

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

- **Product identifier**
- **Trade name:** EIGHT ELEMENT A/S STANDARD
- **Article number** N9300216
- **Relevant identified uses of the substance or mixture and uses advised against**
- **Application of the substance / the preparation** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
PerkinElmer Life and Analytical Sciences
710 Bridgeport Avenue
Shelton, Connecticut 06484 USA
- **Emergency telephone number:**
CHEMTREC (within U.S.) 800 424-9300
CHEMTREC (from outside U.S.) 1(703)-572-3887

2 Hazards identification

- **Classification of the substance or mixture**



GHS05 Corrosion

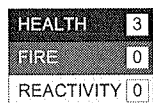
H314 Causes severe skin burns and eye damage.

- **Label elements**
- **GHS label elements** The product is classified and labelled according to the Globally Harmonized System (GHS).
- **Hazard pictograms** GHS05
- **Signal word** Danger
- **Hazard statements**
H314 Causes severe skin burns and eye damage.
- **Precautionary statements**
P260 Do not breathe dust/fume/gas/mist/vapours/spray.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER or doctor/physician.
P321 Specific treatment (see on this label).
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

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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: Substances
- CAS No. Description
7732-18-5 Water
- Identification number(s)
- EINECS Number: 231-791-2
- Chemical characterization: Mixtures
- Description: Mixture of the substances listed below with nonhazardous additions.

Hazardous components:

7697-37-2	nitric acid	 H272  H314	2.5-10%
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Additional Components

7440-38-2	Arsenic	 H301; H331  H400; H410	< 0.1%
7440-39-3	barium	 H261	< 0.1%
7440-43-9	cadmium (non-pyrophoric)	 H330  H341; H350; H361; H372  H400; H410	< 0.1%
7440-47-3	chromium		< 0.1%
7439-92-1	lead	 H301  H360; H373  H332	< 0.1%
7439-97-6	mercury	 H331  H373  H400; H410	< 0.1%
7782-49-2	selenium	 H301; H331  H373 H413	< 0.1%
7440-22-4	silver		< 0.1%
7732-18-5	Water		50-100%

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.
- Information for doctor:
- Most important symptoms and effects, both acute and delayed No further relevant information available.

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

* **5 Firefighting measures**

- **Extinguishing media**
- **Suitable extinguishing agents:**
CO₂, 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**
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:**
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.
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 item 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.

* **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.

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· **Control parameters**

· **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.

· **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 or safety glasses

9 Physical and chemical properties

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

· **General Information**

· **Appearance:**

Form:	Liquid
Color:	Dark brown to black
Odor:	Odorless

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· Odour threshold:	<i>Not determined.</i>
· pH-value:	<i>Not determined.</i>
· Change in condition Melting point/Melting range:	0°C (32°F)
Boiling point/Boiling range:	100°C (212°F)
· Flash point:	<i>Not applicable.</i>
· Ignition temperature:	
Decomposition temperature:	<i>Not determined.</i>
· Auto igniting:	<i>Product is not selfigniting.</i>
· Danger of explosion:	<i>Product does not present an explosion hazard.</i>
· Explosion limits: Lower:	<i>Not determined.</i>
Upper:	<i>Not determined.</i>
· Vapor pressure at 20°C (68°F):	23 hPa (17 mm Hg)
· Density at 20°C (68°F):	1 g/cm ³ (8.345 lbs/gal)
· Relative density	<i>Not determined.</i>
· Vapour density	<i>Not determined.</i>
· Evaporation rate	<i>Not determined.</i>
· Solubility in / Miscibility with Water:	<i>Fully miscible.</i>
· Segregation coefficient (n-octanol/water):	<i>Not determined.</i>
· Viscosity: Dynamic:	<i>Not determined.</i>
Kinematic:	<i>Not determined.</i>
· Solvent content: Organic solvents:	0.0 %
Water:	97.9 %
· Other information	<i>No further relevant information available.</i>

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.*

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11 Toxicological information

- *Information on toxicological effects*
- *Acute toxicity:*
- *Primary irritant effect:*
- *on the skin:* Caustic effect on skin and mucous membranes.
- *on the eye:* Strong caustic effect.
- *Sensitization:* No sensitizing effects known.

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:*
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

· *DOT regulations:*



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

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· **Label** 8

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



· **ADR/RID class:** 8 (C1) Corrosive substances
 · **Danger code (Kemler):** 80
 · **UN-Number:** 3264
 · **Packaging group:** II
 · **Label:** 8
 · **UN proper shipping name:** 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (NITRIC ACID)

· **Maritime transport IMDG:**



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

· **UN "Model Regulation":** UN3264, CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S., 8, II
 · **Special precautions for user Warning:** Corrosive substances
 · **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.

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

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

7697-37-2 nitric acid

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7440-38-2	Arsenic
7440-39-3	barium
7440-43-9	cadmium (non-pyrophoric)
7440-47-3	chromium
7439-92-1	lead
7439-97-6	mercury
7782-49-2	selenium
7440-22-4	silver

· Proposition 65

· Chemicals known to cause cancer:

7440-43-9	cadmium (non-pyrophoric)
7439-92-1	lead

· Chemicals known to cause reproductive toxicity for females:

7439-92-1	lead
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· Chemicals known to cause reproductive toxicity for males:

7440-43-9	cadmium (non-pyrophoric)
7439-92-1	lead

· Chemicals known to cause developmental toxicity:

7440-43-9	cadmium (non-pyrophoric)
7439-92-1	lead
7439-97-6	mercury

· Cancerogenity categories

· EPA (Environmental Protection Agency)

7440-38-2	Arsenic	A
7440-39-3	barium	CBD, NL
7440-43-9	cadmium (non-pyrophoric)	B1
7440-47-3	chromium	D
7439-92-1	lead	B2
7439-97-6	mercury	D
7782-49-2	selenium	D
7440-22-4	silver	D

· IARC (International Agency for Research on Cancer)

7440-38-2	Arsenic	1
7440-43-9	cadmium (non-pyrophoric)	1
7440-47-3	chromium	3
7439-92-1	lead	2B
7439-97-6	mercury	3
7782-49-2	selenium	3

· NTP (National Toxicology Program)

7440-38-2	Arsenic	K
7440-43-9	cadmium (non-pyrophoric)	K
7439-92-1	lead	R

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7782-49-2	selenium	R
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· **TLV (Threshold Limit Value established by ACGIH)**

7440-38-2	Arsenic	A1
7440-39-3	barium	A4
7440-43-9	cadmium (non-pyrophoric)	A2
7440-47-3	chromium	A4
7439-92-1	lead	A3
7439-97-6	mercury	A4

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

7440-38-2	Arsenic	
7440-43-9	cadmium (non-pyrophoric)	

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

7440-38-2	Arsenic	
7440-43-9	cadmium (non-pyrophoric)	

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

· **Hazard pictograms** GHS05

· **Signal word** Danger

· **Hazard statements**

H314 Causes severe skin burns and eye damage.

· **Precautionary statements**

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

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

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

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

P310 Immediately call a POISON CENTER or doctor/physician.

P321 Specific treatment (see on this label).

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

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.

· **Department issuing MSDS:** Safety and Health

· **Contact:**

With in the USA: 1-(800)-762-4000

Out side the USA: 1-(203)-712-8488

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· **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

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

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)

ICAO: International Civil Aviation Organization

ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)

ACGIH: American Conference of Governmental Industrial Hygienists

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)

· *** Data compared to the previous version altered.**

USA