

## 1 Identification of the substance/mixture and of the company/undertaking

- **Product identifier**
- **Trade name:** Instrument Check Standard 7
- **Article number:** CALMIX7-100/500
- **Relevant identified uses of the substance or mixture and uses advised against**
- **Application of the substance / the preparation** Certified Reference Material
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
SPEX CertiPrep, Inc - 203 Norcross Ave, Metuchen, NJ 08840
  
- **Information department:** product safety department
- **Emergency telephone number:**  
Emergency Phone Number (24 hours)  
CHEMTREC (800-424-9300) Outside  
US: 703-527-3887

## 2 Hazards identification

- **Classification of the substance or mixture**



GHS07

H315 Causes skin irritation.

H319 Causes serious eye irritation.

- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**



Irritant

Irritating to eyes and skin.

- **Information concerning particular hazards for human and environment:**  
The product has to be labelled due to the calculation procedure of international guidelines.

- **Label elements**

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

- **Hazard pictograms**



GHS07

- **Signal word** Warning

- **Hazard statements**

Causes skin irritation. Causes serious eye irritation.

- **Precautionary statements**

If medical advice is needed, have product container or label at hand. Keep out of reach of children.

Read label before use.

Wear protective gloves/protective clothing/eye protection/face protection.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Specific treatment (see on this label).

Take off contaminated clothing and wash before reuse. If

skin irritation occurs: Get medical advice/attention. If eye

irritation persists: Get medical advice/attention.

- **Classification system:**

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



Health = 1  
Fire = 0

Reactivity = 0

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· **HMIS-ratings (scale 0 - 4)**

HEALTH	1	Health = 1
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	⚠ H272; ⚠ H314	2.0%
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· **Chemical identification of the substance/preparation**

7440-65-5	Yttrium from Yttrium oxide		0.06%
7439-95-4	magnesium	⚠ H250; H260	0.01%
7440-23-5	Sodium from Sodium carbonate	⚠ H319	0.01%
7440-09-7	Potassium from Potassium nitrate	H303	0.01%
7439-89-6	iron	⚠ H300	0.01%
7440-48-4	cobalt	⚠ H334; ⚠ H317; H413	0.01%
7440-43-9	cadmium (non-pyrophoric)	⚠ H330; ⚠ H341; H350; H361; H372; ⚠ H400; H410	0.01%
7440-50-8	copper		0.01%
7439-92-1	Lead from Lead Oxide	⚠ H360; H373; ⚠ H400; H410; ⚠ H302; H332	0.01%
7439-96-5	manganese		0.01%
7440-02-0	nickel	⚠ H351; ⚠ H317	0.01%
7440-66-6	zinc powder -zinc dust (stabilized)	⚠ H400; H410	0.01%
7440-38-2	arsenic	⚠ H301; H331; ⚠ H400; H410	0.01%
7440-47-3	Chromium from Chromium(III) nitrate nonahydrate	⚠ H315; H319	0.01%
7429-90-5	aluminium		0.01%
7732-18-5	water, distilled, conductivity or of similar purity		97.8%

**4 First aid measures**

· **Description of first aid measures**

· **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. If symptoms persist, consult a doctor.

· **After swallowing:** If symptoms persist consult doctor.

· **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 Firefighting measures**

· **Extinguishing media**

· **Suitable extinguishing agents:** CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

· **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:** No special measures required.

· **Methods and material for containment and cleaning up:** Ensure adequate ventilation.

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- **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.

### 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.
- **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 item 7.
- **Control parameters**

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

**workplace: 7697-37-2 nitric acid**

PEL 5 mg/m<sup>3</sup>, 2 ppm

REL Short-term value: 10 mg/m<sup>3</sup>, 4 ppm

Long-term value: 5 mg/m<sup>3</sup>, 2 ppm

TLV Short-term value: 10 mg/m<sup>3</sup>, 4 ppm

Long-term value: 5.2 mg/m<sup>3</sup>, 2 ppm

- **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 and skin.
- **Breathing equipment:**  
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

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### 9 Physical and chemical properties

· <b>Information on basic physical and chemical properties</b>	
· <b>General Information</b>	
· <b>Appearance:</b>	
<b>Form:</b>	Fluid <span style="float: right;">C</span>
· <b>Color:</b> · <b>Odor:</b>	According to product specification
· <b>Odour threshold:</b>	Characteristic
	Not determined.
· <b>pH-value:</b>	Not determined.
· <b>Change in condition</b>	
<b>Melting point/Melting range:</b>	Undetermined.
<b>Boiling point/Boiling range:</b>	100°C
· <b>Flash point:</b>	Not applicable.
· <b>Flammability (solid, gaseous):</b>	Not applicable.
· <b>Ignition temperature:</b>	
<b>Decomposition temperature:</b>	Not determined.
· <b>Auto igniting:</b>	Product is not selfigniting.
· <b>Danger of explosion:</b>	Product does not present an explosion hazard.
· <b>Explosion limits:</b>	
<b>Lower:</b>	Not determined.
<b>Upper:</b>	Not determined.
· <b>Vapor pressure at 20°C:</b>	23 hPa
· <b>Density at 20°C:</b>	1.01958 g/cm <sup>3</sup>
· <b>Relative density</b>	Not determined.
· <b>Vapour density</b>	Not determined.
· <b>Evaporation rate</b>	Not determined.
· <b>Solubility in / Miscibility with</b>	
<b>Water:</b>	Not miscible or difficult to mix.
· <b>Segregation coefficient (n-octanol/water):</b>	Not determined.
· <b>Viscosity:</b>	
<b>Dynamic:</b>	Not determined.
<b>Kinematic:</b>	Not determined.
· <b>Solvent content:</b>	
<b>Organic solvents:</b>	0.0 %
<b>Water:</b>	97.8 %
<b>Solids content:</b>	0.2 %
· <b>Other information</b>	No further relevant information available.

### 10 Stability and reactivity

- **Reactivity**
- **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:** 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:

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Irritant

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**12 Ecological information**

- **Toxicity**
- **Acquatic 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 known to be hazardous to 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:** 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.

**14 Transport information**

· <b>UN-Number</b>	
· <b>DOT, ADR, IMDG, IATA</b>	UN3264
· <b>UN proper shipping name</b>	
· <b>DOT, IMDG, IATA</b>	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (NITRIC ACID)
· <b>ADR</b>	3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (NITRIC ACID)
· <b>Transport hazard class(es)</b>	
· <b>DOT, IMDG, IATA</b>	
	
· <b>Class</b>	8 Corrosive substances.
· <b>Label</b>	8
· <b>ADR</b>	
	
· <b>Class</b>	8 Corrosive substances
· <b>Label</b>	8
· <b>Packing group</b>	
· <b>DOT, ADR, IMDG, IATA</b>	III
· <b>Special precautions for user</b>	Warning: Corrosive substances
· <b>Danger code (Kemler):</b>	80
· <b>EMS Number:</b>	F-A,S-B
· <b>Segregation groups</b>	Acids
· <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>	Not applicable.
· <b>UN "Model Regulation":</b>	UN3264, 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

· Sara

· Section 355 (extremely hazardous substances):

7697-37-2	nitric acid
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· Section 313 (Specific toxic chemical listings):

7697-37-2	nitric acid
7440-48-4	cobalt
7440-43-9	cadmium (non-pyrophoric)
7440-50-8	copper
7439-96-5	manganese
7440-02-0	nickel
7440-38-2	arsenic
7429-90-5	aluminium

· TSCA (Toxic Substances Control Act):

7697-37-2	nitric acid
7440-65-5	Yttrium from Yttrium oxide
7439-95-4	magnesium
7440-23-5	Sodium from Sodium carbonate
7440-09-7	Potassium from Potassium nitrate
7439-89-6	iron
7440-48-4	cobalt
7440-43-9	cadmium (non-pyrophoric)
7440-50-8	copper
7439-92-1	Lead from Lead Oxide
7439-96-5	manganese
7440-02-0	nickel
7440-38-2	arsenic
7429-90-5	aluminium
7732-18-5	water, distilled, conductivity or of similar purity

· Proposition 65

· Chemicals known to cause cancer:

7440-48-4	cobalt
7440-43-9	cadmium (non-pyrophoric)
7439-92-1	Lead from Lead Oxide
7440-02-0	nickel

· 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 (non-pyrophoric)
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· Chemicals known to cause developmental toxicity:

7440-43-9	cadmium (non-pyrophoric)
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· Carcinogenic categories

· EPA (Environmental Protection Agency)

7440-43-9	cadmium (non-pyrophoric)	B1
7440-50-8	copper	D
7439-92-1	Lead from Lead Oxide	B2
7439-96-5	manganese	D
7440-66-6	zinc powder -zinc dust (stabilized)	II
7440-38-2	arsenic	A

· IARC (International Agency for Research on Cancer)

7440-48-4	cobalt	2B, 2A
7440-43-9	cadmium (non-pyrophoric)	I
7439-92-1	Lead from Lead Oxide	2A
7440-02-0	nickel	2B

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7440-38-2	arsenic	I
<b>· NTP (National Toxicology Program)</b>		
7440-43-9	cadmium (non-pyrophoric)	K
7439-92-1	Lead from Lead Oxide	R
7440-02-0	nickel	R
7440-38-2	arsenic	K
<b>· TLV (Threshold Limit Value established by ACGIH)</b>		
7440-48-4	cobalt	A3
7440-43-9	cadmium (non-pyrophoric)	A2
7439-92-1	Lead from Lead Oxide	A3
7440-02-0	nickel	A5
7440-38-2	arsenic	A1
7429-90-5	aluminium	A4
<b>· NIOSH-Ca (National Institute for Occupational Safety and Health)</b>		
7440-43-9	cadmium (non-pyrophoric)	
7440-02-0	nickel	
7440-38-2	arsenic	
<b>· OSHA-Ca (Occupational Safety &amp; Health Administration)</b>		
7440-43-9	cadmium (non-pyrophoric)	
7440-38-2	arsenic	

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

· **Hazard pictograms**



GHS07

· **Signal word** Warning

· **Hazard statements**

Causes skin irritation. Causes serious eye irritation.

· **Precautionary statements**

If medical advice is needed, have product container or label at hand. Keep out of reach of children.

Read label before use.

Wear protective gloves/protective clothing/eye protection/face protection.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Specific treatment (see on this label).

Take off contaminated clothing and wash before reuse. If

skin irritation occurs: Get medical advice/attention. 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.

· **Relevant phrases**

H272 May intensify fire; oxidizer.

H314 Causes severe skin burns and eye damage.

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

· **Contact:**

SPEX CertiPrep Inc.

732-549-7144