

*acc. to OSHA HCS*

Printing date 07/09/2018

Review date 07/09/2018

**1 Identification**

- **Product identifier**
- **Trade name:** PerkinElmer Pure XVII
- **Article number** N9303948
- **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**



Acute Tox. 4 H302 Harmful if swallowed.  
Skin Irrit. 2 H315 Causes skin irritation.  
Eye Irrit. 2A H319 Causes serious eye irritation.  
STOT SE 3 H335 May cause respiratory 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-determining components of labeling:**

Hydrochloric Acid  
Hydrofluoric acid

- **Hazard statements**

H302 Harmful if swallowed.  
H315 Causes skin irritation.  
H319 Causes serious eye irritation.  
H335 May cause respiratory irritation.

- **Precautionary statements**

P261 Avoid breathing dust/fume/gas/mist/vapors/spray  
P264 Wash thoroughly after handling.  
P270 Do not eat, drink or smoke when using this product.  
P271 Use only outdoors or in a well-ventilated area.  
P280 Wear protective gloves / eye protection / face protection.  
P301+P312 If swallowed: Call a poison center/doctor if you feel unwell.  
P330 Rinse mouth.

(Contd. on page 2)

acc. to OSHA HCS

Printing date 07/09/2018

Review date 07/09/2018

**Trade name: PerkinElmer Pure XVII**

(Contd. of page 1)

- P302+P352 *If on skin: Wash with plenty of water.*
- P321 *Specific treatment (see on this label).*
- 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.*
- 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.*
- P403+P233 *Store in a well-ventilated place. Keep container tightly closed.*
- 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:**

7647-01-0	Hydrochloric Acid	Skin Corr. 1B, H314 STOT SE 3, H335	15.0%
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· **Additional Components**

7664-39-3	Hydrofluoric acid	Acute Tox. 2, H300; Acute Tox. 1, H310; Acute Tox. 2, H330 Skin Corr. 1A, H314	0.2%
7440-31-5	tin		0.001%
7440-25-7	tantalum		0.001%
7440-32-6	titanium	Self-heat. 1, H251; Water-react. 1, H260	0.001%

(Contd. on page 3)

acc. to OSHA HCS

Printing date 07/09/2018

Review date 07/09/2018

Trade name: PerkinElmer Pure XVII

		(Contd. of page 2)
7440-67-7	zirconium ⚠ Pyr. Sol. 1, H250; Water-react. 1, H260	0.001%
7439-88-5	iridium	0.001%
7440-36-0	antimony	0.001%
7440-58-6	hafnium ⚠ Flam. Sol. 1, H228	0.001%
7732-18-5	Water	84.793%

\* **4 First-aid measures**

- **Description of first aid measures**
- **General information:**  
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. If symptoms persist, consult a doctor.
- **After swallowing:** 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** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

\* **6 Accidental release measures**

- **Personal precautions, protective equipment and emergency procedures** Not required.
- **Environmental precautions:** Inform respective authorities in case of seepage into water course or sewage system.
- **Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
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.

(Contd. on page 4)

acc. to OSHA HCS

Printing date 07/09/2018

Review date 07/09/2018

Trade name: PerkinElmer Pure XVII

(Contd. of page 3)

· **Protective Action Criteria for Chemicals**

· **PAC-1:**

7647-01-0	Hydrochloric Acid	1.8 ppm
7440-31-5	tin	6 mg/m <sup>3</sup>
7440-25-7	tantalum	10 mg/m <sup>3</sup>
7440-32-6	titanium	30 mg/m <sup>3</sup>
7440-67-7	zirconium	10 mg/m <sup>3</sup>
7439-88-5	iridium	4.7 mg/m <sup>3</sup>
7440-36-0	antimony	1.5 mg/m <sup>3</sup>
7440-58-6	hafnium	1.5 mg/m <sup>3</sup>

· **PAC-2:**

7647-01-0	Hydrochloric Acid	22 ppm
7440-31-5	tin	67 mg/m <sup>3</sup>
7440-25-7	tantalum	11 mg/m <sup>3</sup>
7440-32-6	titanium	330 mg/m <sup>3</sup>
7440-67-7	zirconium	83 mg/m <sup>3</sup>
7439-88-5	iridium	51 mg/m <sup>3</sup>
7440-36-0	antimony	13 mg/m <sup>3</sup>
7440-58-6	hafnium	17 mg/m <sup>3</sup>

· **PAC-3:**

7647-01-0	Hydrochloric Acid	100 ppm
7440-31-5	tin	400 mg/m <sup>3</sup>
7440-25-7	tantalum	64 mg/m <sup>3</sup>
7440-32-6	titanium	2,000 mg/m <sup>3</sup>
7440-67-7	zirconium	500 mg/m <sup>3</sup>
7439-88-5	iridium	310 mg/m <sup>3</sup>
7440-36-0	antimony	80 mg/m <sup>3</sup>
7440-58-6	hafnium	99 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.

(Contd. on page 5)

acc. to OSHA HCS

Printing date 07/09/2018

Review date 07/09/2018

Trade name: PerkinElmer Pure XVII

· **Specific end use(s)** No further relevant information available.

(Contd. of page 4)

**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:**

**7647-01-0 Hydrochloric Acid**

PEL Ceiling limit value: 7 mg/m<sup>3</sup>, 5 ppm

REL Ceiling limit value: 7 mg/m<sup>3</sup>, 5 ppm

TLV Ceiling limit value: 2.98 mg/m<sup>3</sup>, 2 ppm

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

· **Exposure controls**

· **Personal protective equipment:**

· **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

· **Breathing equipment:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

· **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

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 07/09/2018

Review date 07/09/2018

Trade name: PerkinElmer Pure XVII

(Contd. of page 5)

## 9 Physical and chemical properties

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

· **General Information**

· **Appearance:**

· **Form:** Liquid

· **Color:** Clear

· **Odor:** Acidic

· **Odor threshold:** Not determined.

· **pH-value:** Not determined.

· **Change in condition**

· **Melting point/Melting range:** Undetermined.

· **Boiling point/Boiling range:** 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.

· **Explosion limits:**

· **Lower:** Not determined.

· **Upper:** 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:**

· **Dynamic:** Not determined.

· **Kinematic:** Not determined.

· **Solvent content:**

· **Water:** 84.8 %

· **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.

(Contd. on page 7)

acc. to OSHA HCS

Printing date 07/09/2018

Review date 07/09/2018

Trade name: PerkinElmer Pure XVII

(Contd. of page 6)

- **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:**

· **LD/LC50 values that are relevant for classification:**

**7647-01-0 Hydrochloric Acid**

Oral LD50 900 mg/kg (rabbit)

· **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:

Harmful

Irritant

· **Carcinogenic categories**

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

7647-01-0 Hydrochloric Acid

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.

· **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 8)

*acc. to OSHA HCS*

Printing date 07/09/2018

Review date 07/09/2018




**Trade name: PerkinElmer Pure XVII**

(Contd. of page 7)

**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>	UN1789
· <b>UN proper shipping name</b>	
· <b>DOT</b>	Hydrochloric acid
· <b>ADR</b>	1789 Hydrochloric acid
· <b>IMDG, IATA</b>	HYDROCHLORIC ACID
· <b>Transport hazard class(es)</b>	
· <b>DOT</b>	
	
· <b>Class</b>	8 Corrosive substances
· <b>Label</b>	8
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· <b>ADR</b>	
	
· <b>Class</b>	8 (CI) Corrosive substances
· <b>Label</b>	8
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· <b>IMDG, IATA</b>	
	
· <b>Class</b>	8 Corrosive substances
· <b>Label</b>	8
· <b>Packing group</b>	
· <b>DOT, ADR, IMDG, IATA</b>	II
· <b>Environmental hazards:</b>	
· <b>Marine pollutant:</b>	No

(Contd. on page 9)



**acc. to OSHA HCS**

Printing date 07/09/2018

Review date 07/09/2018

**Trade name: PerkinElmer Pure XVII**

(Contd. of page 8)

<ul style="list-style-type: none"> <li>· <b>Special precautions for user</b></li> <li>· <b>Danger code (Kemler):</b></li> <li>· <b>EMS Number:</b></li> <li>· <b>Segregation groups</b></li> <li>· <b>Stowage Category</b></li> </ul>	<p>Warning: Corrosive substances</p> <p>80</p> <p>F-A,S-B</p> <p>Acids</p> <p>E</p>
<ul style="list-style-type: none"> <li>· <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b></li> </ul>	<p>Not applicable.</p>
<ul style="list-style-type: none"> <li>· <b>Transport/Additional information:</b></li> <li>· <b>DOT</b></li> <li>· <b>Quantity limitations</b></li> </ul>	<p>On passenger aircraft/rail: 1 L</p> <p>On cargo aircraft only: 30 L</p>
<ul style="list-style-type: none"> <li>· <b>ADR</b></li> <li>· <b>Excepted quantities (EQ)</b></li> </ul>	<p>Code: E2</p> <p>Maximum net quantity per inner packaging: 30 ml</p> <p>Maximum net quantity per outer packaging: 500 ml</p>
<ul style="list-style-type: none"> <li>· <b>IMDG</b></li> <li>· <b>Limited quantities (LQ)</b></li> <li>· <b>Excepted quantities (EQ)</b></li> </ul>	<p>1L</p> <p>Code: E2</p> <p>Maximum net quantity per inner packaging: 30 ml</p> <p>Maximum net quantity per outer packaging: 500 ml</p>
<ul style="list-style-type: none"> <li>· <b>UN "Model Regulation":</b></li> </ul>	<p>UN 1789 HYDROCHLORIC ACID, 8, II</p>

**15 Regulatory information**

<ul style="list-style-type: none"> <li>· <b>Safety, health and environmental regulations/legislation specific for the substance or mixture</b></li> </ul>		
7732-18-5	Water	84.793%
7647-01-0	Hydrochloric Acid	15.0%
	<ul style="list-style-type: none"> <li>⚠ Skin Corr. 1B, H314</li> <li>⚠ STOT SE 3, H335</li> </ul>	
7664-39-3	Hydrofluoric acid	0.2%
	<ul style="list-style-type: none"> <li>⚠ Acute Tox. 2, H300; Acute Tox. 1, H310; Acute Tox. 2, H330</li> <li>⚠ Skin Corr. 1A, H314</li> </ul>	

· **Sara**

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

7647-01-0 Hydrochloric Acid

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

7647-01-0 Hydrochloric Acid

7440-36-0 antimony

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

All ingredients are listed.

7647-01-0 Hydrochloric Acid

(Contd. on page 10)

acc. to OSHA HCS

Printing date 07/09/2018

Review date 07/09/2018

Trade name: PerkinElmer Pure XVII

(Contd. of page 9)

7440-31-5	tin
7440-25-7	tantalum
7440-32-6	titanium
7440-67-7	zirconium
7439-88-5	iridium
7440-36-0	antimony
7440-58-6	hafnium
7732-18-5	Water

· **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)**

7647-01-0	Hydrochloric Acid	A4
7440-67-7	zirconium	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.

**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 11)

*acc. to OSHA HCS*

Printing date 07/09/2018

Review date 07/09/2018

**Trade name: PerkinElmer Pure XVII**

(Contd. of page 10)

· **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)*

*LC50: Lethal concentration, 50 percent*

*LD50: Lethal dose, 50 percent*

*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*

*Acute Tox. 4: Acute toxicity – Category 4*

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

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

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

*STOT SE 3: Specific target organ toxicity (single exposure) – Category 3*

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