

*acc. to OSHA HCS*

Printing date 07/01/2021

Review date 07/01/2021

**1 Identification**

- **Product identifier**
- **Trade name:** STD-AA TEST MIX
- **Article number** 02900540
- **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**



Health hazard

Carc. 2 H351 Suspected of causing cancer. Route of exposure: Inhalation.



Skin Sens. 1 H317 May cause an allergic skin reaction.

- **Label elements**
- **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms** GHS07, GHS08
- **Signal word** Warning

- **Hazard-determining components of labeling:**

nickel

- **Hazard statements**

H317 May cause an allergic skin reaction.  
H351 Suspected of causing cancer. Route of exposure: Inhalation.

- **Precautionary statements**

P201 Obtain special instructions before use.  
P202 Do not handle until all safety precautions have been read and understood.  
P261 Avoid breathing dust/fume/gas/mist/vapors/spray  
P272 Contaminated work clothing must not be allowed out of the workplace.  
P280 Wear protective gloves/protective clothing/eye protection/face protection.  
P302+P352 If on skin: Wash with plenty of water.  
P308+P313 IF exposed or concerned: Get medical advice/attention.  
P321 Specific treatment (see on this label).  
P333+P313 If skin irritation or rash occurs: Get medical advice/attention.

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- 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)**

HEALTH	1	Health = 1
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:**

7647-01-0	Hydrochloric Acid	2.0%
	Skin Corr. 1B, H314; Eye Dam. 1, H318 Acute Tox. 4, H302; STOT SE 3, H335	
7439-89-6	iron	0.1%
	Acute Tox. 2, H300	
7440-02-0	nickel	0.1%
	Carc. 2, H351; STOT RE 1, H372 Skin Sens. 1, H317	
7440-66-6	zinc	0.1%
	Pyr. Sol. 1, H250; Water-react. 1, H260 Aquatic Acute 1, H400; Aquatic Chronic 1, H410	

· **Additional Components**

7732-18-5	Water		97.2%
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%
7440-47-3	chromium		0.1%
7440-50-8	copper		0.1%

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7440-70-2 calcium

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 Water-react. 2, H261 0.1%

**4 First-aid measures**

- **Description of first aid measures**
- **After inhalation:**  
Supply fresh air and to be sure call for a doctor.  
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.
- **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.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

**6 Accidental release measures**

- **Personal precautions, protective equipment and emergency procedures** Not required.
- **Environmental precautions:**  
Inform respective authorities in case of seepage into water course or sewage system.  
Dilute with plenty of water.
- **Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Dispose contaminated material as waste according to item 13.  
Ensure adequate ventilation.
- **Reference to other sections**  
No dangerous substances are released.  
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:**

7647-01-0	Hydrochloric Acid	1.8 ppm
7439-89-6	iron	3.2 mg/m <sup>3</sup>
7440-02-0	nickel	4.5 mg/m <sup>3</sup>
7440-09-7	potassium	2.3 mg/m <sup>3</sup>
7440-23-5	sodium	13 mg/m <sup>3</sup>

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7440-47-3	chromium	1.5 mg/m <sup>3</sup>
7440-50-8	copper	3 mg/m <sup>3</sup>
7440-66-6	zinc	6 mg/m <sup>3</sup>

**· PAC-2:**

7647-01-0	Hydrochloric Acid	22 ppm
7439-89-6	iron	35 mg/m <sup>3</sup>
7440-02-0	nickel	50 mg/m <sup>3</sup>
7440-09-7	potassium	25 mg/m <sup>3</sup>
7440-23-5	sodium	140 mg/m <sup>3</sup>
7440-47-3	chromium	17 mg/m <sup>3</sup>
7440-50-8	copper	33 mg/m <sup>3</sup>
7440-66-6	zinc	21 mg/m <sup>3</sup>

**· PAC-3:**

7647-01-0	Hydrochloric Acid	100 ppm
7439-89-6	iron	150 mg/m <sup>3</sup>
7440-02-0	nickel	99 mg/m <sup>3</sup>
7440-09-7	potassium	150 mg/m <sup>3</sup>
7440-23-5	sodium	870 mg/m <sup>3</sup>
7440-47-3	chromium	99 mg/m <sup>3</sup>
7440-50-8	copper	200 mg/m <sup>3</sup>
7440-66-6	zinc	120 mg/m <sup>3</sup>

**7 Handling and storage**

- **Handling:**
- **Precautions for safe handling**  
 Ensure good ventilation/exhaustion at the workplace.  
 Open and handle receptacle with care.  
 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.

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· **Control parameters**

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

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit.

At this time, the other constituents have no known exposure limits.

<b>7647-01-0 Hydrochloric Acid</b>	
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
<b>7440-02-0 nickel</b>	
PEL	Long-term value: 1 mg/m <sup>3</sup>
REL	Long-term value: 0.015 mg/m <sup>3</sup> as Ni; See Pocket Guide App. A
TLV	Long-term value: 1.5* mg/m <sup>3</sup> elemental, *inhalable fraction

· **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.

Store protective clothing separately.

· **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:** Goggles recommended during refilling.

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**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:** Fully miscible.

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

· **Viscosity:**

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

· **Solvent content:**

· <b>Water:</b>	97.2 %
· <b>VOC content:</b>	0.00 %

· **Solids content:** 0.7 %

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

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**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:** No irritant effect.
- **on the eye:** No irritating effect.
- **Sensitization:** Sensitization possible through skin contact.
- **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)**

7647-01-0	Hydrochloric Acid	3
7440-02-0	nickel	2B
7440-47-3	chromium	3

· **NTP (National Toxicology Program)**

7440-02-0	nickel	R
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· **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.

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

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**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.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.


**14 Transport information**

- **UN-Number**
- **DOT, ADR, IMDG, IATA** UN1789


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- **UN proper shipping name** Void
- **DOT** Hydrochloric acid
- **ADR** 1789 HYDROCHLORIC ACID
- **IMDG, IATA** HYDROCHLORIC ACID


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- **Transport hazard class(es)**
- **DOT**
- 
- **Class** 8 Corrosive substances
- **Label** 8

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- **ADR**
- 
- **Class** 8 (C1) Corrosive substances
- **Label** 8

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- **IMDG, IATA**
- 
- **Class** 8 Corrosive substances
- **Label** 8

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

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· <b>Packing group</b> · DOT, ADR, IMDG, IATA	III
· <b>Environmental hazards:</b> · <b>Marine pollutant:</b>	No
· <b>Special precautions for user</b> · <b>Hazard identification number (Kemler code):</b> · <b>EMS Number:</b> · <b>Segregation groups</b> · <b>Stowage Category</b>	Warning: Corrosive substances 80 F-A,S-B Acids E
· <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> · <b>Excepted quantities (EQ)</b>	5L Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· <b>UN "Model Regulation":</b>	UN 1789 HYDROCHLORIC ACID, 8, III

**15 Regulatory information**

· <b>Safety, health and environmental regulations/legislation specific for the substance or mixture</b>		
7732-18-5	Water	97.2%
7647-01-0	Hydrochloric Acid  Skin Corr. 1B, H314;  Eye Dam. 1, H318  Acute Tox. 4, H302; STOT SE 3, H335	2.0%
7439-89-6	iron  Acute Tox. 2, H300	0.1%
· <b>Sara</b>		
· <b>Section 355 (extremely hazardous substances):</b>		
7647-01-0	Hydrochloric Acid	
· <b>Section 313 (Specific toxic chemical listings):</b>		
7647-01-0	Hydrochloric Acid	
7440-02-0	nickel	

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7440-47-3	chromium
7440-50-8	copper
7440-66-6	zinc

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

All ingredients are listed.

7732-18-5	Water	ACTIVE
7647-01-0	Hydrochloric Acid	ACTIVE
7439-89-6	iron	ACTIVE
7440-02-0	nickel	ACTIVE
7440-09-7	potassium	ACTIVE
7440-23-5	sodium	ACTIVE
7440-47-3	chromium	ACTIVE
7440-50-8	copper	ACTIVE
7440-66-6	zinc	ACTIVE
7440-70-2	calcium	ACTIVE

**· Hazardous Air Pollutants**

7647-01-0	Hydrochloric Acid
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**· Proposition 65**

**· Chemicals known to cause cancer:**

7440-02-0	nickel
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**· 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.

**· Cancerogenity categories**

**· EPA (Environmental Protection Agency)**

7440-47-3	chromium	D
7440-50-8	copper	D
7440-66-6	zinc	D, I, II

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

7647-01-0	Hydrochloric Acid	A4
7440-02-0	nickel	A5
7440-47-3	chromium	A4

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

7440-02-0	nickel
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- **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*

*Py. Sol. 1: Pyrophoric solids – Category 1*

*Water-react. 1: Substances and mixtures which in contact with water emit flammable gases – Category 1*

*Acute Tox. 2: Acute toxicity – Category 2*

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

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

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

*Skin Sens. 1: Skin sensitisation – Category 1*

*Carc. 2: Carcinogenicity – Category 2*

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

*STOT RE 1: Specific target organ toxicity (repeated exposure) – Category 1*

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*Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1*  
*Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1*  
· **\* Data compared to the previous version altered.**

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USA