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Hazardous according to criteria of Australian Safety and Compensation Council.

| 1 Identifi | cation |
|---|--|
| · Product | identifier |
| • Article n • Relevant No furthe | me: <u>CERIUM 1000 PPM A/S STANDARD</u> umber: N9300110 identified uses of the substance or mixture and uses advised against er relevant information available. on of the substance / the mixture Laboratory chemicals |
| | f the supplier of the safety data sheet turer/Supplier: |
| Shelton, | geport Avenue Connecticut 06484 USA rCareUS@perkinelmer.com |
| Supplier | /Local: |
| Lvl 2, Bl 530-540 Glen Wa Melbour VIC 3150 Australia 1-800-03 ausales Emergen CHEMT | ne) |
| 2 Hazard | (s) Identification |
| · Classific | ation of the substance or mixture |
| Skin Irrii | . 2 H315 Causes skin irritation. |

· Label elements

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

· Hazard pictograms GHS07

· Signal word Warning

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(Contd. of page 1) · Hazard statements H315 Causes skin irritation. H319 Causes serious eye irritation. · Precautionary statements P264 Wash thoroughly after handling. P280 Wear protective gloves / 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. *P332+P313* If skin irritation occurs: Get medical advice/attention. *P337+P313* If eye irritation persists: Get medical advice/attention. P362 Take off contaminated clothing and wash before reuse. • Other hazards The product does not contain any organic halogen compounds (AOX), nitrates, heavy metal compounds or formaldehydes. · Results of PBT and vPvB assessment · **PBT:** Not applicable.

• **vPvB:** Not applicable.

3 Composition and Information on Ingredients

· Chemical characterisation: Mixtures

• Description: Mixture of substances listed below with nonhazardous additions.

| · Dangerous components: | | | | |
|---|-------------|--|-------|--|
| 7697-37-2 | Nitric Acid | Ox. Liq. 2, H272 Skin Corr. 1, H314 | 2.0% | |
| • Additional | Components | | | |
| 7732-18-5 | Water | | 97.9% | |
| 7440-45-1 | cerium | 🚸 Water-react. 2, H261 | 0.1% | |
| Additional information: For the wording of the listed hazard phrases refer to section 16. | | | | |

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. If symptoms persist, consult a doctor.
- After swallowing: If symptoms persist consult 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.

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5 Fire Fighting Measures

· Extinguishing media

- Suitable extinguishing agents: Use fire extinguishing methods suitable to surrounding conditions.
- 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: Inform respective authorities in case of seepage into water course or sewage system.

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.

7 Handling and Storage

· Handling:

• Precautions for safe handling No special precautions are necessary if used correctly.

- · Information about fire and explosion protection: 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 container tightly sealed.
- Specific end use(s) No further relevant information available.

8 Exposure controls and personal protection

• Additional information about design of technical facilities: No further data; see item 7.

• Control parameters

· Ingredients with limit values that require monitoring at the workplace:

7697-37-2 Nitric Acid

WES Short-term value: 10 mg/m³, 4 ppm

Long-term value: 5.2 mg/m³, 2 ppm

• Additional information: The lists valid during the making were used as basis.

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(Contd. of page 3) · 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. · **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. 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 trough 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

| Appearance: | | |
|-------------------------------------|-----------------|--|
| Form: | Liquid | |
| Colour: | Transparent | |
| Odour: | Odourless | |
| Odour threshold: | Not determined. | |
| pH-value: | Not determined. | |
| Change in condition | | |
| Melting point/freezing point: | $0 \ ^{\circ}C$ | |
| Initial boiling point and boiling r | ange: 100 °C | |
| Flash point: | Not applicable. | |
| Flammability (solid, gas): | Not applicable. | |
| Decomposition temperature: | Not determined. | |



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|---|--|-------------------|
| Auto-ignition temperature: | Product is not selfigniting. | |
| Explosive properties: | Product does not present an explosion hazard. Not determined. | |
| Explosion limits: | | |
| Lower: | Not determined. | |
| Upper: | Not determined. | |
| Vapour pressure at 20 •C: | 23 hPa | |
| Density at 20 °C: | $l g/cm^3$ | |
| Relative density | Not determined. | |
| Vapour density | Not determined. | |
| Evaporation rate | Not determined. | |
| Solubility in / Miscibility with | | |
| water: | Fully miscible. | |
| Partition coefficient: n-octanol/water: | Not determined. | |
| Viscosity: | | |
| Dynamic: | Not determined. | |
| Kinematic: | Not determined. | |
| Solvent content: | | |
| Water: | 97.9 % | |
| Solids content: | 0.1 % | |
| 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:
- Skin corrosion/irritation Irritant to skin and mucous membranes.
- Serious eye damage/irritation Irritating effect.
- · Respiratory or skin sensitisation No sensitising effects known.

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• Additional toxicological information:

The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version: Irritant

12 Ecological Information

· Toxicity

- Aquatic toxicity: No further relevant information available.
- *Persistence and degradability No further relevant information available.*
- · Behaviour 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

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

· Uncleaned packaging:

- · Recommendation: Disposal must be made according to official regulations.
- Recommended cleansing agents: Water, if necessary together with cleansing agents.

| · UN-Number | |
|---------------------------|--|
| · ADG, IMDG, IATA | UN3264 |
| · UN proper shipping name | |
| ·ADG | 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O. |
| | (Nitric Acid) |
| · IMDG, IATA | CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O. |
| | (Nitric Acid) |

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Trade name: CERIUM 1000 PPM A/S STANDARD (Contd. of page 6) • Transport hazard class(es) ·ADG · Class 8 (C1) Corrosive substances. · Label 8 · IMDG, IATA 8 Corrosive substances. · Class · Label 8 · Packing group · ADG, IMDG, IATA Ш · Environmental hazards: · Marine pollutant: No · Special precautions for user Warning: Corrosive substances. · Hazard identification number (Kemler code): 80 *F-A,S-B* · EMS Number: · Segregation groups Acids · Stowage Category A · Stowage Code SW2 Clear of living quarters. • Transport in bulk according to Annex II of Marpol and the IBC Code *Not applicable.* • Transport/Additional information: ·ADG \cdot Limited quantities (LQ) 5LCode: E1 • Excepted quantities (EQ) Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml · Transport category 3 • Tunnel restriction code Ε ·IMDG · Limited quantities (LQ) 5LCode: E1 • Excepted quantities (EQ) Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml (Contd. on page 8) AU



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· UN "Model Regulation":

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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 | | | | |
|---|-----------------------------|--|-------|--|
| 7732-18-5 | Water | | 97.9% | |
| 7697-37-2 | Nitric Acid | 🕸 Ox. Liq. 2, H272 Skin Corr. 1, H314 | 2.0% | |
| 7440-45-1 | cerium | 🚸 Water-react. 2, H261 | 0.1% | |
| · Australia: | Priority Existing Chemicals | | | |
| None of the | e ingredients is listed. | | | |

• *Directive 2012/18/EU*

· Named dangerous substances - ANNEX I None of the ingredients is listed.

· National regulations:

· Information about limitation of use:

Workers are not allowed to be exposed to this hazardous material. Exceptions can be made by the authorities in certain cases.

· Waterhazard class: Generally not hazardous for water.

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

16 Other information

Disclaimer

The information provided in this Material Safety Data Sheet is based on our present knowledge, and believed to be correct at the date of publication. However, no representation is made concerning its accuracy and completeness. It is intended as guidance only, and is not to be considered a warranty or quality specification. All materials may present unknown hazards, and should be used with caution. Although certain hazards are described, we cannot guarantee that these are the only hazards which exist. PerkinElmer Life and Analytical Sciences shall not be held liable for any damage resulting from handling or from contact with the product.

· Relevant phrases

H261 In contact with water releases flammable gases.H272 May intensify fire; oxidiser.H314 Causes severe skin burns and eye damage.

· Department issuing SDS: Environmental, Health and Safety

· Contact:

Within the USA: 1-(800)-762-4000 Outside the USA: 1-(203)-712-8488

• Abbreviations and acronyms

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail) ICAO: International Civil Aviation Organisation

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(Contd. of page 8) ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road) IMDG: International Maritime Code for Dangerous Goods 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) PBT: Persistent, Bioaccumulative and Toxic vPvB: very Persistent and very Bioaccumulative Ox. Liq. 2: Oxidizing liquids – Category 2 Skin Corr. 1: Skin corrosion/irritation – Category 1 Skin Irrit. 2: Skin corrosion/irritation – Category 2A • * Data compared to the previous version altered.