. |
| PICCS | Contact supplier for inventory compliance status. |
| AIC | Contact supplier for inventory compliance status. |
| NZIoC | Contact supplier for inventory compliance status. |

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

AICS - Australian Inventory of Chemical Substances

NZIoC - New Zealand Inventory of Chemicals

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

| Chemical name | SARA 313 - Threshold Values % |
|--------------------------|-------------------------------|
| Nitric acid 7697-37-2 | 1.0 |

SARA 311/312 Hazard Categories

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.

CWA (Clean Water Act)

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

| Chemical name | CWA - Reportable Quantities | CWA - Toxic Pollutants | CWA - Priority Pollutants | CWA - Hazardous Substances |
|---------------|-----------------------------|------------------------|---------------------------|----------------------------|
| Nitric acid | 1000 lb | - | - | X |

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302).

| Chemical name | Hazardous Substances RQs | Extremely Hazardous Substances RQs | Reportable Quantity (RQ) |
|---------------|--------------------------|------------------------------------|---|
| Nitric acid | 1000 lb | 1000 lb | RQ 1000 lb final RQ RQ 454 kg final RQ |

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

| Chemical name | New Jersey | Massachusetts | Pennsylvania |
|---------------|------------|---------------|--------------|
| Nitric acid | X | X | X |

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

16. Other information

| | | | | |
|-----------------------------------|---------------------------|---------------------------|---------------------------|------------------------------|
| NFPA | Health hazards 3 | Flammability 0 | Instability 0 | Special hazards - |
| HMIS | Health hazards 3 * | Flammability 0 | Physical hazards 0 | Personal protection X |
| <i>Chronic Hazard Star Legend</i> | | * = Chronic Health Hazard | | |

Key or legend to abbreviations and acronyms used in the safety data sheet**Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

| | | | |
|---------|-----------------------------|------|----------------------------------|
| TWA | TWA (time-weighted average) | STEL | STEL (Short Term Exposure Limit) |
| Ceiling | Maximum limit value | * | Skin designation |

Key literature references and sources for data used to compile the SDS

Agency for Toxic Substances and Disease Registry (ATSDR)
U.S. Environmental Protection Agency ChemView Database
European Food Safety Authority (EFSA)
EPA (Environmental Protection Agency)
Acute Exposure Guideline Level(s) (AEGL(s))
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
U.S. Environmental Protection Agency High Production Volume Chemicals
Food Research Journal
Hazardous Substance Database
International Uniform Chemical Information Database (IUCLID)
National Institute of Technology and Evaluation (NITE)
Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
NIOSH (National Institute for Occupational Safety and Health)
National Library of Medicine's ChemID Plus (NLM CIP)
National Library of Medicine's PubMed database (NLM PUBMED)
National Toxicology Program (NTP)
New Zealand's Chemical Classification and Information Database (CCID)
Organization for Economic Co-operation and Development Environment, Health, and Safety Publications
Organization for Economic Co-operation and Development High Production Volume Chemicals Program
Organization for Economic Co-operation and Development Screening Information Data Set
World Health Organization

Revision date 12-Mar-2024
Revision Note No information available.

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet