

04/08/2019

**Kit Components**

Product code	Description
<b>N9307119</b>	<b>STD KIT ENV NexION KED/DRC MODE</b>

Components:

N9307805	STD Envir Custom 1
N9307806	STD Envir Custom 2
N9301721	Instrument Calibration Standard 2
N9300253	MERCURY A/S STANDARD
N9307807	Environmental Standard Custom 3
N9308592	STD INTERNAL STOCK SOLN 300X/D

**acc. to OSHA HCS**

Printing date 04/08/2019

Review date 04/08/2019

**1 Identification**

- **Product identifier**
- **Trade name:** STD Envir Custom 1
- **Article number** N9307805
- **Application of the substance / the mixture** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**

PerkinElmer, Inc.  
710 Bridgeport Avenue  
Shelton, Connecticut 06484 USA  
CustomerCareUS@perkinelmer.com  
203-925-4600

- **Emergency telephone number:**  
CHEMTREC (within US) 800-424-9300  
CHEMTREC (from outside US) +1 703-527-3887 (call collect)  
CHEMTREC (within AU) +(61)-290372994

**2 Hazard(s) identification**

- **Classification of the substance or mixture**



Corrosion

Skin Corr. 1B H314 Causes severe skin burns and eye damage.  
Eye Dam. 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.

(Contd. on page 2)

acc. to OSHA HCS

Printing date 04/08/2019

Review date 04/08/2019

**Trade name: STD Envir Custom 1**

(Contd. of page 1)

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

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



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



- **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/information on ingredients**

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

· **Hazardous components:**

7697-37-2	Nitric Acid	Ox. Liq. 2, H272 Skin Corr. 1A, H314	5.0%
-----------	-------------	---	------

· **Additional Components**

7440-09-7	potassium	Water-react. 1, H260 Skin Corr. 1B, H314	0.1%
7440-23-5	sodium	Water-react. 1, H260 Skin Corr. 1B, H314	0.1%
7439-95-4	magnesium	Pyr. Sol. 1, H250; Water-react. 1, H260	0.1%
7440-70-2	calcium	Water-react. 2, H261	0.1%
7732-18-5	Water		94.6%

**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.
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.

(Contd. on page 3)

acc. to OSHA HCS

Printing date 04/08/2019

Review date 04/08/2019

Trade name: STD Envir Custom 1

(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:** Inform respective authorities in case of seepage into water course or sewage system.
- **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.
- **Protective Action Criteria for Chemicals**

· **PAC-1:**

7697-37-2	Nitric Acid	0.16 ppm
7440-09-7	potassium	2.3 mg/m <sup>3</sup>
7440-23-5	sodium	13 mg/m <sup>3</sup>
7439-95-4	magnesium	18 mg/m <sup>3</sup>

· **PAC-2:**

7697-37-2	Nitric Acid	24 ppm
7440-09-7	potassium	25 mg/m <sup>3</sup>
7440-23-5	sodium	140 mg/m <sup>3</sup>
7439-95-4	magnesium	200 mg/m <sup>3</sup>

· **PAC-3:**

7697-37-2	Nitric Acid	92 ppm
7440-09-7	potassium	150 mg/m <sup>3</sup>
7440-23-5	sodium	870 mg/m <sup>3</sup>

(Contd. on page 4)

acc. to OSHA HCS

Printing date 04/08/2019

Review date 04/08/2019

**Trade name: STD Envir Custom 1**

7439-95-4 magnesium

(Contd. of page 3)

1,200 mg/m<sup>3</sup>

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

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

**7697-37-2 Nitric Acid**

PEL	Long-term value: 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.  
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

(Contd. on page 5)

**acc. to OSHA HCS**

Printing date 04/08/2019

Review date 04/08/2019

**Trade name: STD Envir Custom 1**

(Contd. of page 4)

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 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:**

· <b>Form:</b>	Liquid
· <b>Color:</b>	Transparent
· <b>Odor:</b>	Characteristic
· <b>Odor threshold:</b>	Not determined.

· **pH-value:** Not determined.

· **Change in condition**

· <b>Melting point/Melting range:</b>	Undetermined.
· <b>Boiling point/Boiling range:</b>	100 °C (212 °F)

· **Flash point:** Not applicable.

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

· **Decomposition temperature:** Not determined.

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

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

· **Explosion limits:**

· <b>Lower:</b>	Not determined.
· <b>Upper:</b>	Not determined.

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

· <b>Density:</b>	Not determined.
· <b>Relative density</b>	Not determined.
· <b>Vapor density</b>	Not determined.
· <b>Evaporation rate</b>	Not determined.

(Contd. on page 6)

acc. to OSHA HCS

Printing date 04/08/2019

Review date 04/08/2019

Trade name: STD Envir Custom 1

(Contd. of page 5)

- **Solubility in / Miscibility with Water:** *Not miscible or difficult to mix.*
- **Partition coefficient (n-octanol/water):** *Not determined.*
- **Viscosity:**
  - Dynamic:** *Not determined.*
  - Kinematic:** *Not determined.*
- **Solvent content:**
  - Water:** *94.6 %*
  - VOC content:** *0.00 %*
- **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:** *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)**

*None of the ingredients is listed.*

· **NTP (National Toxicology Program)**

*None of the ingredients is listed.*

(Contd. on page 7)

*acc. to OSHA HCS*

Printing date 04/08/2019

Review date 04/08/2019

**Trade name: STD Envir Custom 1**

(Contd. of page 6)

· **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:**  
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:**  
Dispose of container and materials in accordance with local, regional and national regulations.
- **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</b>	Corrosive liquid, acidic, inorganic, n.o.s. (nitric acid)
· <b>ADR</b>	3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (nitric acid)
· <b>IMDG, IATA</b>	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (nitric acid)

(Contd. on page 8)



**acc. to OSHA HCS**

Printing date 04/08/2019

Review date 04/08/2019

**Trade name: STD Envir Custom 1**

(Contd. of page 7)

· **Transport hazard class(es)**

· **DOT**



· **Class** 8 Corrosive substances  
· **Label** 8

· **ADR**



· **Class** 8 (C1) Corrosive substances  
· **Label** 8

· **IMDG, IATA**



· **Class** 8 Corrosive substances  
· **Label** 8

· **Packing group**  
· **DOT, ADR, IMDG, IATA** III

· **Environmental hazards:**  
· **Marine pollutant:** No

· **Special precautions for user** Warning: Corrosive substances  
· **Danger code (Kemler):** 80  
· **EMS Number:** F-A,S-B  
· **Segregation groups** Acids  
· **Stowage Category** A  
· **Stowage Code** SW2 Clear of living quarters.

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

· **Transport/Additional information:**

· **DOT**  
· **Quantity limitations** On passenger aircraft/rail: 5 L  
On cargo aircraft only: 60 L

· **ADR**

· **Excepted quantities (EQ)** Code: E1  
Maximum net quantity per inner packaging: 30 ml  
Maximum net quantity per outer packaging: 1000 ml

(Contd. on page 9)

acc. to OSHA HCS

Printing date 04/08/2019

Review date 04/08/2019





**Trade name: STD Envir Custom 1**

(Contd. of page 8)

· <b>IMDG</b>	
· <b>Limited quantities (LQ)</b>	5L
· <b>Excepted quantities (EQ)</b>	Code: E1
	Maximum net quantity per inner packaging: 30 ml
	Maximum net quantity per outer packaging: 1000 ml
· <b>UN "Model Regulation":</b>	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		94.6%
7697-37-2	Nitric Acid	 Ox. Liq. 2, H272  Skin Corr. 1A, H314	5.0%
7440-23-5	sodium	 Water-react. 1, H260  Skin Corr. 1B, H314	0.1%

· **Sara**

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

7697-37-2	Nitric Acid
-----------	-------------

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

7697-37-2	Nitric Acid
-----------	-------------

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

All ingredients are listed.

7697-37-2	Nitric Acid	ACTIVE
7440-09-7	potassium	ACTIVE
7440-23-5	sodium	ACTIVE
7439-95-4	magnesium	ACTIVE
7440-70-2	calcium	ACTIVE
7732-18-5	Water	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.

(Contd. on page 10)

acc. to OSHA HCS

Printing date 04/08/2019

Review date 04/08/2019

**Trade name: STD Envir Custom 1**

(Contd. of page 9)

· **Carcinogenicity categories**

· **EPA (Environmental Protection Agency)**

None of the ingredients is listed.

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

None of the ingredients is listed.

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

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.

· **Water hazard class:** Water hazard class 1 (Self-assessment): slightly 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 shall not be held liable for any damage resulting from handling or from contact with the product.

· **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

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

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

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

(Contd. on page 11)

*acc. to OSHA HCS*

Printing date 04/08/2019

Review date 04/08/2019

**Trade name: STD Envir Custom 1**

(Contd. of page 10)

REL: Recommended Exposure Limit  
Ox. Liq. 2: Oxidizing liquids – Category 2  
Skin Corr. 1A: Skin corrosion/irritation – Category 1A  
Skin Corr. 1B: Skin corrosion/irritation – Category 1B  
Eye Dam. 1: Serious eye damage/eye irritation – Category 1  
· **\* Data compared to the previous version altered.**

USA

*acc. to OSHA HCS*

Printing date 04/08/2019

Review date 04/08/2019

**1 Identification**

- **Product identifier**
- **Trade name:** STD Envir Custom 2
- **Article number** N9307806
- **Application of the substance / the mixture** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**

PerkinElmer, Inc.  
710 Bridgeport Avenue  
Shelton, Connecticut 06484 USA  
CustomerCareUS@perkinelmer.com  
203-925-4600

- **Emergency telephone number:**  
CHEMTREC (within US) 800-424-9300  
CHEMTREC (from outside US) +1 703-527-3887 (call collect)  
CHEMTREC (within AU) +(61)-290372994

**2 Hazard(s) identification**

- **Classification of the substance or mixture**



Corrosion

Skin Corr. 1B H314 Causes severe skin burns and eye damage.  
Eye Dam. 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.

(Contd. on page 2)

acc. to OSHA HCS

Printing date 04/08/2019

Review date 04/08/2019

**Trade name: STD Envir Custom 2**

(Contd. of page 1)

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

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



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



- **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/information on ingredients**

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

· **Hazardous components:**

7697-37-2	Nitric Acid	Ox. Liq. 2, H272 Skin Corr. 1A, H314	5.0%
-----------	-------------	---	------

· **Additional Components**

7439-89-6	iron	Acute Tox. 2, H300	0.01%
1344-28-1	aluminium oxide		0.01%
7732-18-5	Water		94.98%

**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.
- **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.

USA

(Contd. on page 3)

acc. to OSHA HCS

Printing date 04/08/2019

Review date 04/08/2019

Trade name: STD Envir Custom 2

(Contd. of page 2)

**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:** Inform respective authorities in case of seepage into water course or sewage system.
- **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.
- **Protective Action Criteria for Chemicals**

· **PAC-1:**

7697-37-2	Nitric Acid	0.16 ppm
7439-89-6	iron	3.2 mg/m <sup>3</sup>
1344-28-1	aluminium oxide	15 mg/m <sup>3</sup>

· **PAC-2:**

7697-37-2	Nitric Acid	24 ppm
7439-89-6	iron	35 mg/m <sup>3</sup>
1344-28-1	aluminium oxide	170 mg/m <sup>3</sup>

· **PAC-3:**

7697-37-2	Nitric Acid	92 ppm
7439-89-6	iron	150 mg/m <sup>3</sup>
1344-28-1	aluminium oxide	990 mg/m <sup>3</sup>

**7 Handling and storage**

- **Handling:**
- **Precautions for safe handling**  
Ensure good ventilation/exhaustion at the workplace.  
Prevent formation of aerosols.

(Contd. on page 4)

**acc. to OSHA HCS**

Printing date 04/08/2019

Review date 04/08/2019

**Trade name: STD Envir Custom 2**

(Contd. of page 3)

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

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

**7697-37-2 Nitric Acid**

PEL	Long-term value: 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.  
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.  
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.

(Contd. on page 5)



**acc. to OSHA HCS**

Printing date 04/08/2019

Review date 04/08/2019

**Trade name: STD Envir Custom 2**

(Contd. of page 4)

· **Eye protection:**



Tightly sealed goggles or safety glasses

**9 Physical and chemical properties**

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

· **General Information**

· **Appearance:**

· <b>Form:</b>	Liquid
· <b>Color:</b>	Transparent
· <b>Odor:</b>	Characteristic
· <b>Odor threshold:</b>	Not determined.

· **pH-value:** Not determined.

· **Change in condition**

· <b>Melting point/Melting range:</b>	Undetermined.
· <b>Boiling point/Boiling range:</b>	100 °C (212 °F)

· **Flash point:** Not applicable.

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

· **Decomposition temperature:** Not determined.

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

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

· **Explosion limits:**

· <b>Lower:</b>	Not determined.
· <b>Upper:</b>	Not determined.

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

· **Density:** Not determined.

· **Relative density** Not determined.

· **Vapor density** Not determined.

· **Evaporation rate** Not determined.

· **Solubility in / Miscibility with**

· **Water:** Not miscible or difficult to mix.

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

· **Viscosity:**

· <b>Dynamic:</b>	Not determined.
· <b>Kinematic:</b>	Not determined.

· **Solvent content:**

· **Water:** 95.0 %

(Contd. on page 6)

acc. to OSHA HCS

Printing date 04/08/2019

Review date 04/08/2019

**Trade name: STD Envir Custom 2**

(Contd. of page 5)

**VOC content:** 0.00 %  
**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:** 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)**

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.

(Contd. on page 7)

**acc. to OSHA HCS**

Printing date 04/08/2019

Review date 04/08/2019

**Trade name: STD Envir Custom 2**



(Contd. of page 6)

- **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:**  
Dispose of container and materials in accordance with local, regional and national regulations.
- **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</b>	Corrosive liquid, acidic, inorganic, n.o.s. (nitric acid)
· <b>ADR</b>	3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (nitric acid)
· <b>IMDG, IATA</b>	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (nitric acid)
· <b>Transport hazard class(es)</b>	
· <b>DOT</b>	
	
· <b>Class</b>	8 Corrosive substances
· <b>Label</b>	8
· <b>ADR</b>	
	
· <b>Class</b>	8 (C1) Corrosive substances

(Contd. on page 8)


acc. to OSHA HCS

Printing date 04/08/2019



Review date 04/08/2019

Trade name: STD Envir Custom 2

(Contd. of page 7)

· <b>Label</b>	8
· <b>IMDG, IATA</b>	
	
· <b>Class</b>	8 Corrosive substances
· <b>Label</b>	8
· <b>Packing group</b>	
· <b>DOT, ADR, IMDG, IATA</b>	III
· <b>Environmental hazards:</b>	
· <b>Marine pollutant:</b>	No
· <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>Stowage Category</b>	A
· <b>Stowage Code</b>	SW2 Clear of living quarters.
· <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>	
Not applicable.	
· <b>Transport/Additional information:</b>	
· <b>DOT</b>	
· <b>Quantity limitations</b>	On passenger aircraft/rail: 5 L On cargo aircraft only: 60 L
· <b>ADR</b>	
· <b>Excepted quantities (EQ)</b>	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· <b>IMDG</b>	
· <b>Limited quantities (LQ)</b>	5L
· <b>Excepted quantities (EQ)</b>	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· <b>UN "Model Regulation":</b>	UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (NITRIC ACID), 8, III

**15 Regulatory information**

· <b>Safety, health and environmental regulations/legislation specific for the substance or mixture</b>			
7732-18-5	Water		94.98%
7697-37-2	Nitric Acid	 Ox. Liq. 2, H272  Skin Corr. 1A, H314	5.0%

(Contd. on page 9)

acc. to OSHA HCS

Printing date 04/08/2019

Review date 04/08/2019

Trade name: STD Envir Custom 2

(Contd. of page 8)

1344-28-1	aluminium oxide	0.01%
-----------	-----------------	-------

· **Sara**

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

7697-37-2	Nitric Acid	
-----------	-------------	--

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

7697-37-2	Nitric Acid	
1344-28-1	aluminium oxide	

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

All ingredients are listed.

7697-37-2	Nitric Acid	ACTIVE
7439-89-6	iron	ACTIVE
1344-28-1	aluminium oxide	ACTIVE
7732-18-5	Water	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.

· **Carcinogenicity categories**

· **EPA (Environmental Protection Agency)**

None of the ingredients is listed.

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

1344-28-1	aluminium oxide	A4
-----------	-----------------	----

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

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.

· **Water hazard class:** Water hazard class 1 (Self-assessment): slightly hazardous for water.

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

USA

(Contd. on page 10)

*acc. to OSHA HCS*

Printing date 04/08/2019

Review date 04/08/2019

**Trade name: STD Envir Custom 2**

(Contd. of page 9)

## 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 shall not be held liable for any damage resulting from handling or from contact with the product.

· **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

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

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

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

Ox. Liq. 2: Oxidizing liquids – Category 2

Skin Corr. 1A: Skin corrosion/irritation – Category 1A

Skin Corr. 1B: Skin corrosion/irritation – Category 1B

Eye Dam. 1: Serious eye damage/eye irritation – Category 1

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

acc. to OSHA HCS

Printing date 04/08/2019

Review date 04/08/2019

## 1 Identification

- **Product identifier**
- **Trade name: Instrument Calibration Standard 2**
- **Article number** N9301721
- **Application of the substance / the mixture** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**

PerkinElmer, Inc.  
710 Bridgeport Avenue  
Shelton, Connecticut 06484 USA  
CustomerCareUS@perkinelmer.com  
203-925-4600

- **Emergency telephone number:**  
CHEMTREC (within US) 800-424-9300  
CHEMTREC (from outside US) +1 703-527-3887 (call collect)  
CHEMTREC (within AU) +(61)-290372994

## 2 Hazard(s) identification

- **Classification of the substance or mixture**



Corrosion

Skin Corr. 1B H314 Causes severe skin burns and eye damage.  
Eye Dam. 1 H318 Causes serious eye damage.



Acute Tox. 4 H302 Harmful if swallowed.  
Acute Tox. 4 H312 Harmful in contact with skin.

- **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:**

Nitric Acid  
Hydrofluoric acid

- **Hazard statements**  
H302+H312 Harmful if swallowed or in contact with skin.  
H314 Causes severe skin burns and eye damage.

- **Precautionary statements**

P260 Do not breathe dusts or mists.  
P264 Wash thoroughly after handling.  
P270 Do not eat, drink or smoke when using this product.  
P280 Wear protective gloves/protective clothing/eye protection/face protection.  
P301+P312 If swallowed: Call a poison center/doctor if you feel unwell.

(Contd. on page 2)

**acc. to OSHA HCS**

Printing date 04/08/2019

Review date 04/08/2019

**Trade name: Instrument Calibration Standard 2**

(Contd. of page 1)

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



· **HMIS-ratings (scale 0 - 4)**



· **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/information on ingredients**

· **Chemical characterization: Mixtures**

· **Description:** Mixture of the substances listed below with nonhazardous additions.

· **Hazardous components:**

7697-37-2	Nitric Acid	Ox. Liq. 2, H272 Skin Corr. 1A, H314	5.0%
-----------	-------------	---	------

· **Additional Components**

7664-39-3	Hydrofluoric acid	Acute Tox. 2, H300; Acute Tox. 1, H310; Acute Tox. 2, H330 Skin Corr. 1A, H314	0.3%
133-37-9	(+)-tartaric acid		0.2%
7440-41-7	beryllium	Acute Tox. 3, H301; Acute Tox. 2, H330 Carc. 1B, H350; STOT RE 1, H372 Skin Irrit. 2, H315; Eye Irrit. 2A, H319; Skin Sens. 1, H317; STOT SE 3, H335	0.001%

(Contd. on page 3)



acc. to OSHA HCS

Printing date 04/08/2019

Review date 04/08/2019

**Trade name: Instrument Calibration Standard 2**

		(Contd. of page 2)
7440-43-9	cadmium (non-pyrophoric) Acute Tox. 3, H301; Acute Tox. 2, H330 Muta. 2, H341; Carc. 1B, H350; Repr. 2, H361; STOT RE 1, H372 Aquatic Acute 1, H400; Aquatic Chronic 1, H410	0.001%
7440-70-2	calcium Water-react. 2, H261	0.001%
7440-47-3	chromium	0.001%
7440-48-4	cobalt Resp. Sens. 1, H334; Carc. 2, H351 Skin Sens. 1, H317 Aquatic Chronic 4, H413	0.001%
7440-50-8	copper	0.001%
7439-89-6	iron Acute Tox. 2, H300	0.001%
7439-92-1	lead Carc. 2, H351; Repr. 1A, H360	0.001%
7439-95-4	magnesium Pyr. Sol. 1, H250; Water-react. 1, H260	0.001%
1317-35-7	trimanganese tetraoxide	0.001%
1313-27-5	molybdenum trioxide Acute Tox. 3, H301 Carc. 2, H351 Eye Irrit. 2A, H319; STOT SE 3, H335	0.001%
7440-02-0	nickel Carc. 2, H351; STOT RE 1, H372 Skin Sens. 1, H317	0.001%
7440-36-0	antimony Acute Tox. 3, H311; Acute Tox. 3, H331	0.001%
7440-09-7	potassium Water-react. 1, H260 Skin Corr. 1B, H314	0.001%
7782-49-2	selenium Acute Tox. 3, H301; Acute Tox. 3, H331 STOT RE 2, H373 Aquatic Chronic 4, H413	0.001%
7440-22-4	silver	0.001%
7440-23-5	sodium Water-react. 1, H260 Skin Corr. 1B, H314	0.001%
10042-76-9	strontium nitrate Ox. Sol. 2, H272	0.001%
7440-28-0	thallium Acute Tox. 2, H300; Acute Tox. 2, H330 STOT RE 2, H373 Aquatic Chronic 4, H413	0.001%

(Contd. on page 4)

acc. to OSHA HCS

Printing date 04/08/2019

Review date 04/08/2019

**Trade name: Instrument Calibration Standard 2**

		(Contd. of page 3)
7440-31-5	tin	0.001%
7440-32-6	titanium ⚠ Self-heat. 1, H251; Water-react. 1, H260	0.001%
7440-62-2	vanadium	0.001%
7429-90-5	aluminium	0.001%
7440-66-6	zinc ⚠ Water-react. 2, H261 ⚠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410	0.001%
7440-38-2	Arsenic ⚠ Acute Tox. 3, H301; Acute Tox. 3, H331 ⚠ Carc. 1A, H350 ⚠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410	0.001%
7440-39-3	barium ⚠ Water-react. 2, H261	0.001%
7732-18-5	Water	94.474%

**4 First-aid measures**

- **Description of first aid measures**
- **General information:**  
Immediately remove any clothing soiled by the product.  
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
- **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.  
Rub in Ca-gluconate solution or Ca-gluconate gel immediately.
- **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:**  
Immediately call a doctor.  
Drink copious amounts of water and provide fresh air. Immediately call a 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.

USA

(Contd. on page 5)

acc. to OSHA HCS

Printing date 04/08/2019

Review date 04/08/2019

Trade name: Instrument Calibration Standard 2

(Contd. of page 4)

**6 Accidental release measures**

· **Personal precautions, protective equipment and emergency procedures**

Mount respiratory protective device.

Wear protective equipment. Keep unprotected persons away.

· **Environmental precautions:** Inform respective authorities in case of seepage into water course or sewage system.

· **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.

· **Protective Action Criteria for Chemicals**

· **PAC-I:**

7697-37-2	Nitric Acid	0.16 ppm
7440-41-7	beryllium	0.0023 mg/m <sup>3</sup>
7440-43-9	cadmium (non-pyrophoric)	0.10 mg/m <sup>3</sup>
7440-47-3	chromium	1.5 mg/m <sup>3</sup>
7440-48-4	cobalt	0.18 mg/m <sup>3</sup>
7440-50-8	copper	3 mg/m <sup>3</sup>
7439-89-6	iron	3.2 mg/m <sup>3</sup>
7439-92-1	lead	0.15 mg/m <sup>3</sup>
7439-95-4	magnesium	18 mg/m <sup>3</sup>
1317-35-7	trimanganese tetraoxide	4.2 mg/m <sup>3</sup>
1313-27-5	molybdenum trioxide	2.3 mg/m <sup>3</sup>
7440-02-0	nickel	4.5 mg/m <sup>3</sup>
7440-36-0	antimony	1.5 mg/m <sup>3</sup>
7440-09-7	potassium	2.3 mg/m <sup>3</sup>
7782-49-2	selenium	0.6 mg/m <sup>3</sup>
7440-22-4	silver	0.3 mg/m <sup>3</sup>
7440-23-5	sodium	13 mg/m <sup>3</sup>
10042-76-9	strontium nitrate	5.7 mg/m <sup>3</sup>
7440-28-0	thallium	0.06 mg/m <sup>3</sup>
7440-31-5	tin	6 mg/m <sup>3</sup>
7440-32-6	titanium	30 mg/m <sup>3</sup>
7440-62-2	vanadium	3 mg/m <sup>3</sup>
7440-66-6	zinc	6 mg/m <sup>3</sup>
7440-38-2	Arsenic	1.5 mg/m <sup>3</sup>
7440-39-3	barium	1.5 mg/m <sup>3</sup>

(Contd. on page 6)

acc. to OSHA HCS

Printing date 04/08/2019

Review date 04/08/2019

**Trade name: Instrument Calibration Standard 2**

(Contd. of page 5)

<b>PAC-2:</b>		
7697-37-2	Nitric Acid	24 ppm
7440-41-7	beryllium	0.025 mg/m <sup>3</sup>
7440-43-9	cadmium (non-pyrophoric)	0.76 mg/m <sup>3</sup>
7440-47-3	chromium	17 mg/m <sup>3</sup>
7440-48-4	cobalt	2 mg/m <sup>3</sup>
7440-50-8	copper	33 mg/m <sup>3</sup>
7439-89-6	iron	35 mg/m <sup>3</sup>
7439-92-1	lead	120 mg/m <sup>3</sup>
7439-95-4	magnesium	200 mg/m <sup>3</sup>
1317-35-7	trimanganese tetraoxide	6.9 mg/m <sup>3</sup>
1313-27-5	molybdenum trioxide	43 mg/m <sup>3</sup>
7440-02-0	nickel	50 mg/m <sup>3</sup>
7440-36-0	antimony	13 mg/m <sup>3</sup>
7440-09-7	potassium	25 mg/m <sup>3</sup>
7782-49-2	selenium	6.6 mg/m <sup>3</sup>
7440-22-4	silver	170 mg/m <sup>3</sup>
7440-23-5	sodium	140 mg/m <sup>3</sup>
10042-76-9	strontium nitrate	62 mg/m <sup>3</sup>
7440-28-0	thallium	3.3 mg/m <sup>3</sup>
7440-31-5	tin	67 mg/m <sup>3</sup>
7440-32-6	titanium	330 mg/m <sup>3</sup>
7440-62-2	vanadium	5.8 mg/m <sup>3</sup>
7440-66-6	zinc	21 mg/m <sup>3</sup>
7440-38-2	Arsenic	17 mg/m <sup>3</sup>
7440-39-3	barium	180 mg/m <sup>3</sup>

<b>PAC-3:</b>		
7697-37-2	Nitric Acid	92 ppm
7440-41-7	beryllium	0.1 mg/m <sup>3</sup>
7440-43-9	cadmium (non-pyrophoric)	4.7 mg/m <sup>3</sup>
7440-47-3	chromium	99 mg/m <sup>3</sup>
7440-48-4	cobalt	20 mg/m <sup>3</sup>
7440-50-8	copper	200 mg/m <sup>3</sup>
7439-89-6	iron	150 mg/m <sup>3</sup>
7439-92-1	lead	700 mg/m <sup>3</sup>
7439-95-4	magnesium	1,200 mg/m <sup>3</sup>
1317-35-7	trimanganese tetraoxide	41 mg/m <sup>3</sup>
1313-27-5	molybdenum trioxide	260 mg/m <sup>3</sup>
7440-02-0	nickel	99 mg/m <sup>3</sup>
7440-36-0	antimony	80 mg/m <sup>3</sup>

(Contd. on page 7)

acc. to OSHA HCS

Printing date 04/08/2019

Review date 04/08/2019

**Trade name: Instrument Calibration Standard 2**

		(Contd. of page 6)
7440-09-7	potassium	150 mg/m <sup>3</sup>
7782-49-2	selenium	40 mg/m <sup>3</sup>
7440-22-4	silver	990 mg/m <sup>3</sup>
7440-23-5	sodium	870 mg/m <sup>3</sup>
10042-76-9	strontium nitrate	370 mg/m <sup>3</sup>
7440-28-0	thallium	20 mg/m <sup>3</sup>
7440-31-5	tin	400 mg/m <sup>3</sup>
7440-32-6	titanium	2,000 mg/m <sup>3</sup>
7440-62-2	vanadium	35 mg/m <sup>3</sup>
7440-66-6	zinc	120 mg/m <sup>3</sup>
7440-38-2	Arsenic	100 mg/m <sup>3</sup>
7440-39-3	barium	1,100 mg/m <sup>3</sup>

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

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

**7697-37-2 Nitric Acid**

PEL	Long-term value: 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.

(Contd. on page 8)

**acc. to OSHA HCS**

Printing date 04/08/2019

Review date 04/08/2019

**Trade name: Instrument Calibration Standard 2**

(Contd. of page 7)

- **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.*
- **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.  
 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:**
- |                        |                 |
|------------------------|-----------------|
| <b>Form:</b>           | Liquid          |
| <b>Color:</b>          | Transparent     |
| <b>Odor:</b>           | Characteristic  |
| <b>Odor threshold:</b> | Not determined. |

· **pH-value at 20 °C (68 °F):** <4

· **Change in condition**

<b>Melting point/Melting range:</b>	Undetermined.
<b>Boiling point/Boiling range:</b>	100 °C (212 °F)

· **Flash point:** Not applicable.

(Contd. on page 9)

acc. to OSHA HCS

Printing date 04/08/2019

Review date 04/08/2019

**Trade name: Instrument Calibration Standard 2**

(Contd. of page 8)

· <b>Flammability (solid, gaseous):</b>	Not applicable.
· <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. Not determined.
· <b>Explosion limits:</b>	
<b>Lower:</b>	Not determined.
<b>Upper:</b>	Not determined.
· <b>Vapor pressure at 20 °C (68 °F):</b>	23 hPa (17.3 mm Hg)
· <b>Density at 20 °C (68 °F):</b>	1 g/cm <sup>3</sup> (8.345 lbs/gal)
· <b>Relative density</b>	Not determined.
· <b>Vapor density</b>	Not determined.
· <b>Evaporation rate</b>	Not determined.
· <b>Solubility in / Miscibility with Water:</b>	Not miscible or difficult to mix.
· <b>Partition 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>Water:</b>	94.5 %
<b>VOC content:</b>	0.00 %
· <b>Other information</b>	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:** Caustic effect on skin and mucous membranes.
- **on the eye:**  
Strong caustic effect.

(Contd. on page 10)

**acc. to OSHA HCS**

Printing date 04/08/2019

Review date 04/08/2019

**Trade name: Instrument Calibration Standard 2**

(Contd. of page 9)

*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:*

*Harmful*

*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)**

7440-41-7	beryllium	I
7440-43-9	cadmium (non-pyrophoric)	I
7440-47-3	chromium	3
7440-48-4	cobalt	2B
7439-92-1	lead	2B
1313-27-5	molybdenum trioxide	2B
7440-02-0	nickel	2B
7782-49-2	selenium	3
7440-38-2	Arsenic	I

· **NTP (National Toxicology Program)**

7440-41-7	beryllium	K
7440-43-9	cadmium (non-pyrophoric)	K
7440-48-4	cobalt	R
7439-92-1	lead	R
7440-02-0	nickel	R
7440-38-2	Arsenic	K

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

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

**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:**

*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.*

(Contd. on page 11)



**acc. to OSHA HCS**

Printing date 04/08/2019

Review date 04/08/2019

**Trade name: Instrument Calibration Standard 2**

(Contd. of page 10)

- **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:**  
Dispose of container and materials in accordance with local, regional and national regulations.
- **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</b> · <b>ADR</b> · <b>IMDG</b> · <b>IATA</b>	Corrosive liquid, acidic, inorganic, n.o.s. (Nitric Acid, hydrofluoric acid) 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Nitric Acid, hydrofluoric acid) CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Nitric Acid, hydrofluoric acid), MARINE POLLUTANT CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Nitric Acid, hydrofluoric acid)
· <b>Transport hazard class(es)</b> · <b>DOT</b>	
· <b>Class</b> · <b>Label</b>	8 Corrosive substances 8
· <b>ADR</b>	
· <b>Class</b>	8 (C1) Corrosive substances

(Contd. on page 12)



acc. to OSHA HCS

Printing date 04/08/2019

Review date 04/08/2019

Trade name: Instrument Calibration Standard 2

(Contd. of page 11)

· <b>Label</b>	8
· <b>IMDG</b>	
	
· <b>Class</b>	8 Corrosive substances
· <b>Label</b>	8
· <b>IATA</b>	
	
· <b>Class</b>	8 Corrosive substances
· <b>Label</b>	8
· <b>Packing group</b>	
· <b>DOT, ADR, IMDG, IATA</b>	III
· <b>Environmental hazards:</b>	
· <b>Marine pollutant:</b>	No Symbol (fish and tree)
· <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>Stowage Category</b>	A
· <b>Stowage Code</b>	SW2 Clear of living quarters.
· <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>	Not applicable.
· <b>Transport/Additional information:</b>	
· <b>DOT</b>	
· <b>Quantity limitations</b>	On passenger aircraft/rail: 5 L On cargo aircraft only: 60 L
· <b>Remarks:</b>	Special marking with the symbol (fish and tree).
· <b>ADR</b>	
· <b>Excepted quantities (EQ)</b>	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· <b>IMDG</b>	
· <b>Limited quantities (LQ)</b>	5L
· <b>Excepted quantities (EQ)</b>	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml

(Contd. on page 13)

acc. to OSHA HCS

Printing date 04/08/2019

Review date 04/08/2019





**Trade name: Instrument Calibration Standard 2**

(Contd. of page 12)

· **UN "Model Regulation":** UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (NITRIC ACID, HYDROFLUORIC ACID), 8, III

**15 Regulatory information**

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**

7732-18-5	Water	94.474%
7697-37-2	Nitric Acid	5.0%
	 Ox. Liq. 2, H272  Skin Corr. 1A, H314	
7664-39-3	Hydrofluoric acid	0.3%
	 Acute Tox. 2, H300; Acute Tox. 1, H310; Acute Tox. 2, H330  Skin Corr. 1A, H314	

· **Sara**

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

7697-37-2	Nitric Acid
-----------	-------------

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

7697-37-2	Nitric Acid
7440-41-7	beryllium
7440-43-9	cadmium (non-pyrophoric)
7440-47-3	chromium
7440-48-4	cobalt
7440-50-8	copper
7439-92-1	lead
1317-35-7	trimanganese tetraoxide
1313-27-5	molybdenum trioxide
7440-02-0	nickel
7440-36-0	antimony
7782-49-2	selenium
7440-22-4	silver
10042-76-9	strontium nitrate
7440-28-0	thallium
7440-62-2	vanadium
7429-90-5	aluminium
7440-66-6	zinc
7440-38-2	Arsenic
7440-39-3	barium

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

All ingredients are listed.

7697-37-2	Nitric Acid	ACTIVE
-----------	-------------	--------

(Contd. on page 14)

acc. to OSHA HCS

Printing date 04/08/2019

Review date 04/08/2019

**Trade name: Instrument Calibration Standard 2**

(Contd. of page 13)

133-37-9	(+)-tartaric acid	ACTIVE
7440-41-7	beryllium	ACTIVE
7440-43-9	cadmium (non-pyrophoric)	ACTIVE
7440-70-2	calcium	ACTIVE
7440-47-3	chromium	ACTIVE
7440-48-4	cobalt	ACTIVE
7440-50-8	copper	ACTIVE
7439-89-6	iron	ACTIVE
7439-92-1	lead	ACTIVE
7439-95-4	magnesium	ACTIVE
1317-35-7	trimanganese tetraoxide	ACTIVE
1313-27-5	molybdenum trioxide	ACTIVE
7440-02-0	nickel	ACTIVE
7440-36-0	antimony	ACTIVE
7440-09-7	potassium	ACTIVE
7782-49-2	selenium	ACTIVE
7440-22-4	silver	ACTIVE
7440-23-5	sodium	ACTIVE
10042-76-9	strontium nitrate	ACTIVE
7440-28-0	thallium	ACTIVE
7440-31-5	tin	ACTIVE
7440-32-6	titanium	ACTIVE
7440-62-2	vanadium	ACTIVE
7429-90-5	aluminium	ACTIVE
7440-66-6	zinc	ACTIVE
7440-38-2	Arsenic	ACTIVE
7440-39-3	barium	ACTIVE
7732-18-5	Water	ACTIVE

**· Hazardous Air Pollutants**

7440-48-4	cobalt
7439-92-1	lead
1317-35-7	trimanganese tetraoxide

**· Proposition 65**

**· Chemicals known to cause cancer:**

7440-41-7	beryllium
7440-43-9	cadmium (non-pyrophoric)
7440-48-4	cobalt
7439-92-1	lead
7440-02-0	nickel
7440-38-2	Arsenic

(Contd. on page 15)

acc. to OSHA HCS

Printing date 04/08/2019

Review date 04/08/2019

**Trade name: Instrument Calibration Standard 2**

(Contd. of page 14)

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

7439-92-1	lead
-----------	------

**· 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
-----------	------

**· Cancerogenity categories**

**· EPA (Environmental Protection Agency)**

7440-41-7	beryllium	B1, K/L(inh), CBD(oral)
-----------	-----------	-------------------------

7440-43-9	cadmium (non-pyrophoric)	B1
-----------	--------------------------	----

7440-47-3	chromium	D
-----------	----------	---

7440-50-8	copper	D
-----------	--------	---

7439-92-1	lead	B2
-----------	------	----

1317-35-7	trimanganese tetraoxide	D
-----------	-------------------------	---

7782-49-2	selenium	D
-----------	----------	---

7440-22-4	silver	D
-----------	--------	---

7440-66-6	zinc	D, I, II
-----------	------	----------

7440-38-2	Arsenic	A
-----------	---------	---

7440-39-3	barium	D, CBD(inh), NL(oral)
-----------	--------	-----------------------

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

7440-41-7	beryllium	A1
-----------	-----------	----

7440-43-9	cadmium (non-pyrophoric)	A2
-----------	--------------------------	----

7440-47-3	chromium	A4
-----------	----------	----

7440-48-4	cobalt	A3
-----------	--------	----

7439-92-1	lead	A3
-----------	------	----

7440-02-0	nickel	A5
-----------	--------	----

7429-90-5	aluminium	A4
-----------	-----------	----

7440-38-2	Arsenic	A1
-----------	---------	----

7440-39-3	barium	A4
-----------	--------	----

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

7440-41-7	beryllium
-----------	-----------

7440-43-9	cadmium (non-pyrophoric)
-----------	--------------------------

7440-02-0	nickel
-----------	--------

7440-38-2	Arsenic
-----------	---------

(Contd. on page 16)

*acc. to OSHA HCS*

Printing date 04/08/2019

Review date 04/08/2019

**Trade name: Instrument Calibration Standard 2**

(Contd. of page 15)

- **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.*
- **Water hazard class:** *Water hazard class 1 (Self-assessment): slightly 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 shall not be held liable for any damage resulting from handling or from contact with the product.*

- **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*  
*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*  
*DOT: US Department of Transportation*  
*IATA: International Air Transport Association*  
*ACGIH: American Conference of Governmental Industrial Hygienists*  
*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*  
*Ox. Liq. 2: Oxidizing liquids – Category 2*  
*Acute Tox. 4: Acute toxicity – Category 4*  
*Skin Corr. 1A: Skin corrosion/irritation – Category 1A*  
*Skin Corr. 1B: Skin corrosion/irritation – Category 1B*  
*Eye Dam. 1: Serious eye damage/eye irritation – Category 1*
- **\* Data compared to the previous version altered.**

*acc. to OSHA HCS*

Printing date 04/08/2019

Review date 04/08/2019

**1 Identification**

- **Product identifier**
- **Trade name:** MERCURY A/S STANDARD
- **Article number** N9300253
- **Application of the substance / the mixture** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**

PerkinElmer, Inc.  
710 Bridgeport Avenue  
Shelton, Connecticut 06484 USA  
CustomerCareUS@perkinelmer.com  
203-925-4600

- **Emergency telephone number:**  
CHEMTREC (within US) 800-424-9300  
CHEMTREC (from outside US) +1 703-527-3887 (call collect)  
CHEMTREC (within AU) +(61)-290372994

**2 Hazard(s) identification**

- **Classification of the substance or mixture**



Corrosion

Skin Corr. 1B H314 Causes severe skin burns and eye damage.  
Eye Dam. 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.

(Contd. on page 2)

acc. to OSHA HCS

Printing date 04/08/2019

Review date 04/08/2019

**Trade name: MERCURY A/S STANDARD**

(Contd. of page 1)

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

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



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



- **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/information on ingredients**

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

**Hazardous components:**

7697-37-2	Nitric Acid	Ox. Liq. 2, H272 Skin Corr. 1A, H314	5.0%
-----------	-------------	---	------

**Additional Components**

7439-97-6	mercury	Acute Tox. 2, H330 Repr. 1B, H360; STOT RE 1, H372 Aquatic Acute 1, H400; Aquatic Chronic 1, H410	0.001%
7732-18-5	Water		94.999%

**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.

(Contd. on page 3)



*acc. to OSHA HCS*

Printing date 04/08/2019

Review date 04/08/2019

**Trade name: MERCURY A/S STANDARD**

(Contd. of page 2)

- **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:** Inform respective authorities in case of seepage into water course or sewage system.
- **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.
- **Protective Action Criteria for Chemicals**

· **PAC-1:**

7697-37-2	Nitric Acid	0.16 ppm
7439-97-6	mercury	0.15 mg/m <sup>3</sup>

· **PAC-2:**

7697-37-2	Nitric Acid	24 ppm
7439-97-6	mercury	1.7 mg/m <sup>3</sup>

· **PAC-3:**

7697-37-2	Nitric Acid	92 ppm
7439-97-6	mercury	8.9 mg/m <sup>3</sup>

**7 Handling and storage**

- **Handling:**
- **Precautions for safe handling**  
Ensure good ventilation/exhaustion at the workplace.  
Prevent formation of aerosols.

(Contd. on page 4)

**acc. to OSHA HCS**

Printing date 04/08/2019

Review date 04/08/2019

**Trade name: MERCURY A/S STANDARD**

(Contd. of page 3)

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

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

**7697-37-2 Nitric Acid**

PEL	Long-term value: 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.  
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.  
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.

(Contd. on page 5)

**acc. to OSHA HCS**

Printing date 04/08/2019

Review date 04/08/2019

**Trade name: MERCURY A/S STANDARD**

(Contd. of page 4)

· **Eye protection:**



Tightly sealed goggles or safety glasses

**9 Physical and chemical properties**

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

· **General Information**

· **Appearance:**

· <b>Form:</b>	Liquid
· <b>Color:</b>	Transparent
· <b>Odor:</b>	Odorless
· <b>Odor threshold:</b>	Not determined.

· **pH-value:** Not determined.

· **Change in condition**

· <b>Melting point/Melting range:</b>	0 °C (32 °F)
· <b>Boiling point/Boiling range:</b>	100 °C (212 °F)

· **Flash point:** Not applicable.

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

· **Decomposition temperature:** Not determined.

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

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

· **Explosion limits:**

· <b>Lower:</b>	Not determined.
· <b>Upper:</b>	Not determined.

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

· **Density at 20 °C (68 °F):** 1 g/cm<sup>3</sup> (8.345 lbs/gal)

· **Relative density** Not determined.

· **Vapor density** Not determined.

· **Evaporation rate** Not determined.

· **Solubility in / Miscibility with**

· **Water:** Not miscible or difficult to mix.

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

· **Viscosity:**

· <b>Dynamic:</b>	Not determined.
· <b>Kinematic:</b>	Not determined.

· **Solvent content:**

· **Water:** 95.0 %

(Contd. on page 6)

acc. to OSHA HCS

Printing date 04/08/2019

Review date 04/08/2019

**Trade name: MERCURY A/S STANDARD**

(Contd. of page 5)

**VOC content:** 0.00 %  
**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:** 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)**

7439-97-6   mercury	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.

(Contd. on page 7)

**acc. to OSHA HCS**

Printing date 04/08/2019

Review date 04/08/2019

**Trade name: MERCURY A/S STANDARD**



(Contd. of page 6)

- **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:**  
Dispose of container and materials in accordance with local, regional and national regulations.
- **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</b>	Corrosive liquid, acidic, inorganic, n.o.s. (Nitric Acid)
· <b>ADR</b>	3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Nitric Acid)
· <b>IMDG, IATA</b>	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Nitric Acid)
· <b>Transport hazard class(es)</b>	
· <b>DOT</b>	
	
· <b>Class</b>	8 Corrosive substances
· <b>Label</b>	8
· <b>ADR</b>	
	
· <b>Class</b>	8 (C1) Corrosive substances

(Contd. on page 8)


acc. to OSHA HCS

Printing date 04/08/2019

Review date 04/08/2019

Trade name: **MERCURY A/S STANDARD**

(Contd. of page 7)

· <b>Label</b>	8
· <b>IMDG, IATA</b>	
	
· <b>Class</b>	8 Corrosive substances
· <b>Label</b>	8
· <b>Packing group</b>	
· <b>DOT, ADR, IMDG, IATA</b>	III
· <b>Environmental hazards:</b>	
· <b>Marine pollutant:</b>	No
· <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>Stowage Category</b>	A
· <b>Stowage Code</b>	SW2 Clear of living quarters.
· <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>	
Not applicable.	
· <b>Transport/Additional information:</b>	
· <b>DOT</b>	
· <b>Quantity limitations</b>	On passenger aircraft/rail: 5 L On cargo aircraft only: 60 L
· <b>ADR</b>	
· <b>Excepted quantities (EQ)</b>	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· <b>IMDG</b>	
· <b>Limited quantities (LQ)</b>	5L
· <b>Excepted quantities (EQ)</b>	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· <b>UN "Model Regulation":</b>	UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (NITRIC ACID), 8, III

**15 Regulatory information**

· <b>Safety, health and environmental regulations/legislation specific for the substance or mixture</b>		
7732-18-5	Water	94.999%

(Contd. on page 9)

acc. to OSHA HCS

Printing date 04/08/2019

Review date 04/08/2019

**Trade name: MERCURY A/S STANDARD**

(Contd. of page 8)

7697-37-2	Nitric Acid	Ox. Liq. 2, H272 Skin Corr. 1A, H314	5.0%
7439-97-6	mercury	Acute Tox. 2, H330 Repr. 1B, H360; STOT RE 1, H372 Aquatic Acute 1, H400; Aquatic Chronic 1, H410	0.001%

· **Sara**

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

7697-37-2	Nitric Acid	
-----------	-------------	--

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

7697-37-2	Nitric Acid	
7439-97-6	mercury	

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

All ingredients are listed.

7697-37-2	Nitric Acid	ACTIVE
7439-97-6	mercury	ACTIVE
7732-18-5	Water	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:**

7439-97-6	mercury	
-----------	---------	--

· **Carcinogenicity categories**

· **EPA (Environmental Protection Agency)**

7439-97-6	mercury	D
-----------	---------	---

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

7439-97-6	mercury	A4
-----------	---------	----

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

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.

· **Water hazard class: Water hazard class 1 (Self-assessment): slightly hazardous for water.**

(Contd. on page 10)

**acc. to OSHA HCS**

Printing date 04/08/2019

Review date 04/08/2019

**Trade name: MERCURY A/S STANDARD**

(Contd. of page 9)

· **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 shall not be held liable for any damage resulting from handling or from contact with the product.

· **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

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

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

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

Ox. Liq. 2: Oxidizing liquids – Category 2

Skin Corr. 1A: Skin corrosion/irritation – Category 1A

Skin Corr. 1B: Skin corrosion/irritation – Category 1B

Eye Dam. 1: Serious eye damage/eye irritation – Category 1

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



*acc. to OSHA HCS*

Printing date 04/08/2019

Review date 04/08/2019

**1 Identification**

- **Product identifier**
- **Trade name:** Environmental Standard Custom 3
- **Article number** N9307807
- **Application of the substance / the mixture** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**

PerkinElmer, Inc.  
710 Bridgeport Avenue  
Shelton, Connecticut 06484 USA  
CustomerCareUS@perkinelmer.com  
203-925-4600

- **Emergency telephone number:**  
CHEMTREC (within US) 800-424-9300  
CHEMTREC (from outside US) +1 703-527-3887 (call collect)  
CHEMTREC (within AU) +(61)-290372994

**2 Hazard(s) identification**

- **Classification of the substance or mixture**



Skin Irrit. 2 H315 Causes skin irritation.  
Eye Irrit. 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 protective gloves / 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

(Contd. on page 2)

acc. to OSHA HCS

Printing date 04/08/2019

Review date 04/08/2019

**Trade name: Environmental Standard Custom 3**

(Contd. of page 1)

· **HMIS-ratings (scale 0 - 4)**

HEALTH	2	Health = 2
FIRE	0	Fire = 0
REACTIVITY	0	Reactivity = 0

· **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/information on ingredients**





· **Chemical characterization: Mixtures**

· **Description:** Mixture of the substances listed below with nonhazardous additions.

· **Hazardous components:**

7697-37-2	Nitric Acid	 Ox. Liq. 2, H272  Skin Corr. 1A, H314	2.0%
-----------	-------------	---	------

· **Additional Components**

7440-29-1	thorium	 Carc. 1A, H350	0.0001%
7440-61-1	uranium	 Acute Tox. 2, H300; Acute Tox. 2, H330  STOT RE 2, H373 Aquatic Chronic 4, H413	0.0001%
7440-42-8	boron	 Acute Tox. 4, H302	0.0001%
7732-18-5	Water		97.9997%

**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.

**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.

(Contd. on page 3)

acc. to OSHA HCS

Printing date 04/08/2019

Review date 04/08/2019

Trade name: Environmental Standard Custom 3

(Contd. of page 2)

- **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.
- **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
7440-29-1	thorium	30 mg/m <sup>3</sup>
7440-61-1	uranium	0.6 mg/m <sup>3</sup>
7440-42-8	boron	1.9 mg/m <sup>3</sup>

· **PAC-2:**

7697-37-2	Nitric Acid	24 ppm
7440-29-1	thorium	330 mg/m <sup>3</sup>
7440-61-1	uranium	5 mg/m <sup>3</sup>
7440-42-8	boron	21 mg/m <sup>3</sup>

· **PAC-3:**

7697-37-2	Nitric Acid	92 ppm
7440-29-1	thorium	2,000 mg/m <sup>3</sup>
7440-61-1	uranium	30 mg/m <sup>3</sup>
7440-42-8	boron	130 mg/m <sup>3</sup>

**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.

USA

(Contd. on page 4)

acc. to OSHA HCS

Printing date 04/08/2019

Review date 04/08/2019

Trade name: Environmental Standard Custom 3

(Contd. of page 3)

**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 Long-term value: 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:** 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 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

acc. to OSHA HCS

Printing date 04/08/2019

Review date 04/08/2019

Trade name: Environmental Standard Custom 3

(Contd. of page 4)

## 9 Physical and chemical properties

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

· **General Information**

· **Appearance:**

· <b>Form:</b>	Liquid
· <b>Color:</b>	Transparent
· <b>Odor:</b>	Characteristic
· <b>Odor threshold:</b>	Not determined.

· **pH-value:** Not determined.

· **Change in condition**

· <b>Melting point/Melting range:</b>	Undetermined.
· <b>Boiling point/Boiling range:</b>	100 °C (212 °F)

· **Flash point:** Not applicable.

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

· **Decomposition temperature:** Not determined.

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

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

· **Explosion limits:**

· <b>Lower:</b>	Not determined.
· <b>Upper:</b>	Not determined.

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

· **Density:** Not determined.

· **Relative density** Not determined.

· **Vapor density** Not determined.

· **Evaporation rate** Not determined.

· **Solubility in / Miscibility with**

· **Water:** Not miscible or difficult to mix.

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

· **Viscosity:**

· <b>Dynamic:</b>	Not determined.
· <b>Kinematic:</b>	Not determined.

· **Solvent content:**

· <b>Water:</b>	98.0 %
· <b>VOC content:</b>	0.00 %

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

## 10 Stability and reactivity

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

(Contd. on page 6)

acc. to OSHA HCS

Printing date 04/08/2019

Review date 04/08/2019

Trade name: Environmental Standard Custom 3

(Contd. of page 5)

- **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:  
Irritant

· **Carcinogenic categories**

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

7440-29-1	thorium	I
-----------	---------	---

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

USA

(Contd. on page 7)

acc. to OSHA HCS

Printing date 04/08/2019

Review date 04/08/2019




Trade name: Environmental Standard Custom 3

(Contd. of page 6)

**13 Disposal considerations**

- **Waste treatment methods**
- **Recommendation:**  
Dispose of container and materials in accordance with local, regional and national regulations.
- **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</b> · <b>ADR</b> · <b>IMDG, IATA</b>	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)
· <b>Transport hazard class(es)</b> · <b>DOT</b>	
	
· <b>Class</b> · <b>Label</b>	8 Corrosive substances 8
· <b>ADR</b>	
	
· <b>Class</b> · <b>Label</b>	8 (C1) Corrosive substances 8
· <b>IMDG, IATA</b>	
	
· <b>Class</b> · <b>Label</b>	8 Corrosive substances 8
· <b>Packing group</b> · <b>DOT, ADR, IMDG, IATA</b>	III

(Contd. on page 8)

acc. to OSHA HCS

Printing date 04/08/2019





Review date 04/08/2019

Trade name: Environmental Standard Custom 3

(Contd. of page 7)

· <b>Environmental hazards:</b>	
· <b>Marine pollutant:</b>	No
· <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>Stowage Category</b>	A
· <b>Stowage Code</b>	SW2 Clear of living quarters.
· <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>	Not applicable.
· <b>Transport/Additional information:</b>	
· <b>DOT</b>	
· <b>Quantity limitations</b>	On passenger aircraft/rail: 5 L On cargo aircraft only: 60 L
· <b>ADR</b>	
· <b>Excepted quantities (EQ)</b>	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· <b>IMDG</b>	
· <b>Limited quantities (LQ)</b>	5L
· <b>Excepted quantities (EQ)</b>	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· <b>UN "Model Regulation":</b>	UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (NITRIC ACID), 8, III

**15 Regulatory information**

· <b>Safety, health and environmental regulations/legislation specific for the substance or mixture</b>			
7732-18-5	Water		97.9997%
7697-37-2	Nitric Acid	 Ox. Liq. 2, H272  Skin Corr. 1A, H314	2.0%
7440-61-1	uranium	 Acute Tox. 2, H300; Acute Tox. 2, H330  STOT RE 2, H373 Aquatic Chronic 4, H413	0.0001%
· <b>Sara</b>			
· <b>Section 355 (extremely hazardous substances):</b>			
7697-37-2	Nitric Acid		
· <b>Section 313 (Specific toxic chemical listings):</b>			
7697-37-2	Nitric Acid		
· <b>TSCA (Toxic Substances Control Act):</b> All ingredients are listed.			

(Contd. on page 9)



acc. to OSHA HCS

Printing date 04/08/2019

Review date 04/08/2019

**Trade name: Environmental Standard Custom 3**

(Contd. of page 8)

7697-37-2	Nitric Acid	ACTIVE
7440-29-1	thorium	ACTIVE
7440-61-1	uranium	ACTIVE
7440-42-8	boron	ACTIVE
7732-18-5	Water	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.

· **Carcinogeny categories**

· **EPA (Environmental Protection Agency)**

7440-42-8	boron	I (oral)
-----------	-------	----------

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

7440-61-1	uranium	AI
-----------	---------	----

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

7440-61-1	uranium	
-----------	---------	--

· **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.

· **Water hazard class:** Water hazard class 1 (Self-assessment): slightly 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 shall not be held liable for any damage resulting from handling or from contact with the product.

· **Department issuing SDS:** Environmental, Health and Safety

(Contd. on page 10)

*acc. to OSHA HCS*

Printing date 04/08/2019

Review date 04/08/2019

**Trade name: Environmental Standard Custom 3**

(Contd. of page 9)

· **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*

*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*

*DOT: US Department of Transportation*

*IATA: International Air Transport Association*

*ACGIH: American Conference of Governmental Industrial Hygienists*

*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*

*Ox. Liq. 2: Oxidizing liquids – Category 2*

*Skin Corr. 1A: Skin corrosion/irritation – Category 1A*

*Skin Irrit. 2: Skin corrosion/irritation – Category 2*

*Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A*

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

*acc. to OSHA HCS*

Printing date 04/08/2019

Review date 04/08/2019

## 1 Identification

- **Product identifier**
- **Trade name:** STD INTERNAL STOCK SOLN 300X/D
- **Article number** N9308592
- **Application of the substance / the mixture** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**

PerkinElmer, Inc.  
710 Bridgeport Avenue  
Shelton, Connecticut 06484 USA  
CustomerCareUS@perkinelmer.com  
203-925-4600

- **Emergency telephone number:**  
CHEMTREC (within US) 800-424-9300  
CHEMTREC (from outside US) +1 703-527-3887 (call collect)  
CHEMTREC (within AU) +(61)-290372994

## 2 Hazard(s) identification

- **Classification of the substance or mixture**



Skin Irrit. 2 H315 Causes skin irritation.  
Eye Irrit. 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 protective gloves / 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

(Contd. on page 2)

acc. to OSHA HCS

Printing date 04/08/2019

Review date 04/08/2019

**Trade name: STD INTERNAL STOCK SOLN 300X/D**

(Contd. of page 1)

· **HMIS-ratings (scale 0 - 4)**

HEALTH	2	Health = 2
FIRE	0	Fire = 0
REACTIVITY	0	Reactivity = 0

· **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/information on ingredients**

· **Chemical characterization: Mixtures**

· **Description:** Mixture of the substances listed below with nonhazardous additions.

· **Hazardous components:**

7697-37-2	Nitric Acid	 Ox. Liq. 2, H272  Skin Corr. 1A, H314	2.0%
-----------	-------------	---	------

· **Additional Components**

7440-20-2	Scandium from Scandium Oxide	0.01%
7440-56-4	Germanium from Ammonium hexafluorogermanate(IV)	0.005%
7440-27-9	terbium	0.0001%
7440-74-6	Indium	0.0001%
7440-16-6	rhodium	0.0001%
7732-18-5	Water	97.9847%

**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.

**5 Fire-fighting measures**

· **Extinguishing media**

· **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.

(Contd. on page 3)

acc. to OSHA HCS

Printing date 04/08/2019

Review date 04/08/2019

**Trade name: STD INTERNAL STOCK SOLN 300X/D**

(Contd. of page 2)

- **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:** 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
7440-20-2	Scandium from Scandium Oxide	30 mg/m <sup>3</sup>
7440-56-4	Germanium from Ammonium hexafluorogermanate(IV)	3.2 mg/m <sup>3</sup>
7440-27-9	terbium	1.2 mg/m <sup>3</sup>
7440-74-6	Indium	0.3 mg/m <sup>3</sup>
7440-16-6	rhodium	3 mg/m <sup>3</sup>

· **PAC-2:**

7697-37-2	Nitric Acid	24 ppm
7440-20-2	Scandium from Scandium Oxide	330 mg/m <sup>3</sup>
7440-56-4	Germanium from Ammonium hexafluorogermanate(IV)	35 mg/m <sup>3</sup>
7440-27-9	terbium	13 mg/m <sup>3</sup>
7440-74-6	Indium	3.3 mg/m <sup>3</sup>
7440-16-6	rhodium	33 mg/m <sup>3</sup>

· **PAC-3:**

7697-37-2	Nitric Acid	92 ppm
7440-20-2	Scandium from Scandium Oxide	2,000 mg/m <sup>3</sup>
7440-56-4	Germanium from Ammonium hexafluorogermanate(IV)	170 mg/m <sup>3</sup>
7440-27-9	terbium	79 mg/m <sup>3</sup>
7440-74-6	Indium	20 mg/m <sup>3</sup>
7440-16-6	rhodium	200 mg/m <sup>3</sup>

## 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.

(Contd. on page 4)

**acc. to OSHA HCS**

Printing date 04/08/2019

Review date 04/08/2019

**Trade name: STD INTERNAL STOCK SOLN 300X/D**

(Contd. of page 3)

- **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	Long-term value: 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:** 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 through time has to be found out by the manufacturer of the protective gloves and has to be observed.

(Contd. on page 5)

**acc. to OSHA HCS**

Printing date 04/08/2019

Review date 04/08/2019

**Trade name: STD INTERNAL STOCK SOLN 300X/D**

(Contd. of page 4)

**· Eye protection:**



Tightly sealed goggles or safety glasses

**9 Physical and chemical properties**

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

**· General Information**

**· Appearance:**

<b>Form:</b>	Liquid
<b>Color:</b>	Dark brown
<b>· Odor:</b>	Characteristic
<b>· Odor threshold:</b>	Not determined.

**· pH-value:** Not determined.

**· Change in condition**

<b>Melting point/Melting range:</b>	Undetermined.
<b>Boiling point/Boiling range:</b>	100 °C (212 °F)

**· Flash point:** Not applicable.

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

**· Decomposition temperature:** Not determined.

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

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

**· Explosion limits:**

<b>Lower:</b>	Not determined.
<b>Upper:</b>	Not determined.

**· Vapor pressure:** Not determined.

**· Density:** Not determined.

**· Relative density** Not determined.

**· Vapor density** Not determined.

**· Evaporation rate** Not determined.

**· Solubility in / Miscibility with**

**Water:** Not miscible or difficult to mix.

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

**· Viscosity:**

<b>Dynamic:</b>	Not determined.
<b>Kinematic:</b>	Not determined.

**· Solvent content:**

**Water:** 98.0 %

(Contd. on page 6)

*acc. to OSHA HCS*

Printing date 04/08/2019

Review date 04/08/2019

**Trade name: STD INTERNAL STOCK SOLN 300X/D**

(Contd. of page 5)

**VOC content:** 0.00 %  
**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:** 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:** Not hazardous for water.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.

(Contd. on page 7)



acc. to OSHA HCS

Printing date 04/08/2019

Review date 04/08/2019

**Trade name: STD INTERNAL STOCK SOLN 300X/D**




(Contd. of page 6)

- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

**13 Disposal considerations**

- **Waste treatment methods**
- **Recommendation:**  
Dispose of container and materials in accordance with local, regional and national regulations.
- **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</b>	Corrosive liquid, acidic, inorganic, n.o.s. (Nitric Acid)
· <b>ADR</b>	3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Nitric Acid)
· <b>IMDG, IATA</b>	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Nitric Acid)
· <b>Transport hazard class(es)</b>	
· <b>DOT</b>	
	
· <b>Class</b>	8 Corrosive substances
· <b>Label</b>	8
· <b>ADR</b>	
	
· <b>Class</b>	8 (C1) Corrosive substances
· <b>Label</b>	8
· <b>IMDG, IATA</b>	
	
· <b>Class</b>	8 Corrosive substances
· <b>Label</b>	8

(Contd. on page 8)

**acc. to OSHA HCS**

Printing date 04/08/2019



Review date 04/08/2019

**Trade name: STD INTERNAL STOCK SOLN 300X/D**

(Contd. of page 7)

· <b>Packing group</b>	
· <b>DOT, ADR, IMDG, IATA</b>	III
· <b>Environmental hazards:</b>	Not applicable.
· <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>Stowage Category</b>	A
· <b>Stowage Code</b>	SW2 Clear of living quarters.
· <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>	Not applicable.
· <b>Transport/Additional information:</b>	
· <b>DOT</b>	
· <b>Quantity limitations</b>	On passenger aircraft/rail: 5 L On cargo aircraft only: 60 L
· <b>ADR</b>	
· <b>Excepted quantities (EQ)</b>	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· <b>IMDG</b>	
· <b>Limited quantities (LQ)</b>	5L
· <b>Excepted quantities (EQ)</b>	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· <b>UN "Model Regulation":</b>	UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (NITRIC ACID), 8, III

**15 Regulatory information**

· <b>Safety, health and environmental regulations/legislation specific for the substance or mixture</b>			
7732-18-5	Water		97.9847%
7697-37-2	Nitric Acid	 Ox. Liq. 2, H272  Skin Corr. 1A, H314	2.0%
7440-20-2	Scandium from Scandium Oxide		0.01%
· <b>Sara</b>			
· <b>Section 355 (extremely hazardous substances):</b>			
7697-37-2	Nitric Acid		
· <b>Section 313 (Specific toxic chemical listings):</b>			
7697-37-2	Nitric Acid		
· <b>TSCA (Toxic Substances Control Act):</b>			
7697-37-2	Nitric Acid		ACTIVE

(Contd. on page 9)

acc. to OSHA HCS

Printing date 04/08/2019

Review date 04/08/2019

**Trade name: STD INTERNAL STOCK SOLN 300X/D**

(Contd. of page 8)

7440-20-2	Scandium from Scandium Oxide	ACTIVE
7440-56-4	Germanium from Ammonium hexafluorogermanate(IV)	ACTIVE
7440-27-9	terbium	ACTIVE
7440-74-6	Indium	ACTIVE
7440-16-6	rhodium	ACTIVE
7732-18-5	Water	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.

· **Carcinogenicity categories**

· **EPA (Environmental Protection Agency)**

None of the ingredients is listed.

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

7440-16-6	rhodium	A4
-----------	---------	----

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

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.

· **Water hazard 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 shall not be held liable for any damage resulting from handling or from contact with the product.

(Contd. on page 10)

*acc. to OSHA HCS*

Printing date 04/08/2019

Review date 04/08/2019

**Trade name: STD INTERNAL STOCK SOLN 300X/D**

(Contd. of page 9)

· **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:**

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

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

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

Ox. Liq. 2: Oxidizing liquids – Category 2

Skin Corr. 1A: Skin corrosion/irritation – Category 1A

Skin Irrit. 2: Skin corrosion/irritation – Category 2

Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A

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