

| Product code | Description |
|------------------|---|
| CLMS-SETN | Claritas Set of Multi-Element Calibration Std & Blanks (NO HG) |

Components:

| | |
|------------|--|
| CLMS-1 | Multi-element Solution 1 |
| CLMS-2 | Multi-element Solution 2 |
| CLMS-3 | Multi-element Solution 3 |
| CLMS-4 | Multi-element Solution 4 |
| CLBLK-HNO3 | Nitric Acid Blank |
| CLBLK-HCL | Hydrochloric Acid Blank |
| CLBLK-H2O | Water Blank - ASTM Type I Water, 18 Megohm |

1 Identification

- **Product identifier**
- **Product Name:** Multi-element Solution 1
- **Part Number:** CLMS-1
- **Application of the substance / the mixture** For Laboratory Use Only
- **Uses advised against** Not for Human or Animal Use
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Spex CertiPrep, LLC.
203 Norcross Ave, Metuchen,
NJ 08840 USA
732-549-7144
USMet-CRMSales@antylia.com
- **Information department:** product safety department
- **Emergency telephone number:**
Emergency Phone Number (24 hours)
CHEMTREC (800-424-9300)
Outside US: 703-527-3887

2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS05 Corrosion

Skin Corrosion 1A H314 Causes severe skin burns and eye damage.
Eye Damage 1 H318 Causes serious eye damage.

- **Label elements**
- **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**



GHS05

- **Signal word** Danger
- **Hazard-determining components of labeling:**
nitric acid
- **Hazard statements**
H314 Causes severe skin burns and eye damage.
- **Precautionary statements**
P260 Do not breathe dusts or mists.
P264 Wash 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.
P321 Specific treatment (see on this label).
P363 Wash contaminated clothing before reuse.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.
- **Classification system:**
- **NFPA ratings (scale 0 - 4)**



Health = 3
Fire = 0
Reactivity = 0

- **HMIS-ratings (scale 0 - 4)**



Health = 3
Fire = 0
Reactivity = 0

Product Name: Multi-element Solution 1

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- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

3 Composition/information on ingredients

- **Chemical characterization: Mixtures**
- **Description:** Mixture of the substances listed below with nonhazardous additions.

· **Dangerous components:**

| | | |
|-----------|-------------|------|
| 7697-37-2 | nitric acid | 5.0% |
|-----------|-------------|------|

· **Chemical identification of the substance/preparation**

| | | |
|-----------|---|---------|
| 7732-18-5 | water, distilled, conductivity or of similar purity | 94.983% |
| 7429-91-6 | dysprosium | 0.001% |
| 7439-91-0 | lanthanum | 0.001% |
| 7439-94-3 | lutetium | 0.001% |
| 7440-00-8 | neodymium | 0.001% |
| 7440-10-0 | praseodymium | 0.001% |
| 7440-19-9 | Samarium from Samarium (III) oxide | 0.001% |
| 7440-20-2 | scandium | 0.001% |
| 7440-27-9 | terbium | 0.001% |
| 7440-29-1 | Thorium from Thorium nitrate tetrahydrate | 0.001% |
| 7440-30-4 | thulium | 0.001% |
| 7440-45-1 | cerium | 0.001% |
| 7440-52-0 | Erbium from Erbium(III) oxide | 0.001% |
| 7440-53-1 | europium | 0.001% |
| 7440-54-2 | gadolinium | 0.001% |
| 7440-60-0 | holmium | 0.001% |
| 7440-64-4 | ytterbium | 0.001% |
| 7440-65-5 | yttrium | 0.001% |

4 First-aid measures

- **Description of first aid measures**
- **General information:** Immediately remove any clothing soiled by the product.
- **After inhalation:** In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:**
Drink copious amounts of water and provide fresh air. Immediately call a doctor.
Do not give anything to eat or drink - Do not induce vomiting
- **Information for Doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed** No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.
- **Special hazards arising from the substance or mixture** During heating or in case of fire poisonous gases are produced.
- **Advice for firefighters**
- **Protective equipment:** Mouth respiratory protective device.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Mount respiratory protective device.
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:**
Dilute with plenty of water.
Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Use neutralizing agent.

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Product Name: Multi-element Solution 1

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Dispose contaminated material as waste according to section 13.

Ensure adequate ventilation.

Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

Protective Action Criteria for Chemicals

| | | |
|---------------|---|-------------------------|
| PAC-1: | | |
| 7697-37-2 | nitric acid | 0.16 ppm |
| 7429-91-6 | dysprosium | 30 mg/m ³ |
| 7439-91-0 | lanthanum | 30 mg/m ³ |
| 7439-94-3 | lutetium | 30 mg/m ³ |
| 7440-00-8 | neodymium | 30 mg/m ³ |
| 7440-10-0 | praseodymium | 1.2 mg/m ³ |
| 7440-19-9 | Samarium from Samarium (III) oxide | 30 mg/m ³ |
| 7440-20-2 | scandium | 30 mg/m ³ |
| 7440-27-9 | terbium | 1.2 mg/m ³ |
| 7440-29-1 | Thorium from Thorium nitrate tetrahydrate | 30 mg/m ³ |
| 7440-30-4 | thulium | 30 mg/m ³ |
| 7440-45-1 | cerium | 30 mg/m ³ |
| 7440-53-1 | europium | 30 mg/m ³ |
| 7440-54-2 | gadolinium | 30 mg/m ³ |
| 7440-60-0 | holmium | 12 mg/m ³ |
| 7440-65-5 | yttrium | 3 mg/m ³ |
| PAC-2: | | |
| 7697-37-2 | nitric acid | 24 ppm |
| 7429-91-6 | dysprosium | 330 mg/m ³ |
| 7439-91-0 | lanthanum | 330 mg/m ³ |
| 7439-94-3 | lutetium | 330 mg/m ³ |
| 7440-00-8 | neodymium | 330 mg/m ³ |
| 7440-10-0 | praseodymium | 13 mg/m ³ |
| 7440-19-9 | Samarium from Samarium (III) oxide | 330 mg/m ³ |
| 7440-20-2 | scandium | 330 mg/m ³ |
| 7440-27-9 | terbium | 13 mg/m ³ |
| 7440-29-1 | Thorium from Thorium nitrate tetrahydrate | 330 mg/m ³ |
| 7440-30-4 | thulium | 330 mg/m ³ |
| 7440-45-1 | cerium | 330 mg/m ³ |
| 7440-53-1 | europium | 330 mg/m ³ |
| 7440-54-2 | gadolinium | 330 mg/m ³ |
| 7440-60-0 | holmium | 130 mg/m ³ |
| 7440-65-5 | yttrium | 33 mg/m ³ |
| PAC-3: | | |
| 7697-37-2 | nitric acid | 92 ppm |
| 7429-91-6 | dysprosium | 2,000 mg/m ³ |
| 7439-91-0 | lanthanum | 2,000 mg/m ³ |
| 7439-94-3 | lutetium | 2,000 mg/m ³ |
| 7440-00-8 | neodymium | 2,000 mg/m ³ |
| 7440-10-0 | praseodymium | 79 mg/m ³ |
| 7440-19-9 | Samarium from Samarium (III) oxide | 2,000 mg/m ³ |
| 7440-20-2 | scandium | 2,000 mg/m ³ |
| 7440-27-9 | terbium | 79 mg/m ³ |
| 7440-29-1 | Thorium from Thorium nitrate tetrahydrate | 2,000 mg/m ³ |
| 7440-30-4 | thulium | 2,000 mg/m ³ |
| 7440-45-1 | cerium | 2,000 mg/m ³ |
| 7440-53-1 | europium | 2,000 mg/m ³ |
| 7440-54-2 | gadolinium | 2,000 mg/m ³ |
| 7440-60-0 | holmium | 790 mg/m ³ |

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7440-65-5 yttrium

200 mg/m³

7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
- **Information about protection against explosions and fires:** Keep respiratory protective device available.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep receptacle tightly sealed.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see section 7.
- **Control parameters**
- **Components with limit values that require monitoring at the workplace:**
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Avoid contact with the eyes.
Avoid contact with the eyes and skin.
- **Respiratory protection:**
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.
- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **Material of gloves**
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
- **Penetration time of glove material** The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Eye protection:**



Tightly sealed goggles

9 Physical and chemical properties

- **Information on basic physical and chemical properties**

General Information

Appearance:

| | |
|------------------|------------------------------------|
| Form: | Liquid |
| Color: | According to product specification |
| Odor: | Characteristic |
| Odour Threshold: | Not applicable. |

· **pH-value at 20 °C (68 °F):** <2

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| | |
|--|---|
| · Change in condition Melting point/Melting range: | Undetermined. |
| Boiling point/Boiling range: | 83 °C (181.4 °F) |
| · Flash point: | Not applicable. |
| · Flammability (solid, gaseous): | Not applicable. |
| · Decomposition temperature: | Not applicable. |
| · Ignition temperature: | Product is not selfigniting. |
| · Danger of explosion: | Product does not present an explosion hazard. |
| · Explosion limits: Lower: | Not applicable. |
| Upper: | Not applicable. |
| · Vapor pressure at 20 °C (68 °F): | 23 hPa (17.3 mm Hg) |
| · Density at 20 °C (68 °F) | 1.02596 g/cm ³ (8.56164 lbs/gal) |
| · Relative density | Not applicable. |
| · Vapor density | Not applicable. |
| · Evaporation rate | Not applicable. |
| · Solubility in / Miscibility with Water: | Fully miscible. |
| · Partition coefficient (n-octanol/water): | Not applicable. |
| · Viscosity: Dynamic: | Not applicable. |
| Kinematic: | Not applicable. |
| · Solvent content: Water: | 95.0 % |
| VOC content: | 0.00 % |
| · Solids content: | 0.0 % |
| · Other information | No further relevant information available. |

10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

· Information on toxicological effects

· Acute toxicity:

· LD/LC50 values that are relevant for classification:

7697-37-2 nitric acid

Inhalative LC50/4 h 2.65 mg/l (ATE)

· Primary irritant effect:

· **on the skin:** Caustic effect on skin and mucous membranes.

· on the eye:

Strong caustic effect.

Strong irritant with the danger of severe eye injury.

· **Sensitization:** No sensitizing effects known.

· Additional toxicological information:

The product shows the following dangers according to internally approved calculation methods for preparations:

Corrosive

Irritant

Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

· Carcinogenic categories

· IARC (International Agency for Research on Cancer)

7440-29-1 Thorium from Thorium nitrate tetrahydrate

1

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| |
|--|
| · NTP (National Toxicology Program) |
| None of the ingredients is listed. |
| · OSHA-Ca (Occupational Safety & Health Administration) |
| None of the ingredients is listed. |



12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**
Water hazard class 2 (Self-assessment): hazardous for water
Do not allow product to reach ground water, water course or sewage system.
Must not reach bodies of water or drainage ditch undiluted or unneutralized.
Danger to drinking water if even small quantities leak into the ground.
Rinse off of bigger amounts into drains or the aquatic environment may lead to decreased pH-values. A low pH-value harms aquatic organisms. In the dilution of the use-level the pH-value is considerably increased, so that after the use of the product the aqueous waste, emptied into drains, is only low water-dangerous.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:** Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

14 Transport information

| | |
|---|--|
| · UN-Number | |
| · DOT, ADR, IMDG, IATA | UN3264 |
| · UN proper shipping name | |
| · DOT | Corrosive liquid, acidic, inorganic, n.o.s. (Nitric acid) |
| · ADR | 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (NITRIC ACID) |
| · IMDG, IATA | CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (NITRIC ACID) |
| · Transport hazard class(es) | |
| · DOT | |
|  | |
| · Class | 8 Corrosive substances |
| · Label | 8 |
| · ADR, IMDG, IATA | |
|  | |
| · Class | 8 Corrosive substances |
| · Label | 8 |
| · Packing group | |
| · DOT, ADR, IMDG, IATA | III |
| · Environmental hazards: | Not applicable. |
| · Special precautions for user | Warning: Corrosive substances |

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Product Name: Multi-element Solution 1

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| | |
|--|--|
| · Hazard identification number (Kemler code): | 80 |
| · EMS Number: | F-A,S-B |
| · Segregation groups | (SGG1) Acids |
| · Stowage Category | A |
| · Stowage Code | SW2 Clear of living quarters. |
| · Segregation Code | SG36 Stow "separated from" SGG18-alkalis. SG49 Stow "separated from" SGG6-cyanides |
| · Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code | Not applicable. |
| · Transport/Additional information: | |
| · ADR | |
| · Excepted quantities (EQ) | Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml |
| · IMDG | |
| · Limited quantities (LQ) | 5L |
| · Excepted quantities (EQ) | Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml |
| · UN "Model Regulation": | UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (NITRIC ACID), 8, III |

15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture** No further relevant information available.
- **Sara**

| |
|---|
| · Section 313 (Specific toxic chemical listings): |
| 7697-37-2 nitric acid |
| · TSCA (Toxic Substances Control Act): |
| All components have the value ACTIVE. |
| · Hazardous Air Pollutants |
| None of the ingredients is listed. |
| · Proposition 65 |
| · Chemicals known to cause cancer: |
| None of the ingredients is listed. |
| · Chemicals known to cause reproductive toxicity for females: |
| None of the ingredients is listed. |
| · Chemicals known to cause reproductive toxicity for males: |
| None of the ingredients is listed. |
| · Chemicals known to cause developmental toxicity: |
| None of the ingredients is listed. |
| · Carcinogenic categories |
| · EPA (Environmental Protection Agency) |
| None of the ingredients is listed. |
| · TLV (Threshold Limit Value) |
| None of the ingredients is listed. |
| · NIOSH-Ca (National Institute for Occupational Safety and Health) |
| None of the ingredients is listed. |

- **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).

- **Hazard pictograms**



GHS05

- **Signal word** Danger
- **Hazard-determining components of labeling:**
nitric acid
- **Hazard statements**
H314 Causes severe skin burns and eye damage.

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Product Name: Multi-element Solution 1

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Precautionary statements

- P260 Do not breathe dusts or mists.
- P264 Wash 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.
- P321 Specific treatment (see on this label).
- P363 Wash contaminated clothing before reuse.
- P405 Store locked up.
- P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Department issuing SDS:** product safety department

· **Contact:**

Spex CertiPrep, LLC.
1-732-549-7144

· **Date of preparation / last revision** 03/05/2024

· **Abbreviations and acronyms:**

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)
 IMDG: International Maritime Code for Dangerous Goods
 DOT: US Department of Transportation
 IATA: International Air Transport Association
 EINECS: European Inventory of Existing Commercial Chemical Substances
 ELINCS: European List of Notified Chemical Substances
 CAS: Chemical Abstracts Service (division of the American Chemical Society)
 NFPA: National Fire Protection Association (USA)
 HMIS: Hazardous Materials Identification System (USA)
 VOC: Volatile Organic Compounds (USA, EU)
 LC50: Lethal concentration, 50 percent
 LD50: Lethal dose, 50 percent
 PBT: Persistent, Bioaccumulative and Toxic
 vPvB: very Persistent and very Bioaccumulative
 NIOSH: National Institute for Occupational Safety
 OSHA: Occupational Safety & Health
 TLV: Threshold Limit Value
 PEL: Permissible Exposure Limit
 REL: Recommended Exposure Limit
 Skin Corrosion 1A: Skin corrosion/irritation – Category 1A
 Eye Damage 1: Serious eye damage/eye irritation – Category 1

1 Identification

- **Product identifier**
- **Product Name:** Multi-element Solution 2
- **Part Number:**
CLMS-2
CLMS-2N
- **Application of the substance / the mixture** For Laboratory Use Only
- **Uses advised against** Not for Human or Animal Use
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Spex CertiPrep, LLC.
203 Norcross Ave, Metuchen,
NJ 08840 USA
732-549-7144
USMet-CRMSales@antylia.com
- **Information department:** product safety department
- **Emergency telephone number:**
Emergency Phone Number (24 hours)
CHEMTREC (800-424-9300)
Outside US: 703-527-3887

2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS05 Corrosion

Skin Corrosion 1B H314 Causes severe skin burns and eye damage.
Eye Damage 1 H318 Causes serious eye damage.

- **Label elements**
- **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**



GHS05

- **Signal word** Danger
- **Hazard-determining components of labeling:**
nitric acid
- **Hazard statements**
H314 Causes severe skin burns and eye damage.
- **Precautionary statements**
 - P260 Do not breathe dusts or mists.
 - P264 Wash 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.
 - P321 Specific treatment (see on this label).
 - P363 Wash contaminated clothing before reuse.
 - P405 Store locked up.
 - P501 Dispose of contents/container in accordance with local/regional/national/international regulations.
- **Classification system:**
- **NFPA ratings (scale 0 - 4)**



Health = 3
Fire = 0
Reactivity = 0

Product Name: Multi-element Solution 2

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· **HMIS-ratings (scale 0 - 4)**

| | | |
|------------|---|----------------|
| HEALTH | 3 | Health = 3 |
| FIRE | 0 | Fire = 0 |
| REACTIVITY | 0 | Reactivity = 0 |

- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

3 Composition/information on ingredients

- **Chemical characterization: Mixtures**
- **Description:** Mixture of the substances listed below with nonhazardous additions.

· **Dangerous components:**

| | | |
|---|---|---------|
| 7697-37-2 | nitric acid | 5.0% |
| · Chemical identification of the substance/preparation | | |
| 7732-18-5 | water, distilled, conductivity or of similar purity | 94.971% |
| 7429-90-5 | aluminium | 0.001% |
| 7439-89-6 | iron | 0.001% |
| 7439-92-1 | lead | 0.001% |
| 7439-93-2 | lithium | 0.001% |
| 7439-95-4 | magnesium | 0.001% |
| 7439-96-5 | manganese | 0.001% |
| 7440-02-0 | nickel | 0.001% |
| 7440-09-7 | potassium | 0.001% |
| 7440-17-7 | rubidium | 0.001% |
| 7440-22-4 | silver | 0.001% |
| 7440-23-5 | sodium | 0.001% |
| 7440-24-6 | strontium | 0.001% |
| 7440-28-0 | thallium | 0.001% |
| 7440-38-2 | arsenic | 0.001% |
| 7440-39-3 | barium | 0.001% |
| 7440-41-7 | Beryllium from Beryllium Acetate | 0.001% |
| 7440-43-9 | cadmium | 0.001% |
| 7440-46-2 | Cesium from Cesium nitrate | 0.001% |
| 7440-47-3 | chromium | 0.001% |
| 7440-48-4 | cobalt | 0.001% |
| 7440-50-8 | copper | 0.001% |
| 7440-55-3 | gallium | 0.001% |
| 7440-61-1 | Uranium from Uranyl Nitrate Hexahydrate | 0.001% |
| 7440-62-2 | vanadium | 0.001% |
| 7440-66-6 | zinc | 0.001% |
| 7440-69-9 | bismuth | 0.001% |
| 7440-70-2 | calcium | 0.001% |
| 7440-74-6 | indium | 0.001% |
| 7782-49-2 | selenium | 0.001% |

4 First-aid measures

- **Description of first aid measures**
- **General information:** Immediately remove any clothing soiled by the product.
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:** Immediately rinse with water.
- **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:** Do not give anything to eat or drink - Do not induce vomiting
- **Information for Doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.

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Product Name: Multi-element Solution 2

(Contd. of page 2)

· **Indication of any immediate medical attention and special treatment needed** No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.
- **Special hazards arising from the substance or mixture** During heating or in case of fire poisonous gases are produced.
- **Advice for firefighters**
- **Protective equipment:** Mouth respiratory protective device.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Mount respiratory protective device.
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:**
Dilute with plenty of water.
Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Use neutralizing agent.
Dispose contaminated material as waste according to section 13.
Ensure adequate ventilation.
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.
- **Protective Action Criteria for Chemicals**

· PAC-1:

| | | |
|-----------|---|--------------------------|
| 7697-37-2 | nitric acid | 0.16 ppm |
| 7439-89-6 | iron | 3.2 mg/m ³ |
| 7439-92-1 | lead | 0.15 mg/m ³ |
| 7439-93-2 | lithium | 3.3 mg/m ³ |
| 7439-95-4 | magnesium | 18 mg/m ³ |
| 7439-96-5 | manganese | 3 mg/m ³ |
| 7440-02-0 | nickel | 4.5 mg/m ³ |
| 7440-09-7 | potassium | 2.3 mg/m ³ |
| 7440-17-7 | rubidium | 3.9 mg/m ³ |
| 7440-22-4 | silver | 0.3 mg/m ³ |
| 7440-23-5 | sodium | 13 mg/m ³ |
| 7440-24-6 | strontium | 30 mg/m ³ |
| 7440-28-0 | thallium | 0.06 mg/m ³ |
| 7440-38-2 | arsenic | 1.5 mg/m ³ |
| 7440-39-3 | barium | 1.5 mg/m ³ |
| 7440-41-7 | Beryllium from Beryllium Acetate | 0.0023 mg/m ³ |
| 7440-43-9 | cadmium | 0.10 mg/m ³ |
| 7440-46-2 | Cesium from Cesium nitrate | 5.6 mg/m ³ |
| 7440-47-3 | chromium | 1.5 mg/m ³ |
| 7440-48-4 | cobalt | 0.18 mg/m ³ |
| 7440-50-8 | copper | 3 mg/m ³ |
| 7440-55-3 | gallium | 30 mg/m ³ |
| 7440-61-1 | Uranium from Uranyl Nitrate Hexahydrate | 0.6 mg/m ³ |
| 7440-62-2 | vanadium | 3 mg/m ³ |
| 7440-66-6 | zinc | 6 mg/m ³ |
| 7440-69-9 | bismuth | 15 mg/m ³ |
| 7440-74-6 | indium | 0.3 mg/m ³ |
| 7782-49-2 | selenium | 0.6 mg/m ³ |

· PAC-2:

| | | |
|-----------|-------------|-----------------------|
| 7697-37-2 | nitric acid | 24 ppm |
| 7439-89-6 | iron | 35 mg/m ³ |
| 7439-92-1 | lead | 120 mg/m ³ |

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| | | (Contd. of page 3) |
|-----------|--|-------------------------|
| 7439-93-2 | <i>lithium</i> | 36 mg/m ³ |
| 7439-95-4 | <i>magnesium</i> | 200 mg/m ³ |
| 7439-96-5 | <i>manganese</i> | 5 mg/m ³ |
| 7440-02-0 | <i>nickel</i> | 50 mg/m ³ |
| 7440-09-7 | <i>potassium</i> | 25 mg/m ³ |
| 7440-17-7 | <i>rubidium</i> | 43 mg/m ³ |
| 7440-22-4 | <i>silver</i> | 170 mg/m ³ |
| 7440-23-5 | <i>sodium</i> | 140 mg/m ³ |
| 7440-24-6 | <i>strontium</i> | 330 mg/m ³ |
| 7440-28-0 | <i>thallium</i> | 3.3 mg/m ³ |
| 7440-38-2 | <i>arsenic</i> | 17 mg/m ³ |
| 7440-39-3 | <i>barium</i> | 180 mg/m ³ |
| 7440-41-7 | <i>Beryllium from Beryllium Acetate</i> | 0.025 mg/m ³ |
| 7440-43-9 | <i>cadmium</i> | 0.76 mg/m ³ |
| 7440-46-2 | <i>Cesium from Cesium nitrate</i> | 61 mg/m ³ |
| 7440-47-3 | <i>chromium</i> | 17 mg/m ³ |
| 7440-48-4 | <i>cobalt</i> | 2 mg/m ³ |
| 7440-50-8 | <i>copper</i> | 33 mg/m ³ |
| 7440-55-3 | <i>gallium</i> | 330 mg/m ³ |
| 7440-61-1 | <i>Uranium from Uranyl Nitrate Hexahydrate</i> | 5 mg/m ³ |
| 7440-62-2 | <i>vanadium</i> | 5.8 mg/m ³ |
| 7440-66-6 | <i>zinc</i> | 21 mg/m ³ |
| 7440-69-9 | <i>bismuth</i> | 170 mg/m ³ |
| 7440-74-6 | <i>indium</i> | 3.3 mg/m ³ |
| 7782-49-2 | <i>selenium</i> | 6.6 mg/m ³ |

| · PAC-3: | | |
|-----------------|--|-------------------------|
| 7697-37-2 | <i>nitric acid</i> | 92 ppm |
| 7439-89-6 | <i>iron</i> | 150 mg/m ³ |
| 7439-92-1 | <i>lead</i> | 700 mg/m ³ |
| 7439-93-2 | <i>lithium</i> | 220 mg/m ³ |
| 7439-95-4 | <i>magnesium</i> | 1,200 mg/m ³ |
| 7439-96-5 | <i>manganese</i> | 1,800 mg/m ³ |
| 7440-02-0 | <i>nickel</i> | 99 mg/m ³ |
| 7440-09-7 | <i>potassium</i> | 150 mg/m ³ |
| 7440-17-7 | <i>rubidium</i> | 260 mg/m ³ |
| 7440-22-4 | <i>silver</i> | 990 mg/m ³ |
| 7440-23-5 | <i>sodium</i> | 870 mg/m ³ |
| 7440-24-6 | <i>strontium</i> | 2,000 mg/m ³ |
| 7440-28-0 | <i>thallium</i> | 20 mg/m ³ |
| 7440-38-2 | <i>arsenic</i> | 100 mg/m ³ |
| 7440-39-3 | <i>barium</i> | 1,100 mg/m ³ |
| 7440-41-7 | <i>Beryllium from Beryllium Acetate</i> | 0.1 mg/m ³ |
| 7440-43-9 | <i>cadmium</i> | 4.7 mg/m ³ |
| 7440-46-2 | <i>Cesium from Cesium nitrate</i> | 370 mg/m ³ |
| 7440-47-3 | <i>chromium</i> | 99 mg/m ³ |
| 7440-48-4 | <i>cobalt</i> | 20 mg/m ³ |
| 7440-50-8 | <i>copper</i> | 200 mg/m ³ |
| 7440-55-3 | <i>gallium</i> | 2,000 mg/m ³ |
| 7440-61-1 | <i>Uranium from Uranyl Nitrate Hexahydrate</i> | 30 mg/m ³ |
| 7440-62-2 | <i>vanadium</i> | 35 mg/m ³ |
| 7440-66-6 | <i>zinc</i> | 120 mg/m ³ |
| 7440-69-9 | <i>bismuth</i> | 990 mg/m ³ |
| 7440-74-6 | <i>indium</i> | 20 mg/m ³ |
| 7782-49-2 | <i>selenium</i> | 40 mg/m ³ |

(Contd. on page 5)

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(Contd. of page 4)

7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
- **Information about protection against explosions and fires:** Keep respiratory protective device available.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep receptacle tightly sealed.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see section 7.
- **Control parameters**
- **Components with limit values that require monitoring at the workplace:**
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Avoid contact with the eyes.
Avoid contact with the eyes and skin.
- **Respiratory protection:**
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.
- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **Material of gloves**
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
- **Penetration time of glove material** The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Eye protection:**



Tightly sealed goggles

9 Physical and chemical properties

· Information on basic physical and chemical properties

· General Information

· Appearance:

| | |
|-------------------------|------------------------------------|
| Form: | Liquid |
| Color: | According to product specification |
| Odor: | Characteristic |
| Odour Threshold: | Not applicable. |

· **pH-value:** Not applicable.

· Change in condition

Melting point/Melting range: Undetermined.

(Contd. on page 6)

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(Contd. of page 5)

| | |
|--|---|
| Boiling point/Boiling range: | 83 °C (181.4 °F) |
| Flash point: | Not applicable. |
| Flammability (solid, gaseous): | Not applicable. |
| Decomposition temperature: | Not applicable. |
| Ignition temperature: | Product is not selfigniting. |
| Danger of explosion: | Product does not present an explosion hazard. |
| Explosion limits: | |
| Lower: | Not applicable. |
| Upper: | Not applicable. |
| Vapor pressure at 20 °C (68 °F): | 23 hPa (17.3 mm Hg) |
| Density at 20 °C (68 °F) | 1.02658 g/cm ³ (8.56681 lbs/gal) |
| Relative density | Not applicable. |
| Vapor density | Not applicable. |
| Evaporation rate | Not applicable. |
| Solubility in / Miscibility with Water: | Fully miscible. |
| Partition coefficient (n-octanol/water): | Not applicable. |
| Viscosity: | |
| Dynamic: | Not applicable. |
| Kinematic: | Not applicable. |
| Solvent content: | |
| Water: | 95.0 % |
| VOC content: | 0.00 % |
| Solids content: | 0.0 % |
| Other information | No further relevant information available. |

10 Stability and reactivity

- Reactivity No further relevant information available.
- Chemical stability
- Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.
- Possibility of hazardous reactions No dangerous reactions known.
- Conditions to avoid No further relevant information available.
- Incompatible materials: No further relevant information available.
- Hazardous decomposition products: No dangerous decomposition products known.

11 Toxicological information

- Information on toxicological effects
- Acute toxicity:

| | | |
|--|----------|-----------------|
| LD/LC50 values that are relevant for classification: | | |
| 7697-37-2 nitric acid | | |
| Inhalative | LC50/4 h | 2.65 mg/l (ATE) |

- Primary irritant effect:
- on the skin: Caustic effect on skin and mucous membranes.
- on the eye:
- Strong caustic effect.
- Strong irritant with the danger of severe eye injury.
- Sensitization: No sensitizing effects known.
- Additional toxicological information:
- The product shows the following dangers according to internally approved calculation methods for preparations:
- Corrosive
- Irritant

- Carcinogenic categories

| | | |
|--|----------------------------------|----|
| IARC (International Agency for Research on Cancer) | | |
| 7439-92-1 | lead | 2B |
| 7440-02-0 | nickel | 2B |
| 7440-38-2 | arsenic | I |
| 7440-41-7 | Beryllium from Beryllium Acetate | I |

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| | | |
|-----------|----------|----|
| 7440-43-9 | cadmium | 1 |
| 7440-47-3 | chromium | 3 |
| 7440-48-4 | cobalt | 2B |
| 7782-49-2 | selenium | 3 |

· **NTP (National Toxicology Program)**

| | | |
|-----------|----------------------------------|---|
| 7439-92-1 | lead | R |
| 7440-02-0 | nickel | R |
| 7440-38-2 | arsenic | K |
| 7440-41-7 | Beryllium from Beryllium Acetate | K |
| 7440-43-9 | cadmium | K |
| 7440-48-4 | cobalt | R |

· **OSHA-Ca (Occupational Safety & Health Administration)**

| | | |
|-----------|---------|--|
| 7440-38-2 | arsenic | |
| 7440-43-9 | cadmium | |


12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**
Water hazard class 2 (Self-assessment): hazardous for water
Do not allow product to reach ground water, water course or sewage system.
Must not reach bodies of water or drainage ditch undiluted or unneutralized.
Danger to drinking water if even small quantities leak into the ground.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:** Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

14 Transport information

| | |
|---|--|
| · UN-Number | |
| · DOT, ADR, IMDG, IATA | UN3264 |
| · UN proper shipping name | |
| · DOT | Corrosive liquid, acidic, inorganic, n.o.s. (Nitric acid) |
| · ADR | 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (NITRIC ACID) |
| · IMDG, IATA | CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (NITRIC ACID) |
| · Transport hazard class(es) | |
| · DOT | |
|  | |
| · Class | 8 Corrosive substances |

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— US —

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| | |
|---|--|
| · Label | 8 |
| · ADR, IMDG, IATA | |
|  | |
| · Class | 8 Corrosive substances |
| · Label | 8 |
| · Packing group | |
| · DOT, ADR, IMDG, IATA | III |
| · Environmental hazards: | Not applicable. |
| · Special precautions for user | Warning: Corrosive substances |
| · Hazard identification number (Kemler code): | 80 |
| · EMS Number: | F-A,S-B |
| · Segregation groups | (SGG1) Acids |
| · Stowage Category | A |
| · Stowage Code | SW2 Clear of living quarters. |
| · Segregation Code | SG36 Stow "separated from" SGG18-alkalis. SG49 Stow "separated from" SGG6-cyanides |
| · Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code | Not applicable. |
| · Transport/Additional information: | |
| · ADR | |
| · Excepted quantities (EQ) | Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml |
| · IMDG | |
| · Limited quantities (LQ) | 5L |
| · Excepted quantities (EQ) | Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml |
| · UN "Model Regulation": | UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (NITRIC ACID), 8, III |

15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture** No further relevant information available.
- **Sara**

| | |
|--|----------------------------------|
| · Section 313 (Specific toxic chemical listings): | |
| 7697-37-2 | nitric acid |
| 7429-90-5 | aluminium |
| 7439-92-1 | lead |
| 7439-93-2 | lithium |
| 7439-96-5 | manganese |
| 7440-02-0 | nickel |
| 7440-22-4 | silver |
| 7440-28-0 | thallium |
| 7440-38-2 | arsenic |
| 7440-39-3 | barium |
| 7440-41-7 | Beryllium from Beryllium Acetate |
| 7440-43-9 | cadmium |
| 7440-47-3 | chromium |
| 7440-48-4 | cobalt |
| 7440-50-8 | copper |
| 7440-62-2 | vanadium |
| 7440-66-6 | zinc |
| 7782-49-2 | selenium |
| · TSCA (Toxic Substances Control Act): | |
| All components have the value ACTIVE. | |

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| | |
|-----------------------------------|-----------|
| · Hazardous Air Pollutants | |
| 7439-92-1 | lead |
| 7439-96-5 | manganese |
| 7440-48-4 | cobalt |

· **Proposition 65**

| | |
|---|----------------------------------|
| · Chemicals known to cause cancer: | |
| 7439-92-1 | lead |
| 7440-02-0 | nickel |
| 7440-38-2 | arsenic |
| 7440-41-7 | Beryllium from Beryllium Acetate |
| 7440-43-9 | cadmium |
| 7440-48-4 | cobalt |

| | |
|--|--|
| · Chemicals known to cause reproductive toxicity for females: | |
| None of the ingredients is listed. | |

| | |
|--|---------|
| · Chemicals known to cause reproductive toxicity for males: | |
| 7440-43-9 | cadmium |

| | |
|---|---------|
| · Chemicals known to cause developmental toxicity: | |
| 7439-93-2 | lithium |
| 7440-43-9 | cadmium |

· **Carcinogenic categories**

| | | |
|--|----------------------------------|-------------------------|
| · EPA (Environmental Protection Agency) | | |
| 7439-92-1 | lead | B2 |
| 7439-96-5 | manganese | D |
| 7440-22-4 | silver | D |
| 7440-38-2 | arsenic | A |
| 7440-39-3 | barium | D, CBD(inh), NL(oral) |
| 7440-41-7 | Beryllium from Beryllium Acetate | B1, K/L(inh), CBD(oral) |
| 7440-43-9 | cadmium | B1 |
| 7440-50-8 | copper | D |
| 7440-66-6 | zinc | D, I, II |
| 7782-49-2 | selenium | D |

| | | |
|--------------------------------------|---|----|
| · TLV (Threshold Limit Value) | | |
| 7429-90-5 | aluminium | A4 |
| 7439-92-1 | lead | A3 |
| 7440-02-0 | nickel | A5 |
| 7440-38-2 | arsenic | A1 |
| 7440-39-3 | barium | A4 |
| 7440-43-9 | cadmium | A2 |
| 7440-48-4 | cobalt | A3 |
| 7440-61-1 | Uranium from Uranyl Nitrate Hexahydrate | A1 |

| | | |
|---|---|--|
| · NIOSH-Ca (National Institute for Occupational Safety and Health) | | |
| 7440-02-0 | nickel | |
| 7440-38-2 | arsenic | |
| 7440-43-9 | cadmium | |
| 7440-61-1 | Uranium from Uranyl Nitrate Hexahydrate | |

· **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).

· **Hazard pictograms**



GHS05

· **Signal word** Danger

· **Hazard-determining components of labeling:**

nitric acid

· **Hazard statements**

H314 Causes severe skin burns and eye damage.

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Precautionary statements

- P260 Do not breathe dusts or mists.
- P264 Wash 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.
- P321 Specific treatment (see on this label).
- P363 Wash contaminated clothing before reuse.
- P405 Store locked up.
- P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Department issuing SDS:** product safety department

· **Contact:**

Spex CertiPrep, LLC.
1-732-549-7144

· **Date of preparation / last revision** 03/05/2024

· **Abbreviations and acronyms:**

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)
 IMDG: International Maritime Code for Dangerous Goods
 DOT: US Department of Transportation
 IATA: International Air Transport Association
 EINECS: European Inventory of Existing Commercial Chemical Substances
 ELINCS: European List of Notified Chemical Substances
 CAS: Chemical Abstracts Service (division of the American Chemical Society)
 NFPA: National Fire Protection Association (USA)
 HMIS: Hazardous Materials Identification System (USA)
 VOC: Volatile Organic Compounds (USA, EU)
 LC50: Lethal concentration, 50 percent
 LD50: Lethal dose, 50 percent
 PBT: Persistent, Bioaccumulative and Toxic
 vPvB: very Persistent and very Bioaccumulative
 NIOSH: National Institute for Occupational Safety
 OSHA: Occupational Safety & Health
 TLV: Threshold Limit Value
 PEL: Permissible Exposure Limit
 REL: Recommended Exposure Limit
 Skin Corrosion 1B: Skin corrosion/irritation – Category 1B
 Eye Damage 1: Serious eye damage/eye irritation – Category 1

1 Identification

- **Product identifier**
- **Product Name:** Multi-element Solution 3
- **Part Number:** CLMS-3
- **Application of the substance / the mixture** For Laboratory Use Only
- **Uses advised against** Not for Human or Animal Use
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Spex CertiPrep, LLC.
203 Norcross Ave, Metuchen,
NJ 08840 USA
732-549-7144
USMet-CRMSales@antylia.com
- **Information department:** product safety department
- **Emergency telephone number:**
Emergency Phone Number (24 hours)
CHEMTREC (800-424-9300)
Outside US: 703-527-3887

2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS05 Corrosion

Eye Damage 1

H318 Causes serious eye damage.



GHS07

Skin Irritation 2

H315 Causes skin irritation.

Specific Target Organ Toxicity - Single Exposure 3 H335 May cause respiratory irritation.

- **Label elements**
- **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**



GHS05



GHS07

- **Signal word** Danger
- **Hazard-determining components of labeling:**
hydrochloric acid
nitric acid
- **Hazard statements**
H315 Causes skin irritation.
H318 Causes serious eye damage.
H335 May cause respiratory irritation.
- **Precautionary statements**

| | |
|----------------|--|
| P261 | Avoid breathing dust/fume/gas/mist/vapors/spray |
| P264 | Wash thoroughly after handling. |
| P271 | Use only outdoors or in a well-ventilated area. |
| P280 | Wear eye protection / face protection. |
| P302+P352 | If on skin: Wash with plenty of water. |
| 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. |
| P321 | Specific treatment (see on this label). |
| P362+P364 | Take off contaminated clothing and wash it before reuse. |
| P332+P313 | If skin irritation occurs: Get medical advice/attention. |
| P403+P233 | Store in a well-ventilated place. Keep container tightly closed. |
| P405 | Store locked up. |
| P501 | Dispose of contents/container in accordance with local/regional/national/international regulations. |

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Reviewed on 03/05/2024

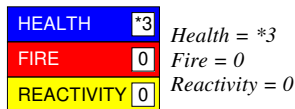
Product Name: Multi-element Solution 3

(Contd. of page 1)

- Classification system:
- NFPA ratings (scale 0 - 4)



- HMIS-ratings (scale 0 - 4)



- Other hazards
- Results of PBT and vPvB assessment
- PBT: Not applicable.
- vPvB: Not applicable.

3 Composition/information on ingredients

- Chemical characterization: Mixtures
- Description: Mixture of the substances listed below with nonhazardous additions.

· Dangerous components:

| | | |
|-----------|-------------------|-------|
| 7647-01-0 | hydrochloric acid | 10.0% |
| 7697-37-2 | nitric acid | 1.0% |

· Chemical identification of the substance/preparation

| | | |
|------------|---|--------|
| 7732-18-5 | water, distilled, conductivity or of similar purity | 88.99% |
| 7439-88-5 | iridium | 0.001% |
| 7440-05-3 | palladium | 0.001% |
| 7440-06-4 | platinum | 0.001% |
| 7440-16-6 | rhodium | 0.001% |
| 7440-18-8 | ruthenium | 0.001% |
| 7440-31-5 | tin | 0.001% |
| 7440-36-0 | antimony | 0.001% |
| 7440-57-5 | Gold | 0.001% |
| 7440-58-6 | hafnium | 0.001% |
| 13494-80-9 | tellurium | 0.001% |

4 First-aid measures

- Description of first aid measures
- General information: Immediately remove any clothing soiled by the product.
- After inhalation: Supply fresh air; consult doctor in case of complaints.
- After skin contact: Immediately rinse with water.
- After eye contact: Rinse opened eye for several minutes under running water. Then consult a doctor.
- After swallowing: Do not give anything to eat or drink - Do not induce vomiting
- Information for Doctor:
- Most important symptoms and effects, both acute and delayed No further relevant information available.
- Indication of any immediate medical attention and special treatment needed No further relevant information available.

5 Fire-fighting measures

- Extinguishing media
- Suitable extinguishing agents: Use fire fighting measures that suit the environment.
- Special hazards arising from the substance or mixture No further relevant information available.
- Advice for firefighters
- Protective equipment: No special measures required.

6 Accidental release measures

- Personal precautions, protective equipment and emergency procedures Wear protective equipment. Keep unprotected persons away.
- Environmental precautions:
- Dilute with plenty of water.
- Do not allow to enter sewers/ surface or ground water.

(Contd. on page 3)

Product Name: Multi-element Solution 3

(Contd. of page 2)

- **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Use neutralizing agent.
Dispose contaminated material as waste according to section 13.
Ensure adequate ventilation.
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.
- **Protective Action Criteria for Chemicals**

| | | |
|-----------------|-------------------|-------------------------|
| · PAC-1: | | |
| 7647-01-0 | hydrochloric acid | 1.8 ppm |
| 7697-37-2 | nitric acid | 0.16 ppm |
| 7439-88-5 | iridium | 4.7 mg/m ³ |
| 7440-05-3 | palladium | 6 mg/m ³ |
| 7440-06-4 | platinum | 3 mg/m ³ |
| 7440-16-6 | rhodium | 3 mg/m ³ |
| 7440-18-8 | ruthenium | 30 mg/m ³ |
| 7440-31-5 | tin | 6 mg/m ³ |
| 7440-36-0 | antimony | 1.5 mg/m ³ |
| 7440-57-5 | Gold | 0.46 mg/m ³ |
| 7440-58-6 | hafnium | 1.5 mg/m ³ |
| 13494-80-9 | tellurium | 1.8 mg/m ³ |
| · PAC-2: | | |
| 7647-01-0 | hydrochloric acid | 22 ppm |
| 7697-37-2 | nitric acid | 24 ppm |
| 7439-88-5 | iridium | 51 mg/m ³ |
| 7440-05-3 | palladium | 66 mg/m ³ |
| 7440-06-4 | platinum | 33 mg/m ³ |
| 7440-16-6 | rhodium | 33 mg/m ³ |
| 7440-18-8 | ruthenium | 330 mg/m ³ |
| 7440-31-5 | tin | 67 mg/m ³ |
| 7440-36-0 | antimony | 13 mg/m ³ |
| 7440-57-5 | Gold | 5.1 mg/m ³ |
| 7440-58-6 | hafnium | 17 mg/m ³ |
| 13494-80-9 | tellurium | 20 mg/m ³ |
| · PAC-3: | | |
| 7647-01-0 | hydrochloric acid | 100 ppm |
| 7697-37-2 | nitric acid | 92 ppm |
| 7439-88-5 | iridium | 310 mg/m ³ |
| 7440-05-3 | palladium | 400 mg/m ³ |
| 7440-06-4 | platinum | 200 mg/m ³ |
| 7440-16-6 | rhodium | 200 mg/m ³ |
| 7440-18-8 | ruthenium | 2,000 mg/m ³ |
| 7440-31-5 | tin | 400 mg/m ³ |
| 7440-36-0 | antimony | 80 mg/m ³ |
| 7440-57-5 | Gold | 30 mg/m ³ |
| 7440-58-6 | hafnium | 99 mg/m ³ |
| 13494-80-9 | tellurium | 110 mg/m ³ |

7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
- **Information about protection against explosions and fires:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.

(Contd. on page 4)

Product Name: Multi-element Solution 3

(Contd. of page 3)

- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep receptacle tightly sealed.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see section 7.
- **Control parameters**
- **Components with limit values that require monitoring at the workplace:**
The following constituent is the only constituent of the product which has a PEL, TLV or other recommended exposure limit.
At this time, the remaining constituent has no known exposure limits.

7647-01-0 hydrochloric acid

| | |
|-----|--|
| PEL | Ceiling limit value: 7 mg/m ³ , 5 ppm |
| REL | Ceiling limit value: 7 mg/m ³ , 5 ppm |
| TLV | Ceiling limit value: 2 ppm |
| A4 | |

- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Avoid contact with the eyes.
Avoid contact with the eyes and skin.
- **Respiratory protection:**
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.
- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **Material of gloves**
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
- **Penetration time of glove material** The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Eye protection:**



Tightly sealed goggles

9 Physical and chemical properties

· Information on basic physical and chemical properties

· General Information

· Appearance:

| | |
|--------|------------------------------------|
| Form: | Liquid |
| Color: | According to product specification |

· **Odor:** Characteristic

· **Odour Threshold:** Not applicable.

· **pH-value:** Not applicable.

· Change in condition

| | |
|------------------------------|-----------------|
| Melting point/Melting range: | Undetermined. |
| Boiling point/Boiling range: | 100 °C (212 °F) |

· **Flash point:** Not applicable.

· **Flammability (solid, gaseous):** Not applicable.

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| | |
|---|---|
| · Decomposition temperature: | Not applicable. |
| · Ignition temperature: | Product is not selfigniting. |
| · Danger of explosion: | Product does not present an explosion hazard. |
| · Explosion limits: Lower: Upper: | Not applicable. Not applicable. |
| · Vapor pressure at 20 °C (68 °F): | 23 hPa (17.3 mm Hg) |
| · Density | Not applicable. |
| · Relative density | Not applicable. |
| · Vapor density | Not applicable. |
| · Evaporation rate | Not applicable. |
| · Solubility in / Miscibility with Water: | Fully miscible. |
| · Partition coefficient (n-octanol/water): | Not applicable. |
| · Viscosity: Dynamic: Kinematic: | Not applicable. Not applicable. |
| · Solvent content: Water: VOC content: | 89.0 % 0.00 % |
| · Solids content: | 0.0 % |
| · Other information | No further relevant information available. |

10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

| |
|---|
| · LD/LC50 values that are relevant for classification: |
| 7647-01-0 hydrochloric acid |
| Oral LD50 900 mg/kg (rabbit) |

- **Primary irritant effect:**
- **on the skin:**
Caustic effect on skin and mucous membranes.
Irritant to skin and mucous membranes.
- **on the eye:** Strong irritant with the danger of severe eye injury.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**
The product shows the following dangers according to internally approved calculation methods for preparations:
Irritant

- **Carcinogenic categories**

| |
|---|
| · IARC (International Agency for Research on Cancer) |
| 7647-01-0 hydrochloric acid |
| 3 |

- **NTP (National Toxicology Program)**

| |
|------------------------------------|
| None of the ingredients is listed. |
|------------------------------------|

- **OSHA-Ca (Occupational Safety & Health Administration)**

| |
|------------------------------------|
| None of the ingredients is listed. |
|------------------------------------|

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12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**
Water hazard class 1 (Self-assessment): slightly hazardous for water
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
Must not reach bodies of water or drainage ditch undiluted or unneutralized.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:** Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

14 Transport information

| | |
|---|---|
| · UN-Number | UN3264 |
| · DOT, ADR, IMDG, IATA | |
| · UN proper shipping name | Corrosive liquid, acidic, inorganic, n.o.s. (Hydrochloric acid, Nitric acid) |
| · DOT | 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (HYDROCHLORIC ACID, NITRIC ACID) |
| · ADR | CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (HYDROCHLORIC ACID, NITRIC ACID) |
| · IMDG, IATA | |
| · Transport hazard class(es) | |
| · DOT | |
|  | |
| · Class | 8 Corrosive substances |
| · Label | 8 |
| · ADR, IMDG, IATA | |
|  | |
| · Class | 8 Corrosive substances |
| · Label | 8 |
| · Packing group | |
| · DOT, ADR, IMDG, IATA | II |
| · Environmental hazards: | Not applicable. |
| · Special precautions for user | Warning: Corrosive substances |
| · Hazard identification number (Kemler code): | 80 |
| · EMS Number: | F-A,S-B |
| · Segregation groups | (SGG1) Acids |
| · Stowage Category | B |
| · Stowage Code | SW2 Clear of living quarters. |

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| | |
|---|---|
| · Segregation Code | SG36 Stow "separated from" SGG18-alkalis. SG49 Stow "separated from" SGG6-cyanides |
| · Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code | Not applicable. |
| · Transport/Additional information: | |
| · ADR | |
| · Excepted quantities (EQ) | Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml |
| · IMDG | |
| · Limited quantities (LQ) | 1L |
| · Excepted quantities (EQ) | Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml |
| · UN "Model Regulation": | UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (HYDROCHLORIC ACID, NITRIC ACID), 8, II |

15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture No further relevant information available.
- Sara

| | |
|--|-------------------|
| · Section 313 (Specific toxic chemical listings): | |
| 7647-01-0 | hydrochloric acid |
| 7697-37-2 | nitric acid |
| 7440-36-0 | antimony |
| · TSCA (Toxic Substances Control Act): | |
| All components have the value ACTIVE. | |
| · Hazardous Air Pollutants | |
| 7647-01-0 | hydrochloric acid |
| · Proposition 65 | |
| · Chemicals known to cause cancer: | |
| None of the ingredients is listed. | |
| · Chemicals known to cause reproductive toxicity for females: | |
| None of the ingredients is listed. | |
| · Chemicals known to cause reproductive toxicity for males: | |
| None of the ingredients is listed. | |
| · Chemicals known to cause developmental toxicity: | |
| None of the ingredients is listed. | |
| · Carcinogenic categories | |
| · EPA (Environmental Protection Agency) | |
| None of the ingredients is listed. | |
| · TLV (Threshold Limit Value) | |
| 7647-01-0 | hydrochloric acid |
| | A4 |
| · NIOSH-Ca (National Institute for Occupational Safety and Health) | |
| None of the ingredients is listed. | |

- GHS label elements The product is classified and labeled according to the Globally Harmonized System (GHS).
- Hazard pictograms



GHS05 GHS07

- Signal word Danger
- Hazard-determining components of labeling:
hydrochloric acid
nitric acid
- Hazard statements
H315 Causes skin irritation.
H318 Causes serious eye damage.

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H335 May cause respiratory irritation.

Precautionary statements

- P261 Avoid breathing dust/fume/gas/mist/vapors/spray
- P264 Wash thoroughly after handling.
- P271 Use only outdoors or in a well-ventilated area.
- P280 Wear eye protection / face protection.
- P302+P352 If on skin: Wash with plenty of water.
- 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.
- P321 Specific treatment (see on this label).
- P362+P364 Take off contaminated clothing and wash it before reuse.
- P332+P313 If skin irritation occurs: Get medical advice/attention.
- P403+P233 Store in a well-ventilated place. Keep container tightly closed.
- P405 Store locked up.
- P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Department issuing SDS: product safety department

Contact:

Spex CertiPrep, LLC.
1-732-549-7144

Date of preparation / last revision 03/05/2024

Abbreviations and acronyms:

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)
 IMDG: International Maritime Code for Dangerous Goods
 DOT: US Department of Transportation
 IATA: International Air Transport Association
 EINECS: European Inventory of Existing Commercial Chemical Substances
 ELINCS: European List of Notified Chemical Substances
 CAS: Chemical Abstracts Service (division of the American Chemical Society)
 NFPA: National Fire Protection Association (USA)
 HMIS: Hazardous Materials Identification System (USA)
 VOC: Volatile Organic Compounds (USA, EU)
 LC50: Lethal concentration, 50 percent
 LD50: Lethal dose, 50 percent
 PBT: Persistent, Bioaccumulative and Toxic
 vPvB: very Persistent and very Bioaccumulative
 NIOSH: National Institute for Occupational Safety
 OSHA: Occupational Safety & Health
 TLV: Threshold Limit Value
 PEL: Permissible Exposure Limit
 REL: Recommended Exposure Limit
 Skin Irritation 2: Skin corrosion/irritation – Category 2
 Eye Damage 1: Serious eye damage/eye irritation – Category 1
 Specific Target Organ Toxicity - Single Exposure 3: Specific target organ toxicity (single exposure) – Category 3

1 Identification

- **Product identifier**
- **Product Name:** Multi-element Solution 4
- **Part Number:** CLMS-4
- **Application of the substance / the mixture** For Laboratory Use Only
- **Uses advised against** Not for Human or Animal Use
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Spex CertiPrep, LLC.
203 Norcross Ave, Metuchen,
NJ 08840 USA
732-549-7144
USMet-CRMSales@antylia.com
- **Information department:** product safety department
- **Emergency telephone number:**
Emergency Phone Number (24 hours)
CHEMTREC (800-424-9300)
Outside US: 703-527-3887

2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS07

Eye Irritation 2A H319 Causes serious eye irritation.

- **Label elements**
- **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**



GHS07

- **Signal word** Warning
- **Hazard statements**
H319 Causes serious eye irritation.
- **Precautionary statements**
P264 Wash thoroughly after handling.
P280 Wear eye protection / face protection.
P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313 If eye irritation persists: Get medical advice/attention.
- **Classification system:**
- **NFPA ratings (scale 0 - 4)**



Health = 2
Fire = 0
Reactivity = 0

- **HMIS-ratings (scale 0 - 4)**



Health = 2
Fire = 0
Reactivity = 0

- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

3 Composition/information on ingredients

- **Chemical characterization: Mixtures**
- **Description:** Mixture of the substances listed below with nonhazardous additions.

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Product Name: Multi-element Solution 4

(Contd. of page 1)

| | | |
|---|---|---------|
| · Dangerous components: | | |
| 7664-39-3 | hydrofluoric acid | 0.2% |
| · Chemical identification of the substance/preparation | | |
| 7732-18-5 | water, distilled, conductivity or of similar purity | 99.783% |
| 7697-37-2 | nitric acid | 0.005% |
| 7439-98-7 | molybdenum | 0.001% |
| 7440-03-1 | niobium | 0.001% |
| 7440-15-5 | rhenium | 0.001% |
| 7440-21-3 | silicon | 0.001% |
| 7440-25-7 | tantalum | 0.001% |
| 7440-32-6 | titanium | 0.001% |
| 7440-33-7 | tungsten | 0.001% |
| 7440-42-8 | Boron from Ammonium tetraborate tetrahydrate | 0.001% |
| 7440-56-4 | germanium | 0.001% |
| 7440-67-7 | zirconium | 0.001% |
| 7723-14-0 | phosphorus | 0.001% |
| 7783-20-2 | sulfur from ammonium sulphate | 0.001% |

4 First-aid measures

- **Description of first aid measures**
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:** Generally the product does not irritate the skin.
- **After eye contact:** Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:** Do not give anything to eat or drink - Do not induce vomiting
- **Information for Doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed** No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Not required.
- **Environmental precautions:** Dilute with plenty of water.
- **Methods and material for containment and cleaning up:** Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.
- **Protective Action Criteria for Chemicals**

| | | |
|-----------------|--|------------------------|
| · PAC-I: | | |
| 7664-39-3 | hydrofluoric acid | 1.0 ppm |
| 7697-37-2 | nitric acid | 0.16 ppm |
| 7439-98-7 | molybdenum | 30 mg/m ³ |
| 7440-03-1 | niobium | 30 mg/m ³ |
| 7440-21-3 | silicon | 45 mg/m ³ |
| 7440-25-7 | tantalum | 10 mg/m ³ |
| 7440-32-6 | titanium | 30 mg/m ³ |
| 7440-33-7 | tungsten | 10 mg/m ³ |
| 7440-42-8 | Boron from Ammonium tetraborate tetrahydrate | 1.9 mg/m ³ |
| 7440-56-4 | germanium | 3.2 mg/m ³ |
| 7440-67-7 | zirconium | 10 mg/m ³ |
| 7723-14-0 | phosphorus | 0.27 mg/m ³ |
| 7783-20-2 | sulfur from ammonium sulphate | 13 mg/m ³ |

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| | | |
|-----------------|--|-------------------------|
| · PAC-2: | | |
| 7664-39-3 | hydrofluoric acid | 24 ppm |
| 7697-37-2 | nitric acid | 24 ppm |
| 7439-98-7 | molybdenum | 330 mg/m ³ |
| 7440-03-1 | niobium | 330 mg/m ³ |
| 7440-21-3 | silicon | 100 mg/m ³ |
| 7440-25-7 | tantalum | 11 mg/m ³ |
| 7440-32-6 | titanium | 330 mg/m ³ |
| 7440-33-7 | tungsten | 330 mg/m ³ |
| 7440-42-8 | Boron from Ammonium tetraborate tetrahydrate | 21 mg/m ³ |
| 7440-56-4 | germanium | 35 mg/m ³ |
| 7440-67-7 | zirconium | 83 mg/m ³ |
| 7723-14-0 | phosphorus | 3 mg/m ³ |
| 7783-20-2 | sulfur from ammonium sulphate | 140 mg/m ³ |
| · PAC-3: | | |
| 7664-39-3 | hydrofluoric acid | 44 ppm |
| 7697-37-2 | nitric acid | 92 ppm |
| 7439-98-7 | molybdenum | 2,000 mg/m ³ |
| 7440-03-1 | niobium | 2,000 mg/m ³ |
| 7440-21-3 | silicon | 630 mg/m ³ |
| 7440-25-7 | tantalum | 64 mg/m ³ |
| 7440-32-6 | titanium | 2,000 mg/m ³ |
| 7440-33-7 | tungsten | 2,000 mg/m ³ |
| 7440-42-8 | Boron from Ammonium tetraborate tetrahydrate | 130 mg/m ³ |
| 7440-56-4 | germanium | 170 mg/m ³ |
| 7440-67-7 | zirconium | 500 mg/m ³ |
| 7723-14-0 | phosphorus | 18 mg/m ³ |
| 7783-20-2 | sulfur from ammonium sulphate | 840 mg/m ³ |

7 Handling and storage

- **Handling:**
- **Precautions for safe handling** No special precautions are necessary if used correctly.
- **Information about protection against explosions and fires:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep receptacle tightly sealed.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see section 7.
- **Control parameters**

· **Components with limit values that require monitoring at the workplace:**

7664-39-3 hydrofluoric acid

| | |
|-----|---|
| PEL | Long-term value: 1* mg/m ³ , 3 ppm as F, *sulfuric acid |
| REL | Long-term value: 2.5 mg/m ³ , 3 ppm Ceiling limit value: 5* mg/m ³ , 6* ppm *15-min, as F |
| TLV | Long-term value: 0.5 ppm Ceiling limit value: 2 ppm as F; Skin, BEI |

(Contd. on page 4)

Product Name: Multi-element Solution 4

(Contd. of page 3)

| | |
|--|--|
| · Ingredients with biological limit values: | |
| 7664-39-3 hydrofluoric acid | |
| BEI | 3 mg/g creatinine Medium: urine Time: prior to shift Parameter: Fluorides (background, nonspecific) |
| | 10 mg/g creatinine Medium: urine Time: end of shift Parameter: Fluorides (background, nonspecific) |

· **Additional information:** The lists that were valid during the creation were used as basis.

· **Exposure controls**

· **Personal protective equipment:**

· **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Avoid contact with the eyes.

Avoid contact with the eyes and skin.

· **Respiratory protection:** Not required.

· **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· **Penetration time of glove material** The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:**



Tightly sealed goggles

9 Physical and chemical properties

| | |
|--|---|
| · Information on basic physical and chemical properties | |
| · General Information | |
| · Appearance: | |
| Form: | Liquid |
| Color: | According to product specification |
| · Odor: | Characteristic |
| · Odour Threshold: | Not applicable. |
| · pH-value: | Not applicable. |
| · Change in condition | |
| Melting point/Melting range: | Undetermined. |
| Boiling point/Boiling range: | 100 °C (212 °F) |
| · Flash point: | Not applicable. |
| · Flammability (solid, gaseous): | Not applicable. |
| · Decomposition temperature: | Not applicable. |
| · Ignition temperature: | Product is not selfigniting. |
| · Danger of explosion: | Product does not present an explosion hazard. |
| · Explosion limits: | |
| Lower: | Not applicable. |
| Upper: | Not applicable. |

(Contd. on page 5)

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Product Name: Multi-element Solution 4

(Contd. of page 4)

| | |
|--|--|
| · Vapor pressure at 20 °C (68 °F): | 23 hPa (17.3 mm Hg) |
| · Density | Not applicable. |
| · Relative density | Not applicable. |
| · Vapor density | Not applicable. |
| · Evaporation rate | Not applicable. |
| · Solubility in / Miscibility with Water: | Fully miscible. |
| · Partition coefficient (n-octanol/water): | Not applicable. |
| · Viscosity: | |
| Dynamic: | Not applicable. |
| Kinematic: | Not applicable. |
| · Solvent content: | |
| Water: | 99.8 % |
| VOC content: | 0.00 % |
| Solids content: | 0.0 % |
| · Other information | No further relevant information available. |

10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

| |
|---|
| · LD/LC50 values that are relevant for classification: |
| 7664-39-3 hydrofluoric acid |
| Oral LD50 1,276 mg/kg (rat) |

- **Primary irritant effect:**
- **on the eye:** Irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**
The product shows the following dangers according to internally approved calculation methods for preparations:
Irritant

- **Carcinogenic categories**

| |
|--|
| · IARC (International Agency for Research on Cancer) |
| None of the ingredients is listed. |
| · NTP (National Toxicology Program) |
| None of the ingredients is listed. |
| · OSHA-Ca (Occupational Safety & Health Administration) |
| None of the ingredients is listed. |

12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:** Not hazardous for water.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

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Product Name: Multi-element Solution 4

(Contd. of page 5)

· **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:** Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

14 Transport information

| | |
|--|-----------------|
| · UN-Number | |
| · DOT, ADR, IMDG, IATA | Not Regulated |
| · UN proper shipping name | |
| · DOT, ADR, ADN, IMDG, IATA | Not Regulated |
| · Transport hazard class(es) | |
| · DOT, ADR, ADN, IMDG, IATA | |
| · Class | Not Regulated |
| · Packing group | |
| · DOT, ADR, IMDG, IATA | Not Regulated |
| · Environmental hazards: | Not applicable. |
| · Special precautions for user | Not applicable. |
| · Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code | Not applicable. |
| · UN "Model Regulation": | Not Regulated |

15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture** No further relevant information available.
- **Sara**

| | |
|---|--|
| · Section 313 (Specific toxic chemical listings): | |
| 7664-39-3 | hydrofluoric acid |
| 7697-37-2 | nitric acid |
| 7723-14-0 | phosphorus |
| 7783-20-2 | sulfur from ammonium sulphate |
| · TSCA (Toxic Substances Control Act): | |
| | All components have the value ACTIVE. |
| · Hazardous Air Pollutants | |
| 7664-39-3 | hydrofluoric acid |
| 7723-14-0 | phosphorus |
| · Proposition 65 | |
| · Chemicals known to cause cancer: | |
| | None of the ingredients is listed. |
| · Chemicals known to cause reproductive toxicity for females: | |
| | None of the ingredients is listed. |
| · Chemicals known to cause reproductive toxicity for males: | |
| | None of the ingredients is listed. |
| · Chemicals known to cause developmental toxicity: | |
| | None of the ingredients is listed. |
| · Carcinogenic categories | |
| · EPA (Environmental Protection Agency) | |
| 7440-42-8 | Boron from Ammonium tetraborate tetrahydrate |
| | I (oral) |
| · TLV (Threshold Limit Value) | |
| 7439-98-7 | molybdenum |
| | A3 |
| · NIOSH-Ca (National Institute for Occupational Safety and Health) | |
| | None of the ingredients is listed. |

- **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).

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Product Name: Multi-element Solution 4

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· **Hazard pictograms**



GHS07

· **Signal word** Warning

· **Hazard statements**

H319 Causes serious eye irritation.

· **Precautionary statements**

P264 Wash thoroughly after handling.

P280 Wear eye protection / face protection.

P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P337+P313 If eye irritation persists: Get medical advice/attention.

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Department issuing SDS:** product safety department

· **Contact:**

Spex CertiPrep, LLC.

1-732-549-7144

· **Date of preparation / last revision** 03/05/2024

· **Abbreviations and acronyms:**

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

BEI: Biological Exposure Limit

Eye Irritation 2A: Serious eye damage/eye irritation – Category 2A

1 Identification

- **Product identifier**
- **Product Name:** Nitric Acid Blank
- **Part Number:**
CLBLK-HNO3
CLBLK-HNO3M
- **Application of the substance / the mixture** For Laboratory Use Only
- **Uses advised against** Not for Human or Animal Use
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Spex CertiPrep, LLC.
203 Norcross Ave, Metuchen,
NJ 08840 USA
732-549-7144
USMet-CRMSales@antylia.com
- **Information department:** product safety department
- **Emergency telephone number:**
Emergency Phone Number (24 hours)
CHEMTREC (800-424-9300)
Outside US: 703-527-3887

2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS07

Skin Irritation 2 H315 Causes skin irritation.
Eye Irritation 2A H319 Causes serious eye irritation.

- **Label elements**
- **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**



GHS07

- **Signal word** Warning
- **Hazard statements**
H315 Causes skin irritation.
H319 Causes serious eye irritation.
- **Precautionary statements**
P264 Wash thoroughly after handling.
P280 Wear eye protection / face protection.
P302+P352 If on skin: Wash with plenty of water.
P321 Specific treatment (see on this label).
P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P332+P313 If skin irritation occurs: Get medical advice/attention.
P362+P364 Take off contaminated clothing and wash it before reuse.
P337+P313 If eye irritation persists: Get medical advice/attention.
- **Classification system:**
- **NFPA ratings (scale 0 - 4)**



Health = 2
Fire = 0
Reactivity = 0

- **HMIS-ratings (scale 0 - 4)**



Health = 2
Fire = 0
Reactivity = 0

Printing date 03/05/2024

Reviewed on 03/05/2024

Product Name: Nitric Acid Blank

(Contd. of page 1)

- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

3 Composition/information on ingredients

- **Chemical characterization: Mixtures**
- **Description:** Mixture of the substances listed below with nonhazardous additions.

· **Dangerous components:**

| | | |
|-----------|-------------|------|
| 7697-37-2 | nitric acid | 2.0% |
|-----------|-------------|------|

· **Chemical identification of the substance/preparation**

| | | |
|-----------|---|-------|
| 7732-18-5 | water, distilled, conductivity or of similar purity | 98.0% |
|-----------|---|-------|

4 First-aid measures

- **Description of first aid measures**
- **General information:** Immediately remove any clothing soiled by the product.
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:** Immediately rinse with water.
- **After eye contact:** Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:** Do not give anything to eat or drink - Do not induce vomiting
- **Information for Doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed** No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Not required.
- **Environmental precautions:**
Dilute with plenty of water.
Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:** Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.
- **Protective Action Criteria for Chemicals**

· **PAC-1:**

| | | |
|-----------|-------------|----------|
| 7697-37-2 | nitric acid | 0.16 ppm |
|-----------|-------------|----------|

· **PAC-2:**

| | | |
|-----------|-------------|--------|
| 7697-37-2 | nitric acid | 24 ppm |
|-----------|-------------|--------|

· **PAC-3:**

| | | |
|-----------|-------------|--------|
| 7697-37-2 | nitric acid | 92 ppm |
|-----------|-------------|--------|

7 Handling and storage

- **Handling:**
- **Precautions for safe handling** No special precautions are necessary if used correctly.
- **Information about protection against explosions and fires:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep receptacle tightly sealed.

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Product Name: Nitric Acid Blank

(Contd. of page 2)

· **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

· **Additional information about design of technical systems:** No further data; see section 7.

· **Control parameters**

· **Components with limit values that require monitoring at the workplace:**

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

· **Additional information:** The lists that were valid during the creation were used as basis.

· **Exposure controls**

· **Personal protective equipment:**

· **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Avoid contact with the eyes.

Avoid contact with the eyes and skin.

· **Respiratory protection:** Not required.

· **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· **Penetration time of glove material** The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:**



Tightly sealed goggles

9 Physical and chemical properties

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

Form: Liquid

Color: According to product specification

· **Odor:** Characteristic

· **Odour Threshold:** Not applicable.

· **pH-value:** Not applicable.

· **Change in condition**

Melting point/Melting range: Undetermined.

Boiling point/Boiling range: 100 °C (212 °F)

· **Flash point:** Not applicable.

· **Flammability (solid, gaseous):** Not applicable.

· **Decomposition temperature:** Not applicable.

· **Ignition temperature:** Product is not selfigniting.

· **Danger of explosion:** Product does not present an explosion hazard.

· **Explosion limits:**

Lower: Not applicable.

Upper: Not applicable.

· **Vapor pressure at 20 °C (68 °F):** 23 hPa (17.3 mm Hg)

· **Density at 20 °C (68 °F)** 1.01006 g/cm³ (8.42895 lbs/gal)

(Contd. on page 4)

US —

Product Name: Nitric Acid Blank

(Contd. of page 3)

| | |
|---|--|
| · Relative density | Not applicable. |
| · Vapor density | Not applicable. |
| · Evaporation rate | Not applicable. |
| · Solubility in / Miscibility with Water: | Fully miscible. |
| · Partition coefficient (n-octanol/water): | Not applicable. |
| · Viscosity: | |
| Dynamic: | Not applicable. |
| Kinematic: | Not applicable. |
| · Solvent content: | |
| Water: | 98.0 % |
| VOC content: | 0.00 % |
| Solids content: | 0.0 % |
| · Other information | No further relevant information available. |

10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

| |
|---|
| · LD/LC50 values that are relevant for classification: |
| 7697-37-2 nitric acid |
| Inhalative LC50/4 h 2.65 mg/l (ATE) |

- **Primary irritant effect:**
- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** Irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**
The product shows the following dangers according to internally approved calculation methods for preparations:
Irritant

- **Carcinogenic categories**

| |
|---|
| · IARC (International Agency for Research on Cancer) |
| None of the ingredients is listed. |

| |
|--|
| · NTP (National Toxicology Program) |
| None of the ingredients is listed. |

| |
|--|
| · OSHA-Ca (Occupational Safety & Health Administration) |
| None of the ingredients is listed. |

12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**
Water hazard class 1 (Self-assessment): slightly hazardous for water
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

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(Contd. of page 4)

· **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:** Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

14 Transport information

| | |
|---|--|
| · UN-Number · DOT, ADR, IMDG, IATA | UN3264 |
| · UN proper shipping name · DOT · ADR · IMDG, IATA | Corrosive liquid, acidic, inorganic, n.o.s. (Nitric acid) 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (NITRIC ACID) CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (NITRIC ACID) |
| · Transport hazard class(es) · DOT | |
|  | |
| · Class · Label | 8 Corrosive substances 8 |
| · ADR, IMDG, IATA | |
|  | |
| · Class · Label | 8 Corrosive substances 8 |
| · Packing group · DOT, ADR, IMDG, IATA | III |
| · Environmental hazards: | Not applicable. |
| · Special precautions for user · Hazard identification number (Kemler code): · EMS Number: · Segregation groups · Stowage Category · Stowage Code · Segregation Code | Warning: Corrosive substances 80 F-A, S-B (SGG1) Acids A SW2 Clear of living quarters. SG36 Stow "separated from" SGG18-alkalis. SG49 Stow "separated from" SGG6-cyanides |
| · Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code | Not applicable. |
| · Transport/Additional information: | |
| · ADR · Excepted quantities (EQ) | Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml |
| · IMDG · Limited quantities (LQ) · Excepted quantities (EQ) | 5L Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml |
| · UN "Model Regulation": | UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (NITRIC ACID), 8, III |

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15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture** No further relevant information available.
- **Sara**

· **Section 313 (Specific toxic chemical listings):**

7697-37-2 | nitric acid

· **TSCA (Toxic Substances Control Act):**

All components have the value ACTIVE.

· **Hazardous Air Pollutants**

None of the ingredients is listed.

· **Proposition 65**

· **Chemicals known to cause cancer:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

· **Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**

None of the ingredients is listed.

· **TLV (Threshold Limit Value)**

None of the ingredients is listed.

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

· **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).

· **Hazard pictograms**



GHS07

· **Signal word** Warning

· **Hazard statements**

H315 Causes skin irritation.

H319 Causes serious eye irritation.

· **Precautionary statements**

P264 Wash thoroughly after handling.

P280 Wear eye protection / face protection.

P302+P352 If on skin: Wash with plenty of water.

P321 Specific treatment (see on this label).

P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P332+P313 If skin irritation occurs: Get medical advice/attention.

P362+P364 Take off contaminated clothing and wash it before reuse.

P337+P313 If eye irritation persists: Get medical advice/attention.

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Department issuing SDS:** product safety department

· **Contact:**

Spex CertiPrep, LLC.

1-732-549-7144

· **Date of preparation / last revision** 03/05/2024

· **Abbreviations and acronyms:**

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

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Product Name: Nitric Acid Blank

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ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
VOC: Volatile Organic Compounds (USA, EU)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
NIOSH: National Institute for Occupational Safety
OSHA: Occupational Safety & Health
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
Skin Irritation 2: Skin corrosion/irritation – Category 2
Eye Irritation 2A: Serious eye damage/eye irritation – Category 2A

— US —

1 Identification

- **Product identifier**
- **Product Name:** Hydrochloric Acid Blank
- **Part Number:** CLBLK-HCL
- **Application of the substance / the mixture** For Laboratory Use Only
- **Uses advised against** Not for Human or Animal Use
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Spex CertiPrep, LLC.
203 Norcross Ave, Metuchen,
NJ 08840 USA
732-549-7144
USMet-CRMSales@antylia.com
- **Information department:** product safety department
- **Emergency telephone number:**
Emergency Phone Number (24 hours)
CHEMTREC (800-424-9300)
Outside US: 703-527-3887

2 Hazard(s) identification

- **Classification of the substance or mixture** The product is not classified, according to the Globally Harmonized System (GHS).
- **Label elements**
- **GHS label elements** Not Regulated
- **Hazard pictograms** Not Regulated
- **Signal word** Not Regulated
- **Hazard statements** Not Regulated
- **Classification system:**
- **NFPA ratings (scale 0 - 4)**



- **HMIS-ratings (scale 0 - 4)**



- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

3 Composition/information on ingredients

- **Chemical characterization:** Mixtures
- **Description:** Mixture of the substances listed below with nonhazardous additions.

· **Dangerous components:**

| | | |
|-----------|-------------------|------|
| 7647-01-0 | hydrochloric acid | 2.0% |
|-----------|-------------------|------|

· **Chemical identification of the substance/preparation**

| | | |
|-----------|---|-------|
| 7732-18-5 | water, distilled, conductivity or of similar purity | 98.0% |
|-----------|---|-------|

4 First-aid measures

- **Description of first aid measures**
- **General information:** No special measures required.
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:** Generally the product does not irritate the skin.
- **After eye contact:** Rinse opened eye for several minutes under running water.
- **After swallowing:** Do not give anything to eat or drink - Do not induce vomiting
- **Information for Doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed** No further relevant information available.

Printing date 03/05/2024

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Product Name: Hydrochloric Acid Blank

(Contd. of page 1)

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Not required.
- **Environmental precautions:** Dilute with plenty of water.
- **Methods and material for containment and cleaning up:** Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.
- **Protective Action Criteria for Chemicals**

| | | |
|-----------------|-------------------|---------|
| · PAC-1: | | |
| 7647-01-0 | hydrochloric acid | 1.8 ppm |
| · PAC-2: | | |
| 7647-01-0 | hydrochloric acid | 22 ppm |
| · PAC-3: | | |
| 7647-01-0 | hydrochloric acid | 100 ppm |

7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
No special measures required.
Follow good laboratory practices.
- **Information about protection against explosions and fires:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** None.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see section 7.
- **Control parameters**

· **Components with limit values that require monitoring at the workplace:**

7647-01-0 hydrochloric acid

| | |
|-----|--|
| PEL | Ceiling limit value: 7 mg/m ³ , 5 ppm |
| REL | Ceiling limit value: 7 mg/m ³ , 5 ppm |
| TLV | Ceiling limit value: 2 ppm |
| A4 | |

- **Additional information:** The lists that were valid during the creation were used as basis.

· **Exposure controls**

· **Personal protective equipment:**

· **General protective and hygienic measures:** The usual precautionary measures for handling chemicals should be followed.

· **Respiratory protection:** Not required.

· **Protection of hands:**

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· **Penetration time of glove material** The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

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Product Name: Hydrochloric Acid Blank

(Contd. of page 2)

· **Eye protection:** Goggles recommended during refilling.

9 Physical and chemical properties

· Information on basic physical and chemical properties

· General Information

· Appearance:

| | |
|------------------|------------------------------------|
| Form: | Liquid |
| Color: | According to product specification |
| Odor: | Characteristic |
| Odour Threshold: | Not applicable. |

· **pH-value:** Not applicable.

· Change in condition

| | |
|------------------------------|-----------------|
| Melting point/Melting range: | Undetermined. |
| Boiling point/Boiling range: | 100 °C (212 °F) |

· **Flash point:** Not applicable.

· **Flammability (solid, gaseous):** Not applicable.

· **Decomposition temperature:** Not applicable.

· **Ignition temperature:** Product is not selfigniting.

· **Danger of explosion:** Product does not present an explosion hazard.

· Explosion limits:

| | |
|--------|-----------------|
| Lower: | Not applicable. |
| Upper: | Not applicable. |

· **Vapor pressure at 20 °C (68 °F):** 23 hPa (17.3 mm Hg)

· **Density at 20 °C (68 °F)** 1.003 g/cm³ (8.37004 lbs/gal)

· **Relative density** Not applicable.

· **Vapor density** Not applicable.

· **Evaporation rate** Not applicable.

· Solubility in / Miscibility with

Water: Fully miscible.

· **Partition coefficient (n-octanol/water):** Not applicable.

· Viscosity:

| | |
|------------|-----------------|
| Dynamic: | Not applicable. |
| Kinematic: | Not applicable. |

· Solvent content:

| | |
|--------------|--------|
| Water: | 98.0 % |
| VOC content: | 0.00 % |

Solids content: 0.0 %

· **Other information** No further relevant information available.

10 Stability and reactivity

· **Reactivity** No further relevant information available.

· Chemical stability

· **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.

· **Possibility of hazardous reactions** No dangerous reactions known.

· **Conditions to avoid** No further relevant information available.

· **Incompatible materials:** No further relevant information available.

· **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

· Information on toxicological effects

· Acute toxicity:

· Primary irritant effect:

· **on the skin:** No irritant effect.

· **on the eye:** No irritating effect.

· **Sensitization:** No sensitizing effects known.

· Additional toxicological information:

The product is not subject to classification according to internally approved calculation methods for preparations:

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(Contd. of page 3)

When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

· **Carcinogenic categories**

· **IARC (International Agency for Research on Cancer)**

| | |
|-------------------------------|---|
| 7647-01-0 hydrochloric acid | 3 |
|-------------------------------|---|

· **NTP (National Toxicology Program)**

None of the ingredients is listed.

· **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

12 Ecological information

· **Toxicity**

· **Aquatic toxicity:** No further relevant information available.

· **Persistence and degradability** No further relevant information available.

· **Behavior in environmental systems:**

· **Bioaccumulative potential** No further relevant information available.

· **Mobility in soil** No further relevant information available.

· **Additional ecological information:**

· **General notes:** Not hazardous for water.

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

· **Other adverse effects** No further relevant information available.

13 Disposal considerations

· **Waste treatment methods**

· **Recommendation:** Smaller quantities can be disposed of with household waste.

· **Uncleaned packagings:**

· **Recommendation:** Disposal must be made according to official regulations.

· **Recommended cleansing agent:** Water, if necessary with cleansing agents.

14 Transport information

· **UN-Number**

· **DOT, ADR, IMDG, IATA** Not Regulated

· **UN proper shipping name**

· **DOT, ADR, IMDG, IATA** Not Regulated

· **Transport hazard class(es)**

· **DOT, ADR, ADN, IMDG, IATA**

· **Class** Not Regulated

· **Packing group**

· **DOT, ADR, IMDG, IATA** Not Regulated

· **Environmental hazards:** Not applicable.

· **Special precautions for user** Not applicable.

· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.

· **UN "Model Regulation":** Not Regulated

15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture** No further relevant information available.

· **Sara**

· **Section 313 (Specific toxic chemical listings):**

| |
|-------------------------------|
| 7647-01-0 hydrochloric acid |
|-------------------------------|

· **TSCA (Toxic Substances Control Act):**

All components have the value ACTIVE.

· **Hazardous Air Pollutants**

| |
|-------------------------------|
| 7647-01-0 hydrochloric acid |
|-------------------------------|

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Printing date 03/05/2024

Reviewed on 03/05/2024

Product Name: Hydrochloric Acid Blank

(Contd. of page 4)

· **Proposition 65**

· **Chemicals known to cause cancer:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

· **Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**

None of the ingredients is listed.

· **TLV (Threshold Limit Value)**

7647-01-0 | hydrochloric acid

A4

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

· **GHS label elements** Not Regulated

· **Hazard pictograms** Not Regulated

· **Signal word** Not Regulated

· **Hazard statements** Not Regulated

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Department issuing SDS:** product safety department

· **Contact:**

Spex CertiPrep, LLC.

1-732-549-7144

· **Date of preparation / last revision** 03/05/2024

· **Abbreviations and acronyms:**

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

VOC: Volatile Organic Compounds (USA, EU)

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

1 Identification

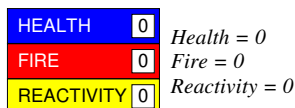
- **Product identifier**
- **Product Name:** Water Blank - ASTM Type I Water, 18 Megohm
- **Part Number:**
CLBLK-H2O
CLBK-H2O-250
- **CAS Number:**
7732-18-5
- **EC number:**
231-791-2
- **Application of the substance / the mixture** For Laboratory Use Only
- **Uses advised against** Not for Human or Animal Use
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Spex CertiPrep, LLC.
203 Norcross Ave, Metuchen,
NJ 08840 USA
732-549-7144
USMet-CRMSales@antylia.com
- **Information department:** product safety department
- **Emergency telephone number:**
Emergency Phone Number (24 hours)
CHEMTREC (800-424-9300)
Outside US: 703-527-3887

2 Hazard(s) identification

- **Classification of the substance or mixture** The substance is not classified, according to the Globally Harmonized System (GHS).
- **Label elements**
- **GHS label elements** Not Regulated
- **Hazard pictograms** Not Regulated
- **Signal word** Not Regulated
- **Hazard statements** Not Regulated
- **Classification system:**
- **NFPA ratings (scale 0 - 4)**



- **HMIS-ratings (scale 0 - 4)**



- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

3 Composition/information on ingredients

- **Chemical characterization:** Substances
- **CAS No. Description**
7732-18-5 water, distilled, conductivity or of similar purity
- **Identification number(s)**
- **EC number:** 231-791-2

4 First-aid measures

- **Description of first aid measures**
- **General information:** No special measures required.
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:** Generally the product does not irritate the skin.
- **After eye contact:** Rinse opened eye for several minutes under running water.
- **After swallowing:** Do not give anything to eat or drink - Do not induce vomiting

Product Name: Water Blank - ASTM Type I Water, 18 Megohm

(Contd. of page 1)

- **Information for Doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed** No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Not required.
- **Environmental precautions:** Dilute with plenty of water.
- **Methods and material for containment and cleaning up:** Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.
- **Protective Action Criteria for Chemicals**

· PAC-1:

Substance is not listed.

· PAC-2:

Substance is not listed.

· PAC-3:

Substance is not listed.

7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
No special measures required.
Follow good laboratory practices.
- **Information about protection against explosions and fires:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** None.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see section 7.
- **Control parameters**
- **Components with limit values that require monitoring at the workplace:** Not required.
- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:** The usual precautionary measures for handling chemicals should be followed.
- **Respiratory protection:** Not required.
- **Protection of hands:**
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
- **Material of gloves**
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
- **Penetration time of glove material** The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

(Contd. on page 3)

Product Name: Water Blank - ASTM Type I Water, 18 Megohm

(Contd. of page 2)

· **Eye protection:** Goggles recommended during refilling.

9 Physical and chemical properties

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

Form: Liquid
Color: Colorless
Odor: Odorless
Odour Threshold: Not applicable.

· **pH-value:** Not applicable.

· **Change in condition**

Melting point/Melting range: 0 °C (32 °F)
Boiling point/Boiling range: 100 °C (212 °F)

· **Flash point:** Not applicable.

· **Flammability (solid, gaseous):** Not applicable.

· **Decomposition temperature:** Not applicable.

· **Ignition temperature:** Not determined.

· **Danger of explosion:** Product does not present an explosion hazard.

· **Explosion limits:**

Lower: Not applicable.
Upper: Not applicable.

· **Vapor pressure at 20 °C (68 °F):** 23 hPa (17.3 mm Hg)

· **Density at 20 °C (68 °F)** 1 g/cm³ (8.345 lbs/gal)

· **Relative density** Not applicable.

· **Vapor density** Not applicable.

· **Evaporation rate** Not applicable.

· **Solubility in / Miscibility with**

Water: Fully miscible.

· **Partition coefficient (n-octanol/water):** Not applicable.

· **Viscosity:**

Dynamic at 20 °C (68 °F): 0.952 mPas
Kinematic: Not applicable.
Water: 100.0 %
VOC content: 0.00 %

Solids content: 0.0 %

· **Other information** No further relevant information available.

10 Stability and reactivity

· **Reactivity** No further relevant information available.

· **Chemical stability**

· **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.

· **Possibility of hazardous reactions** No dangerous reactions known.

· **Conditions to avoid** No further relevant information available.

· **Incompatible materials:** No further relevant information available.

· **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

· **Information on toxicological effects**

· **Acute toxicity:**

· **Primary irritant effect:**

· **on the skin:** No irritant effect.

· **on the eye:** No irritating effect.

· **Sensitization:** No sensitizing effects known.

· **Additional toxicological information:**

When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

The substance is not subject to classification.

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Printing date 03/05/2024

Reviewed on 03/05/2024

Product Name: Water Blank - ASTM Type I Water, 18 Megohm

(Contd. of page 3)

· Carcinogenic categories

· IARC (International Agency for Research on Cancer)

Substance is not listed.

· NTP (National Toxicology Program)

Substance is not listed.

· OSHA-Ca (Occupational Safety & Health Administration)

Substance is not listed.

12 Ecological information

· Toxicity

· Aquatic toxicity: No further relevant information available.

· Persistence and degradability: No further relevant information available.

· Behavior in environmental systems:

· Bioaccumulative potential: No further relevant information available.

· Mobility in soil: No further relevant information available.

· Additional ecological information:

· General notes: Not hazardous for water.

· Results of PBT and vPvB assessment

· PBT: Not applicable.

· vPvB: Not applicable.

· Other adverse effects: No further relevant information available.

13 Disposal considerations

· Waste treatment methods

· Recommendation: Smaller quantities can be disposed of with household waste.

· Uncleaned packagings:

· Recommendation: Disposal must be made according to official regulations.

· Recommended cleansing agent: Water, if necessary with cleansing agents.

14 Transport information

· UN-Number

· DOT, ADR, IMDG, IATA

Not Regulated

· UN proper shipping name

· DOT, ADR, IMDG, IATA

Not Regulated

· Transport hazard class(es)

· DOT, ADR, ADN, IMDG, IATA

· Class

Not Regulated

· Packing group

· DOT, ADR, IMDG, IATA

Not Regulated

· Environmental hazards:

Not applicable.

· Special precautions for user

Not applicable.

· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code: Not applicable.

· UN "Model Regulation":

Not Regulated

15 Regulatory information

· Safety, health and environmental regulations/legislation specific for the substance or mixture: No further relevant information available.

· Sara

· Section 313 (Specific toxic chemical listings):

Substance is not listed.

· TSCA (Toxic Substances Control Act):

ACTIVE

· Hazardous Air Pollutants

Substance is not listed.

(Contd. on page 5)

Printing date 03/05/2024

Reviewed on 03/05/2024

Product Name: Water Blank - ASTM Type I Water, 18 Megohm

(Contd. of page 4)

· **Proposition 65**

· **Chemicals known to cause cancer:**

Substance is not listed.

· **Chemicals known to cause reproductive toxicity for females:**

Substance is not listed.

· **Chemicals known to cause reproductive toxicity for males:**

Substance is not listed.

· **Chemicals known to cause developmental toxicity:**

Substance is not listed.

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**

Substance is not listed.

· **TLV (Threshold Limit Value)**

Substance is not listed.

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

Substance is not listed.

· **GHS label elements** Not Regulated

· **Hazard pictograms** Not Regulated

· **Signal word** Not Regulated

· **Hazard statements** Not Regulated

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Department issuing SDS:** product safety department

· **Contact:**

Spex CertiPrep, LLC.

1-732-549-7144

· **Date of preparation / last revision** 03/05/2024

· **Abbreviations and acronyms:**

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

VOC: Volatile Organic Compounds (USA, EU)

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit