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


- **Product details**
- **Trade name: STD ZOD MULTIELEMENT**
- **Article number N0691579**
- **Application of the substance / the preparation** Laboratory chemicals
- **Manufacturer/Supplier:**
PerkinElmer Life and Analytical Sciences
710 Bridgeport Avenue
Shelton, Connecticut 06484 USA
- **Emergency information:**
CHEMTREC (within U.S.) 800 424-9300
CHEMTREC (from outside U.S.) 1(703)-572-3887

2 Composition/information on ingredients

- **Chemical characterization:**
- **CAS No. Description**
7732-18-5 water
- **Description:** Mixture of the substances listed below with nonhazardous additions.

· Hazardous components:		
7697-37-2	nitric acid	≤ 2.5%
· Additional Components		
7732-18-5	Water	50-100%
7440-38-2	Arsenic	< 0.1%
7440-39-3	barium	< 0.1%
1312-81-8	lanthanum oxide	< 0.1%
7439-93-2	lithium	< 0.1%
7439-95-4	magnesium powder (pyrophoric)	< 0.1%
1317-35-7	trimanganese tetraoxide	< 0.1%
7440-02-0	nickel	< 0.1%
7940-09-7	Potassium	< 0.1%
10042-76-9	strontium nitrate	< 0.1%
7440-66-6	zinc	< 0.1%

3 Hazards identification

- **Classification of the substance or mixture**
- **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.
- **Classification system:**
The classification was made according to the latest editions of international substances lists, and expanded upon from company and literature data.

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· **Label elements**

· **Labelling according to EU guidelines:**

The product has been classified and marked in accordance with directives on hazardous materials.

· **Code letter and hazard designation of product:**



Irritant

· **Risk phrases:**

Irritating to eyes and skin.

· **Safety phrases:**

Do not breathe gas/fumes/vapour/spray (appropriate wording to be specified by the manufacturer).

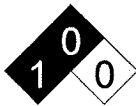
In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Do not empty into drains.

Wear suitable gloves.

This material and its container must be disposed of as hazardous waste.

· **NFPA ratings (scale 0 - 4)**



Health = 1

Fire = 0

Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**



Health = 1

Fire = 0

Reactivity = 0

4 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.*

5 Firefighting measures

· **Suitable extinguishing agents:**

CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

· **Protective equipment:** *No special measures required.*

6 Accidental release measures

· **Person-related safety precautions:** *Not required.*

· **Measures for environmental protection:**

Do not allow product to reach sewage system or any water course.

Inform respective authorities in case of seepage into water course or sewage system.

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- Dilute with plenty of water.
- Do not allow to enter sewers/ surface or ground water.
- **Measures for cleaning/collecting:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Ensure adequate ventilation.

7 Handling and storage

- **Handling:**
- **Information for safe handling:**
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
- **Information about protection against explosions and fires:** The product is not flammable.
- **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.

8 Exposure controls/personal protection

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

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

7697-37-2 nitric acid	
PEL	5 mg/m ³ , 2 ppm
REL	Short-term value: 10 mg/m ³ , 4 ppm Long-term value: 5 mg/m ³ , 2 ppm
TLV	Short-term value: 10 mg/m ³ , 4 ppm Long-term value: 5.2 mg/m ³ , 2 ppm

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

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· **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 or safety glasses

9 Physical and chemical properties

· **General Information**

· **Appearance:**

Form: Liquid
Color: Colorless
Odor: Odorless

· **Change in condition**

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

· **Flash point:** Not applicable.

· **Auto igniting:** Product is not selfigniting.

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

· **Vapor pressure at 20°C (68°F):** 23 hPa (17 mm Hg)

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

· **Solubility in / Miscibility with**

Water: Fully miscible.

· **Solvent content:**

Organic solvents: 0.0 %
Water: 97.9 %

Solids content: 0.1 %

10 Stability and reactivity

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

· **Materials to be avoided:**

· **Dangerous reactions** No dangerous reactions known.

· **Dangerous products of decomposition:** No dangerous decomposition products known.

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11 Toxicological information

- **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:
Irritant

12 Ecological information

- **Additional ecological information:**
- **General notes:**
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

13 Disposal considerations

- **Product:**
- **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

· **DOT regulations:**



- **Hazard class:** 8
- **Identification number:** UN3264
- **Packing group:** III
- **Proper shipping name (technical name):** CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (NITRIC ACID)
- **Label:** 8

· **Land transport ADR/RID (cross-border):**



- **ADR/RID class:** 8 Corrosive substances
- **Danger code (Kemler):** 80
- **UN-Number:** 3264
- **Packaging group:** III

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· **Label:** 8
 · **Description of goods:** 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (NITRIC ACID)

· **Maritime transport IMDG:**



· **IMDG Class:** 8
 · **UN Number:** 3264
 · **Label:** 8
 · **Packaging group:** III
 · **EMS Number:** F-A,S-B
 · **Marine pollutant:** No
 · **Segregation groups:** Acids
 · **Proper shipping name:** CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (NITRIC ACID)

· **Air transport ICAO-TI and IATA-DGR:**



· **ICAO/IATA Class:** 8
 · **UN/ID Number:** 3264
 · **Label:** 8
 · **Packaging group:** III
 · **Proper shipping name:** CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (NITRIC ACID)

15 Regulatory information

· **Sara**

· **Section 355 (extremely hazardous substances):**

7697-37-2 nitric acid

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

7697-37-2 nitric acid

7440-38-2 Arsenic

7440-39-3 barium

7440-02-0 nickel

7440-66-6 zinc

· **Proposition 65**

· **Chemicals known to cause cancer:**

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:**

None of the ingredients is listed.

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

None of the ingredients is listed.

· **Carcinogenicity categories**

· **EPA (Environmental Protection Agency)**

7440-38-2	Arsenic	A
7440-39-3	barium	CBD, NL
1317-35-7	trimanganese tetraoxide	D
7440-66-6	zinc	II

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

7440-38-2	Arsenic	I
7440-02-0	nickel	2B

· **NTP (National Toxicology Program)**

7440-38-2	Arsenic	K
7440-02-0	nickel	R

· **TLV (Threshold Limit Value established by ACGIH)**

7440-38-2	Arsenic	A1
7440-39-3	barium	A4
7440-02-0	nickel	A5

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

7440-38-2	Arsenic	
7440-02-0	nickel	

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

7440-38-2	Arsenic	
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· **Product related hazard informations:**

The product has been classified and marked in accordance with directives on hazardous materials.

· **Hazard symbols:**

Irritant

· **Risk phrases:**

Irritating to eyes and skin.

· **Safety phrases:**

Do not breathe gas/fumes/vapour/spray (appropriate wording to be specified by the manufacturer).

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Do not empty into drains.

Wear suitable gloves.

This material and its container must be disposed of as hazardous waste.

· **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

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liable for any damage resulting from handling or from contact with the product.

- **Department issuing MSDS:** Safety and Health
- **Contact:**
With in the USA: 1-(800)-762-4000
Out side the USA: 1-(203)-712-8488
- *** Data compared to the previous version altered.**

USA