Kit components

Product code	Description
N9307110	**Environmental EPA Set 1**

Components:

N9300200	STD-MULTI ELEMENT BE/CD/BP/MN/SE/ZN
N9300201	FIVE ELEMENT A/S STD BA/CO/CU/FE/V
N9300202	THREE ELEMENT A/S STD AS/MO/SI
N9300203	SIX ELEMENT A/S STD AL/CA/CR/NI/K/NA
N9300204	FIVE ELEMENT A/S STD SB/B/MG/AG/TL
N9300205a	INTERFERENCE CHECK 18 A/S STANDARD
N9300223	MERCURY 100 PPM A/S STANDARD
N9300208	FIVE ELEMENT A/S STD INTRER CHK
N9300207	ANTIMONY 1000 PPM A/S STANDARD
N9308571	STD NITRIC ACID BLANK 5% HNO3 500 ML
N9308572	STD HYDROCHLORIC ACID BLANK 5% HCL 500 ML

according to WHS Regulations

Printing date 09.10.2020 Revision: 09.10.2020

Hazardous according to criteria of Australian Safety and Compensation Council.

1 Identification

· **Product identifier**

· **Trade name: STD-MULTI ELEMENT BE/CD/BP/MN/SE/ZN**
· **Article number:** N9300200
· **Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
· **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

Supplier/Local:

PerkinElmer Australia
Lvl 2, Bldg 5, Brandon Office Park
530-540 Springvale Road
Glen Waverley
Melbourne
VIC 3150
Australia
1-800-033-391
ausales@perkinelmer.com
· **Emergency telephone number:**
CHEMTREC (within US) 800-424-9300
CHEMTREC (from outside US) +1 703-527-3887 (call collect)
CHEMTREC (within AU) +(61)-290372994

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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 labelled according to the Globally Harmonised System (GHS).
· **Hazard pictograms** GHS07
· **Signal word** Warning

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according to WHS Regulations

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Trade name: STD-MULTI ELEMENT BE/CD/BP/MN/SE/ZN

(Contd. of page 1)

· **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.
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.
P337+P313 If eye irritation persists: Get medical advice/attention.
P362 Take off contaminated clothing and wash before reuse.
· **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 and Information on Ingredients

· **Chemical characterisation: Mixtures**
· **Description:** Mixture of substances listed below with nonhazardous additions.

· **Dangerous components:**			
7697-37-2	Nitric Acid	Ox. Liq. 2, H272 Skin Corr. 1, H314	2.0%
7439-92-1	lead	Repr. 1A, H360	0.05%

· **Additional Components**		
7732-18-5	Water	97.885%
7782-49-2	selenium Acute Tox. 3, H301; Acute Tox. 3, H331 STOT RE 2, H373	0.02%
7440-43-9	cadmium Acute Tox. 3, H301; Acute Tox. 2, H330 Muta. 2, H341; Carc. 1B, H350; Repr. 2, H361; STOT RE 1, H372	0.015%
7440-66-6	zinc Water-react. 2, H261	0.015%
7439-96-5	manganese	0.01%
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. 2, H319; Skin Sens. 1, H317; STOT SE 3, H335	0.005%

· **Additional information:** For the wording of the listed hazard phrases refer to section 16.

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according to WHS Regulations

Printing date 09.10.2020 Revision: 09.10.2020

Trade name: STD-MULTI ELEMENT BE/CD/BP/MN/SE/ZN

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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 extinguishing methods suitable to surrounding conditions.
· **Special hazards arising from the substance or mixture** No further relevant information available.
· **Advice for firefighters**
· **Protective equipment:** No special measures required.

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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.

7 Handling and Storage

· **Handling:**
· **Precautions for safe handling** No special precautions are necessary if used correctly.
· **Information about fire - and explosion protection:** 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 container tightly sealed.
· **Specific end use(s)** No further relevant information available.

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according to WHS Regulations

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Trade name: STD-MULTI ELEMENT BE/CD/BP/MN/SE/ZN

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8 Exposure controls and personal protection

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

· **Control parameters**

· **Ingredients with limit values that require monitoring at the workplace:**	
7697-37-2 Nitric Acid	
WES	Short-term value: 10 mg/m³, 4 ppm Long-term value: 5.2 mg/m³, 2 ppm

· **Additional information:** The lists valid during the making 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.
· **Respiratory protection:** 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 trough time has to be found out by the manufacturer of the protective gloves and has to be observed.
· **Eye protection:**

Tightly sealed goggles

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9 Physical and Chemical Properties

· **Information on basic physical and chemical properties**
· **General Information**
· **Appearance:**

Form:	Liquid
Colour:	Transparent
· **Odour:**	Odourless

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according to WHS Regulations

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Trade name: STD-MULTI ELEMENT BE/CD/BP/MN/SE/ZN

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· **Odour threshold:**	Not determined.
· **pH-value:**	Not determined.
· **Change in condition**	
Melting point/freezing point:	0 °C
Initial boiling point and boiling range:	100 °C
· **Flash point:**	Not applicable.
· **Flammability (solid, gas):**	Not applicable.
· **Decomposition temperature:**	Not determined.
· **Auto-ignition temperature:**	Product is not selfigniting.
· **Explosive properties:**	Product does not present an explosion hazard. Not determined.
· **Explosion limits:**	
Lower:	Not determined.
Upper:	Not determined.
· **Vapour pressure at 20 °C:**	23 hPa
· **Density at 20 °C:**	1 g/cm³
· **Relative density**	Not determined.
· **Vapour 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:	97.9 %
· **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.

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according to WHS Regulations

Printing date 09.10.2020 Revision: 09.10.2020

Trade name: STD-MULTI ELEMENT BE/CD/BP/MN/SE/ZN

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11 Toxicological Information

· **Information on toxicological effects**
· **Acute toxicity**
· **Primary irritant effect:**
· **Skin corrosion/irritation** Irritant to skin and mucous membranes.
· **Serious eye damage/irritation** Irritating effect.
· **Respiratory or skin sensitisation** No sensitising effects known.
· **Additional toxicological information:**
The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:
Irritant

12 Ecological Information

· **Toxicity**
· **Aquatic toxicity:** No further relevant information available.
· **Persistence and degradability** No further relevant information available.
· **Behaviour 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.

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13 Disposal considerations

· **Waste treatment methods**
· **Recommendation**
Must not be disposed together with household garbage. Do not allow product to reach sewage system.

· **Uncleaned packaging:**
· **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

· **UN-Number**	
· **ADG, IMDG, IATA**	UN3264
· **UN proper shipping name**	
· **ADG**	3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Nitric Acid)

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according to WHS Regulations

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Trade name: STD-MULTI ELEMENT BE/CD/BP/MN/SE/ZN

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· **IMDG, IATA**	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Nitric Acid)
· **Transport hazard class(es)**	
· **ADG**	
	
· **Class**	8 (C1) Corrosive substances.
· **Label**	8
· **IMDG, IATA**	
	
· **Class**	8 Corrosive substances.
· **Label**	8
· **Packing group**	
· **ADG, IMDG, IATA**	III
· **Environmental hazards:**	
· **Marine pollutant:**	No
· **Special precautions for user**	Warning: Corrosive substances.
· **Hazard identification number (Kemler code):**	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 Marpol and the IBC Code**	Not applicable.
· **Transport/Additional information:**	
· **ADG**	
· **Limited quantities (LQ)**	5L
· **Excepted quantities (EQ)**	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· **Transport category**	3
· **Tunnel restriction code**	E
· **IMDG**	
· **Limited quantities (LQ)**	5L
· **Excepted quantities (EQ)**	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml

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Trade name: STD-MULTI ELEMENT BE/CD/BP/MN/SE/ZN

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· **UN "Model Regulation":** 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		97.885%
7697-37-2	Nitric Acid	Ox. Liq. 2, H272 Skin Corr. 1, H314	2.0%
7439-92-1	lead	Repr. 1A, H360	0.05%

· **Australia: Priority Existing Chemicals**

None of the ingredients is listed.

· **Directive 2012/18/EU**
· **Named dangerous substances - ANNEX I** 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.

· **Waterhazard 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 Life and Analytical Sciences shall not be held liable for any damage resulting from handling or from contact with the product.

· **Relevant phrases**
H261 In contact with water releases flammable gases.
H272 May intensify fire; oxidiser.
H301 Toxic if swallowed.
H314 Causes severe skin burns and eye damage.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H330 Fatal if inhaled.
H331 Toxic if inhaled.
H335 May cause respiratory irritation.
H341 Suspected of causing genetic defects.
H350 May cause cancer.

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Trade name: STD-MULTI ELEMENT BE/CD/BP/MN/SE/ZN

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H360 May damage fertility or the unborn child.
H361 Suspected of damaging fertility or the unborn child.
H372 Causes damage to organs through prolonged or repeated exposure.
H373 May cause damage to organs through prolonged or repeated exposure.

· **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
IATA: International Air Transport Association
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)
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
Ox. Liq. 2: Oxidizing liquids – Category 2
Skin Corr. 1: Skin corrosion/irritation – Category 1
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A
Repr. 1A: Reproductive toxicity – Category 1A
· ***** Data compared to the previous version altered.**

according to WHS Regulations

Printing date 09.10.2020 *Revision: 09.10.2020*

Hazardous according to criteria of Australian Safety and Compensation Council.

1 Identification

· **Product identifier**

· **Trade name: FIVE ELEMENT A/S STD BA/CO/CU/FE/V**
· **Article number:** N9300201
· **Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
· **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

Supplier/Local:

PerkinElmer Australia
Lvl 2, Bldg 5, Brandon Office Park
530-540 Springvale Road
Glen Waverley
Melbourne
VIC 3150
Australia
1-800-033-391
ausales@perkinelmer.com
· **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. 1 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 labelled according to the Globally Harmonised System (GHS).
· **Hazard pictograms** GHS05
· **Signal word** Danger

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according to WHS Regulations

Printing date 09.10.2020 Revision: 09.10.2020

Trade name: FIVE ELEMENT A/S STD BA/CO/CU/FE/V

(Contd. of page 1)

· **Hazard-determining components of labelling:**
Nitric Acid
iron
· **Hazard statements**
H314 Causes severe skin burns and eye damage.
· **Precautionary statements**
P260 Do not breathe dusts or mists.
P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER/doctor.
P321 Specific treatment (see on this label).
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.
· **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 and Information on Ingredients

· **Chemical characterisation: Mixtures**
· **Description:** Mixture of substances listed below with nonhazardous additions.

· **Dangerous components:**

7697-37-2	Nitric Acid	Ox. Liq. 2, H272 Skin Corr. 1, H314	5.0%
7439-89-6	iron	Acute Tox. 2, H300	1.0%

· **Additional Components**

7732-18-5	Water		93.96%
7440-39-3	barium	Water-react. 2, H261	0.01%
7440-48-4	cobalt	Resp. Sens. 1, H334 Skin Sens. 1, H317	0.01%
7440-50-8	copper		0.01%
7440-62-2	vanadium		0.01%

· **Additional information:** For the wording of the listed hazard phrases refer to section 16.

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.

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according to WHS Regulations

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Trade name: FIVE ELEMENT A/S STD BA/CO/CU/FE/V

(Contd. of page 2)

· **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 plenty of water and provide fresh air. Call for a doctor immediately.
· **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 extinguishing methods suitable to surrounding conditions.
· **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.
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).
Use neutralising agent.
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
· **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and Storage

· **Handling:**
· **Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
· **Information about fire - and explosion protection:** 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 container tightly sealed.

(Contd. on page 4)

according to WHS Regulations

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Trade name: FIVE ELEMENT A/S STD BA/CO/CU/FE/V

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

8 Exposure controls and personal protection

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

· **Control parameters**

· **Ingredients with limit values that require monitoring at the workplace:**	
7697-37-2 Nitric Acid	
WES	Short-term value: 10 mg/m³, 4 ppm Long-term value: 5.2 mg/m³, 2 ppm

· **Additional information:** The lists valid during the making 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.
· **Respiratory protection:**
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.
· **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 trough time has to be found out by the manufacturer of the protective gloves and has to be observed.
· **Eye protection:**

Tightly sealed goggles

· **Body protection:** Apron

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according to WHS Regulations

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Trade name: FIVE ELEMENT A/S STD BA/CO/CU/FE/V

(Contd. of page 4)

9 Physical and Chemical Properties

· **Information on basic physical and chemical properties**	
· **General Information**	
· **Appearance:**	
Form:	Liquid
Colour:	Transparent
· **Odour:**	Characteristic
· **Odour threshold:**	Not determined.
· **pH-value:**	Not determined.
· **Change in condition**	
Melting point/freezing point:	0 °C
Initial boiling point and boiling range:	100 °C
· **Flash point:**	Not applicable.
· **Flammability (solid, gas):**	Not applicable.
· **Decomposition temperature:**	Not determined.
· **Auto-ignition temperature:**	Product is not selfigniting.
· **Explosive properties:**	Product does not present an explosion hazard. Not determined.
· **Explosion limits:**	
Lower:	Not determined.
Upper:	Not determined.
· **Vapour pressure at 20 °C:**	23 hPa
· **Density at 20 °C:**	1 g/cm³
· **Relative density**	Not determined.
· **Vapour density**	Not determined.
· **Evaporation rate**	Not determined.
· **Solubility in / Miscibility with water:**	Fully miscible.
· **Partition coefficient: n-octanol/water:**	Not determined.
· **Viscosity:**	
Dynamic:	Not determined.
Kinematic:	Not determined.
· **Solvent content:**	
Water:	94.0 %
Solids content:	1.0 %
· **Other information**	No further relevant information available.

10 Stability and Reactivity

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

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according to WHS Regulations

Printing date 09.10.2020 Revision: 09.10.2020

Trade name: FIVE ELEMENT A/S STD BA/CO/CU/FE/V

(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:**
· **Skin corrosion/irritation** Strong caustic effect on skin and mucous membranes.
· **Serious eye damage/irritation**
Strong caustic effect.
Strong irritant with the danger of severe eye injury.
· **Respiratory or skin sensitisation** No sensitising effects known.
· **Additional toxicological information:**
The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:
Corrosive
Irritant
Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

12 Ecological Information

· **Toxicity**
· **Aquatic toxicity:** No further relevant information available.
· **Persistence and degradability** No further relevant information available.
· **Behaviour 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 sewage water or drainage ditch undiluted or unneutralised.
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.
· **Other adverse effects** No further relevant information available.

13 Disposal considerations

· **Waste treatment methods**
· **Recommendation**
Must not be disposed together with household garbage. Do not allow product to reach sewage system.

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Trade name: FIVE ELEMENT A/S STD BA/CO/CU/FE/V

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· **Uncleaned packaging:**
· **Recommendation:** *Disposal must be made according to official regulations.*
· **Recommended cleansing agents:** *Water, if necessary together with cleansing agents.*

14 Transport information

· **UN-Number**	
· **ADG, IMDG, IATA**	*UN3264*
· **UN proper shipping name**	
· **ADG**	*3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Nitric Acid)*
· **IMDG, IATA**	*CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Nitric Acid)*
· **Transport hazard class(es)**	
· **ADG**	

· **Class**	*8 (C1) Corrosive substances.*
· **Label**	*8*
· **IMDG, IATA**	

· **Class**	*8 Corrosive substances.*
· **Label**	*8*
· **Packing group**	
· **ADG, IMDG, IATA**	*III*
· **Environmental hazards:**	
· **Marine pollutant:**	*No*
· **Special precautions for user**	*Warning: Corrosive substances.*
· **Hazard identification number (Kemler code):**	*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 Marpol and the IBC Code**	*Not applicable.*

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according to WHS Regulations

Printing date 09.10.2020 Revision: 09.10.2020

Trade name: FIVE ELEMENT A/S STD BA/CO/CU/FE/V

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· **Transport/Additional information:**

· **ADG**	
· **Limited quantities (LQ)**	5L
· **Excepted quantities (EQ)**	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· **Transport category**	3
· **Tunnel restriction code**	E
· **IMDG**	
· **Limited quantities (LQ)**	5L
· **Excepted quantities (EQ)**	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· **UN "Model Regulation":**	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		93.96%
7697-37-2	Nitric Acid	Ox. Liq. 2, H272 Skin Corr. 1, H314	5.0%
7439-89-6	iron	Acute Tox. 2, H300	1.0%

· **Australia: Priority Existing Chemicals**

None of the ingredients is listed.

· **Directive 2012/18/EU**
· **Named dangerous substances - ANNEX I** 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.

· **Waterhazard 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 Life and Analytical Sciences shall not be held liable for any damage resulting from handling or from contact with the product.

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Trade name: FIVE ELEMENT A/S STD BA/CO/CU/FE/V

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· **Relevant phrases**
H261 In contact with water releases flammable gases.
H272 May intensify fire; oxidiser.
H300 Fatal if swallowed.
H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

· **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
IATA: International Air Transport Association
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)
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
Ox. Liq. 2: Oxidizing liquids – Category 2
Acute Tox. 2: Acute toxicity - oral – Category 2
Skin Corr. 1: Skin corrosion/irritation – Category 1
Eye Dam. 1: Serious eye damage/eye irritation – Category 1

according to WHS Regulations

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Hazardous according to criteria of Australian Safety and Compensation Council.

1 Identification

· **Product identifier**

· **Trade name: THREE ELEMENT A/S STD AS/MO/SI**
· **Article number:** N9300202
· **Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
· **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

Supplier/Local:

PerkinElmer Australia
Lvl 2, Bldg 5, Brandon Office Park
530-540 Springvale Road
Glen Waverley
Melbourne
VIC 3150
Australia
1-800-033-391
ausales@perkinelmer.com
· **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 labelled according to the Globally Harmonised System (GHS).
· **Hazard pictograms** GHS07
· **Signal word** Warning

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Trade name: THREE ELEMENT A/S STD AS/MO/SI

(Contd. of page 1)

· **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.
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.
P337+P313 If eye irritation persists: Get medical advice/attention.
P362 Take off contaminated clothing and wash before reuse.
· **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 and Information on Ingredients

· **Chemical characterisation: Mixtures**
· **Description:** Mixture of substances listed below with nonhazardous additions.

· **Dangerous components:**		
7697-37-2	Nitric Acid Ox. Liq. 2, H272 Skin Corr. 1, H314	2.0%
7664-39-3	Hydrofluoric acid Acute Tox. 2, H300; Acute Tox. 1, H310; Acute Tox. 2, H330 Skin Corr. 1, H314	0.2%

· **Additional Components**		
7732-18-5	Water	97.73%
7440-38-2	Arsenic Acute Tox. 3, H301; Acute Tox. 3, H331	0.05%
1313-27-5	molybdenum trioxide Acute Tox. 3, H301 Carc. 2, H351 Eye Irrit. 2, H319; STOT SE 3, H335	0.01%
7440-21-3	silicon Flam. Sol. 2, H228	0.01%

· **Additional information:** For the wording of the listed hazard phrases refer to section 16.

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.

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according to WHS Regulations

Printing date 09.10.2020 Revision: 09.10.2020

Trade name: THREE ELEMENT A/S STD AS/MO/SI

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· **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:** 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 extinguishing methods suitable to surrounding conditions.
· **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).
· **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and Storage

· **Handling:**
· **Precautions for safe handling** No special precautions are necessary if used correctly.
· **Information about fire - and explosion protection:** 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 container tightly sealed.
· **Specific end use(s)** No further relevant information available.

*

8 Exposure controls and personal protection

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

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according to WHS Regulations

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Trade name: THREE ELEMENT A/S STD AS/MO/SI

(Contd. of page 3)

· **Control parameters**

· **Ingredients with limit values that require monitoring at the workplace:**	
7697-37-2 Nitric Acid	
WES	Short-term value: 10 mg/m³, 4 ppm Long-term value: 5.2 mg/m³, 2 ppm
7664-39-3 Hydrofluoric acid	
WES	Peak limitation: 2.6 mg/m³, 3 ppm

· **Additional information:** The lists valid during the making 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.
· **Respiratory protection:** 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 trough time has to be found out by the manufacturer of the protective gloves and has to be observed.
· **Eye protection:**

Tightly sealed goggles

*
9 Physical and Chemical Properties

· **Information on basic physical and chemical properties**
· **General Information**
· **Appearance:**

Form:	Liquid
Colour:	Transparent
· **Odour:**	Odourless

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Trade name: THREE ELEMENT A/S STD AS/MO/SI

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· **Odour threshold:**	Not determined.
· **pH-value:**	Not determined.
· **Change in condition**	
Melting point/freezing point:	0 °C
Initial boiling point and boiling range:	100 °C
· **Flash point:**	Not applicable.
· **Flammability (solid, gas):**	Not applicable.
· **Decomposition temperature:**	Not determined.
· **Auto-ignition temperature:**	Product is not selfigniting.
· **Explosive properties:**	Product does not present an explosion hazard. Not determined.
· **Explosion limits:**	
Lower:	Not determined.
Upper:	Not determined.
· **Vapour pressure at 20 °C:**	23 hPa
· **Density at 20 °C:**	1 g/cm³
· **Relative density**	Not determined.
· **Vapour 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:	97.7 %
Solids content:	0.1 %
· **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.

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according to WHS Regulations

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Trade name: THREE ELEMENT A/S STD AS/MO/SI

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· **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological Information

· **Information on toxicological effects**
· **Acute toxicity**
· **Primary irritant effect:**
· **Skin corrosion/irritation** Irritant to skin and mucous membranes.
· **Serious eye damage/irritation** Irritating effect.
· **Respiratory or skin sensitisation** No sensitising effects known.
· **Additional toxicological information:**
The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:
Irritant

12 Ecological Information

· **Toxicity**
· **Aquatic toxicity:** No further relevant information available.
· **Persistence and degradability** No further relevant information available.
· **Behaviour 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.

*

13 Disposal considerations

· **Waste treatment methods**
· **Recommendation**
Must not be disposed together with household garbage. Do not allow product to reach sewage system.

· **Uncleaned packaging:**
· **Recommendation:** Disposal must be made according to official regulations.

*

14 Transport information

· **UN-Number**
· **ADG, IMDG, IATA** UN3264

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according to WHS Regulations

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Trade name: THREE ELEMENT A/S STD AS/MO/SI

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· **UN proper shipping name**
· **ADG** 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Nitric Acid, HYDROGEN FLUORIDE)
· **IMDG, IATA** CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Nitric Acid, HYDROGEN FLUORIDE)

· **Transport hazard class(es)**

· **ADG**

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

· **IMDG, IATA**

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

· **Packing group**
· **ADG, IMDG, IATA** III

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

· **Special precautions for user** Warning: Corrosive substances.
· **Hazard identification number (Kemler code):** 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 Marpol and the IBC Code** Not applicable.

· **Transport/Additional information:**

· **ADG**
· **Limited quantities (LQ)** 5L
· **Excepted quantities (EQ)** Code: E1
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 1000 ml
· **Transport category** 3
· **Tunnel restriction code** E

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according to WHS Regulations

Printing date 09.10.2020 Revision: 09.10.2020

Trade name: THREE ELEMENT A/S STD AS/MO/SI

(Contd. of page 7)

· **IMDG**	
· **Limited quantities (LQ)**	5L
· **Excepted quantities (EQ)**	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· **UN "Model Regulation":**	UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (NITRIC ACID, HYDROGEN FLUORIDE), 8, III

15 Regulatory information

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

7732-18-5	Water	97.73%
7697-37-2	Nitric Acid Ox. Liq. 2, H272 Skin Corr. 1, H314	2.0%
7664-39-3	Hydrofluoric acid Acute Tox. 2, H300; Acute Tox. 1, H310; Acute Tox. 2, H330 Skin Corr. 1, H314	0.2%

· **Australia: Priority Existing Chemicals**

None of the ingredients is listed.

· **Directive 2012/18/EU**

· **Named dangerous substances - ANNEX I** 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.

· **Waterhazard 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 Life and Analytical Sciences shall not be held liable for any damage resulting from handling or from contact with the product.

· **Relevant phrases**
H228 Flammable solid.
H272 May intensify fire; oxidiser.
H300 Fatal if swallowed.

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Trade name: THREE ELEMENT A/S STD AS/MO/SI

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H301 Toxic if swallowed.
H310 Fatal in contact with skin.
H314 Causes severe skin burns and eye damage.
H319 Causes serious eye irritation.
H330 Fatal if inhaled.
H331 Toxic if inhaled.
H335 May cause respiratory irritation.
H351 Suspected of causing cancer.

· **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
IATA: International Air Transport Association
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)
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
Ox. Liq. 2: Oxidizing liquids – Category 2
Acute Tox. 2: Acute toxicity - oral – Category 2
Acute Tox. 1: Acute toxicity - dermal – Category 1
Skin Corr. 1: Skin corrosion/irritation – Category 1
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.**

according to WHS Regulations

Printing date 09.10.2020 *Revision: 09.10.2020*

Hazardous according to criteria of Australian Safety and Compensation Council.

1 Identification

· **Product identifier**

· **Trade name: SIX ELEMENT A/S STD AL/CA/CR/NI/K/NA**
· **Article number:** N9300203
· **Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
· **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

Supplier/Local:

PerkinElmer Australia
Lvl 2, Bldg 5, Brandon Office Park
530-540 Springvale Road
Glen Waverley
Melbourne
VIC 3150
Australia
1-800-033-391
ausales@perkinelmer.com
· **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. 1 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 labelled according to the Globally Harmonised System (GHS).
· **Hazard pictograms** GHS05
· **Signal word** Danger

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according to WHS Regulations

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Trade name: SIX ELEMENT A/S STD AL/CA/CR/NI/K/NA

(Contd. of page 1)

· **Hazard-determining components of labelling:**
Nitric Acid
· **Hazard statements**
H314 Causes severe skin burns and eye damage.
· **Precautionary statements**
P260 Do not breathe dusts or mists.
P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER/doctor.
P321 Specific treatment (see on this label).
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.
· **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 and Information on Ingredients

· **Chemical characterisation: Mixtures**
· **Description:** Mixture of substances listed below with nonhazardous additions.

· **Dangerous components:**

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

· **Additional Components**

7732-18-5	Water		94.8934%
7440-70-2	calcium	Water-react. 2, H261	0.1%
7440-09-7	potassium	Water-react. 1, H260 Skin Corr. 1, H314	0.004%
7440-23-5	sodium	Water-react. 1, H260 Skin Corr. 1, H314	0.002%
7429-90-5	aluminium		0.0002%
7440-02-0	nickel	Carc. 2, H351; STOT RE 1, H372 Skin Sens. 1, H317	0.0002%
7440-47-3	chromium		0.0002%

· **Additional information:** For the wording of the listed hazard phrases refer to section 16.

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according to WHS Regulations

Printing date 09.10.2020 Revision: 09.10.2020

Trade name: SIX ELEMENT A/S STD AL/CA/CR/NI/K/NA

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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 plenty of water and provide fresh air. Call for a doctor immediately.
· **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 extinguishing methods suitable to surrounding conditions.
· **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.
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).
Use neutralising agent.
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
· **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and Storage

· **Handling:**
· **Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
· **Information about fire - and explosion protection:** Keep respiratory protective device available.

(Contd. on page 4)

according to WHS Regulations

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Trade name: SIX ELEMENT A/S STD AL/CA/CR/NI/K/NA

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

8 Exposure controls and personal protection

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

· **Control parameters**

· **Ingredients with limit values that require monitoring at the workplace:**	
7697-37-2 Nitric Acid	
WES	Short-term value: 10 mg/m³, 4 ppm Long-term value: 5.2 mg/m³, 2 ppm

· **Additional information:** The lists valid during the making 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.
· **Respiratory protection:**
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.
· **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 trough time has to be found out by the manufacturer of the protective gloves and has to be observed.

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according to WHS Regulations

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Trade name: SIX ELEMENT A/S STD AL/CA/CR/NI/K/NA

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· **Eye protection:**

Tightly sealed goggles

9 Physical and Chemical Properties

· **Information on basic physical and chemical properties**	
· **General Information**	
· **Appearance:**	
Form:	Liquid
Colour:	Transparent
· **Odour:**	Characteristic
· **Odour threshold:**	Not determined.
· **pH-value:**	Not determined.
· **Change in condition**	
Melting point/freezing point:	0 °C
Initial boiling point and boiling range:	100 °C
· **Flash point:**	Not applicable.
· **Flammability (solid, gas):**	Not applicable.
· **Decomposition temperature:**	Not determined.
· **Auto-ignition temperature:**	Product is not selfigniting.
· **Explosive properties:**	Product does not present an explosion hazard. Not determined.
· **Explosion limits:**	
Lower:	Not determined.
Upper:	Not determined.
· **Vapour pressure at 20 °C:**	23 hPa
· **Density at 20 °C:**	1 g/cm³
· **Relative density**	Not determined.
· **Vapour density**	Not determined.
· **Evaporation rate**	Not determined.
· **Solubility in / Miscibility with water:**	Fully miscible.
· **Partition coefficient: n-octanol/water:**	Not determined.
· **Viscosity:**	
Dynamic:	Not determined.
Kinematic:	Not determined.

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according to WHS Regulations

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Trade name: SIX ELEMENT A/S STD AL/CA/CR/NI/K/NA

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· **Solvent content:**	
Water:	94.9 %
Solids content:	0.1 %
· **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:**
· **Skin corrosion/irritation** Strong caustic effect on skin and mucous membranes.
· **Serious eye damage/irritation**
Strong caustic effect.
Strong irritant with the danger of severe eye injury.
· **Respiratory or skin sensitisation** No sensitising effects known.
· **Additional toxicological information:**
The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:
Corrosive
Irritant
Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

12 Ecological Information

· **Toxicity**
· **Aquatic toxicity:** No further relevant information available.
· **Persistence and degradability** No further relevant information available.
· **Behaviour 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 sewage water or drainage ditch undiluted or unneutralised.

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according to WHS Regulations

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Trade name: SIX ELEMENT A/S STD AL/CA/CR/NI/K/NA

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· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.
· **Other adverse effects** No further relevant information available.

13 Disposal considerations

· **Waste treatment methods**
· **Recommendation**
Must not be disposed together with household garbage. Do not allow product to reach sewage system.

· **Uncleaned packaging:**
· **Recommendation:** Disposal must be made according to official regulations.
· **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

14 Transport information

· **UN-Number**	
· **ADG, IMDG, IATA**	UN3264
· **UN proper shipping name**	
· **ADG**	3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (nitric acid)
· **IMDG, IATA**	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (nitric acid)
· **Transport hazard class(es)**	
· **ADG**	
· **Class**	8 (C1) Corrosive substances.
· **Label**	8
· **IMDG, IATA**	
· **Class**	8 Corrosive substances.
· **Label**	8
· **Packing group**	
· **ADG, IMDG, IATA**	III
· **Environmental hazards:**	
· **Marine pollutant:**	No

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Trade name: SIX ELEMENT A/S STD AL/CA/CR/NI/K/NA

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· **Special precautions for user**	Warning: Corrosive substances.
· **Hazard identification number (Kemler code):**	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 Marpol and the IBC Code**	Not applicable.
· **Transport/Additional information:**	
· **ADG**	
· **Limited quantities (LQ)**	5L
· **Excepted quantities (EQ)**	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· **Transport category**	3
· **Tunnel restriction code**	E
· **IMDG**	
· **Limited quantities (LQ)**	5L
· **Excepted quantities (EQ)**	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· **UN "Model Regulation":**	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		94.8934%
7697-37-2	Nitric Acid	Ox. Liq. 2, H272 Skin Corr. 1, H314	5.0%
7440-70-2	calcium	Water-react. 2, H261	0.1%

· **Australia: Priority Existing Chemicals**

None of the ingredients is listed.

· **Directive 2012/18/EU**

· **Named dangerous substances - ANNEX I** 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.

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

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Trade name: SIX ELEMENT A/S STD AL/CA/CR/NI/K/NA

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

16 Other information

Disclaimer
The information provided in this Material Safety Data Sheet is based on our present knowledge, and believed to be correct at the date of publication. However, no representation is made concerning its accuracy and completeness. It is intended as guidance only, and is not to be considered a warranty or quality specification. All materials may present unknown hazards, and should be used with caution. Although certain hazards are described, we cannot guarantee that these are the only hazards which exist. PerkinElmer Life and Analytical Sciences shall not be held liable for any damage resulting from handling or from contact with the product.

· **Relevant phrases**
H260 In contact with water releases flammable gases which may ignite spontaneously.
H261 In contact with water releases flammable gases.
H272 May intensify fire; oxidiser.
H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.
H351 Suspected of causing cancer.
H372 Causes damage to organs through prolonged or repeated exposure.

· **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
IATA: International Air Transport Association
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)
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
Ox. Liq. 2: Oxidizing liquids – Category 2
Skin Corr. 1: Skin corrosion/irritation – Category 1
Eye Dam. 1: Serious eye damage/eye irritation – Category 1

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Hazardous according to criteria of Australian Safety and Compensation Council.

1 Identification

· **Product identifier**

· **Trade name: FIVE ELEMENT A/S STD SB/B/MG/AG/TL**
· **Article number:** N9300204
· **Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
· **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

Supplier/Local:

PerkinElmer Australia
Lvl 2, Bldg 5, Brandon Office Park
530-540 Springvale Road
Glen Waverley
Melbourne
VIC 3150
Australia
1-800-033-391
ausales@perkinelmer.com
· **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 labelled according to the Globally Harmonised System (GHS).
· **Hazard pictograms** GHS05
· **Signal word** Danger

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Trade name: FIVE ELEMENT A/S STD SB/B/MG/AG/TL

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· **Hazard-determining components of labelling:**
Nitric Acid
· **Hazard statements**
H314 Causes severe skin burns and eye damage.
· **Precautionary statements**
P260 Do not breathe dusts or mists.
P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER/doctor.
P321 Specific treatment (see on this label).
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.
· **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 and Information on Ingredients

· **Chemical characterisation: Mixtures**
· **Description:** Mixture of substances listed below with nonhazardous additions.

· **Dangerous components:**

7697-37-2	Nitric Acid Ox. Liq. 2, H272 Skin Corr. 1, H314	5.0%
7664-39-3	Hydrofluoric acid Acute Tox. 2, H300; Acute Tox. 1, H310; Acute Tox. 2, H330 Skin Corr. 1, H314	0.1%

· **Additional Components**

7732-18-5	Water	93.95%
133-37-9	(+-)-tartaric acid	0.9%
7439-95-4	magnesium Pyr. Sol. 1, H250; Water-react. 1, H260	0.01%
7440-22-4	silver	0.01%
7440-28-0	thallium Acute Tox. 2, H300; Acute Tox. 2, H330 STOT RE 2, H373	0.01%
7440-36-0	antimony Acute Tox. 3, H311; Acute Tox. 3, H331	0.01%
10043-35-3	boric acid Repr. 1B, H360	0.01%

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Trade name: FIVE ELEMENT A/S STD SB/B/MG/AG/TL

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· **Additional information:** For the wording of the listed hazard phrases refer to section 16.

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.
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:** Drink plenty of water and provide fresh air. Call for a doctor immediately.
· **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 extinguishing methods suitable to surrounding conditions.
· **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.
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).
Use neutralising 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.

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Trade name: FIVE ELEMENT A/S STD SB/B/MG/AG/TL

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7 Handling and Storage

· **Handling:**
· **Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
· **Information about fire - and explosion protection:** 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 container tightly sealed.
· **Specific end use(s)** No further relevant information available.

*

8 Exposure controls and personal protection

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

· **Control parameters**

· **Ingredients with limit values that require monitoring at the workplace:**	
7697-37-2 Nitric Acid	
WES	Short-term value: 10 mg/m³, 4 ppm Long-term value: 5.2 mg/m³, 2 ppm
7664-39-3 Hydrofluoric acid	
WES	Peak limitation: 2.6 mg/m³, 3 ppm

· **Additional information:** The lists valid during the making 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.
· **Respiratory protection:**
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.
· **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

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Trade name: FIVE ELEMENT A/S STD SB/B/MG/AG/TL

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· **Material of gloves**
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
· **Penetration time of glove material**
The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.
· **Eye protection:**

Tightly sealed goggles

· **Body protection:** Apron

*

9 Physical and Chemical Properties

· **Information on basic physical and chemical properties**	
· **General Information**	
· **Appearance:**	
Form:	Liquid
Colour:	Transparent
· **Odour:**	Characteristic
· **Odour threshold:**	Not determined.
· **pH-value:**	Not determined.
· **Change in condition**	
Melting point/freezing point:	0 °C
Initial boiling point and boiling range:	100 °C
· **Flash point:**	Not applicable.
· **Flammability (solid, gas):**	Not applicable.
· **Decomposition temperature:**	Not determined.
· **Auto-ignition temperature:**	Product is not selfigniting.
· **Explosive properties:**	Product does not present an explosion hazard. Not determined.
· **Explosion limits:**	
Lower:	Not determined.
Upper:	Not determined.
· **Vapour pressure at 20 °C:**	23 hPa
· **Density at 20 °C:**	1 g/cm³
· **Relative density**	Not determined.
· **Vapour density**	Not determined.
· **Evaporation rate**	Not determined.

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according to WHS Regulations

Printing date 09.10.2020 Revision: 09.10.2020

Trade name: FIVE ELEMENT A/S STD SB/B/MG/AG/TL

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· **Solubility in / Miscibility with water:**	Fully miscible.
· **Partition coefficient: n-octanol/water:**	Not determined.
· **Viscosity:**	
Dynamic:	Not determined.
Kinematic:	Not determined.
· **Solvent content:**	
Water:	94.0 %
Solids content:	0.1 %
· **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:**
· **Skin corrosion/irritation** Caustic effect on skin and mucous membranes.
· **Serious eye damage/irritation**
Strong caustic effect.
Strong irritant with the danger of severe eye injury.
· **Respiratory or skin sensitisation** No sensitising effects known.
· **Additional toxicological information:**
The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:
Corrosive
Irritant
Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

12 Ecological Information

· **Toxicity**
· **Aquatic toxicity:** No further relevant information available.
· **Persistence and degradability** No further relevant information available.

(Contd. on page 7)

according to WHS Regulations

Printing date 09.10.2020 Revision: 09.10.2020

Trade name: FIVE ELEMENT A/S STD SB/B/MG/AG/TL

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· **Behaviour 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 sewage water or drainage ditch undiluted or unneutralised.
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.
· **Other adverse effects** No further relevant information available.

13 Disposal considerations

· **Waste treatment methods**
· **Recommendation**
Must not be disposed together with household garbage. Do not allow product to reach sewage system.

· **Uncleaned packaging:**
· **Recommendation:** Disposal must be made according to official regulations.
· **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

14 Transport information

· **UN-Number**	
· **ADG, IMDG, IATA**	UN3264
· **UN proper shipping name**	
· **ADG**	3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Nitric Acid, HYDROGEN FLUORIDE)
· **IMDG, IATA**	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Nitric Acid, HYDROGEN FLUORIDE)
· **Transport hazard class(es)**	
· **ADG**	

· **Class**	8 (C1) Corrosive substances.
· **Label**	8
· **IMDG, IATA**	

· **Class**	8 Corrosive substances.

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Trade name: FIVE ELEMENT A/S STD SB/B/MG/AG/TL

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· **Label**	8
· **Packing group**	
· **ADG, IMDG, IATA**	III
· **Environmental hazards:**	
· **Marine pollutant:**	No
· **Special precautions for user**	Warning: Corrosive substances.
· **Hazard identification number (Kemler code):**	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 Marpol and the IBC Code**	Not applicable.
· **Transport/Additional information:**	
· **ADG**	
· **Limited quantities (LQ)**	5L
· **Excepted quantities (EQ)**	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· **Transport category**	3
· **Tunnel restriction code**	E
· **IMDG**	
· **Limited quantities (LQ)**	1L
· **Excepted quantities (EQ)**	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· **UN "Model Regulation":**	UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (NITRIC ACID, HYDROGEN FLUORIDE), 8, III

15 Regulatory information

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

7732-18-5	Water		93.95%
7697-37-2	Nitric Acid	Ox. Liq. 2, H272 Skin Corr. 1, H314	5.0%
133-37-9	(+-)-tartaric acid		0.9%

· **Australia: Priority Existing Chemicals**

None of the ingredients is listed.

· **Directive 2012/18/EU**

· **Named dangerous substances - ANNEX I** None of the ingredients is listed.

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according to WHS Regulations

Printing date 09.10.2020 Revision: 09.10.2020

Trade name: FIVE ELEMENT A/S STD SB/B/MG/AG/TL

(Contd. of page 8)

· **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.

· **Waterhazard 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 Life and Analytical Sciences shall not be held liable for any damage resulting from handling or from contact with the product.

· **Relevant phrases**
H250 Catches fire spontaneously if exposed to air.
H260 In contact with water releases flammable gases which may ignite spontaneously.
H272 May intensify fire; oxidiser.
H300 Fatal if swallowed.
H310 Fatal in contact with skin.
H311 Toxic in contact with skin.
H314 Causes severe skin burns and eye damage.
H330 Fatal if inhaled.
H331 Toxic if inhaled.
H360 May damage fertility or the unborn child.
H373 May cause damage to organs through prolonged or repeated exposure.

· **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
IATA: International Air Transport Association
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)
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
Ox. Liq. 2: Oxidizing liquids – Category 2
Acute Tox. 2: Acute toxicity - oral – Category 2
Acute Tox. 1: Acute toxicity - dermal – Category 1
Skin Corr. 1: Skin corrosion/irritation – Category 1
Skin Corr. 1B: Skin corrosion/irritation – Category 1B

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Trade name: FIVE ELEMENT A/S STD SB/B/MG/AG/TL

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

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

according to WHS Regulations

Printing date 09.10.2020 Revision: 09.10.2020

Hazardous according to criteria of Australian Safety and Compensation Council.

*

1 Identification

· **Product identifier**

· **Trade name: INTERFERENCE CHECK 18 A/S STANDARD**
· **Article number:** N9300205a
· **Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
· **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

Supplier/Local:

PerkinElmer Australia
Lvl 2, Bldg 5, Brandon Office Park
530-540 Springvale Road
Glen Waverley
Melbourne
VIC 3150
Australia
1-800-033-391
ausales@perkinelmer.com
· **Emergency telephone number:**
CHEMTREC (within US) 800-424-9300
CHEMTREC (from outside US) +1 703-527-3887 (call collect)
CHEMTREC (within AU) +(61)-290372994

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2 Hazard(s) Identification

· **Classification of the substance or mixture**

corrosion

Skin Corr. 1A 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 labelled according to the Globally Harmonised System (GHS).
· **Hazard pictograms** GHS05
· **Signal word** Danger

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Trade name: INTERFERENCE CHECK 18 A/S STANDARD

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· **Hazard-determining components of labelling:**
Nitric Acid
potassium
· **Hazard statements**
H314 Causes severe skin burns and eye damage.
· **Precautionary statements**
P260 Do not breathe dusts or mists.
P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER/doctor.
P321 Specific treatment (see on this label).
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.
· **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 and Information on Ingredients

· **Chemical characterisation: Mixtures**
· **Description:** Mixture of substances listed below with nonhazardous additions.

· **Dangerous components:**		
7697-37-2	Nitric Acid Ox. Liq. 2, H272 Skin Corr. 1, H314	5.0%
7440-09-7	potassium Water-react. 1, H260 Skin Corr. 1, H314	2.0%
7439-92-1	lead Repr. 1A, H360	0.1%
7440-28-0	thallium Acute Tox. 2, H300; Acute Tox. 2, H330 STOT RE 2, H373	0.1%
7440-38-2	Arsenic Acute Tox. 3, H301; Acute Tox. 3, H331	0.1%

· **Additional Components**		
7732-18-5	Water	92.35%
7782-49-2	selenium Acute Tox. 3, H301; Acute Tox. 3, H331 STOT RE 2, H373	0.05%

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Trade name: INTERFERENCE CHECK 18 A/S STANDARD

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7440-02-0	nickel Carc. 2, H351; STOT RE 1, H372 Skin Sens. 1, H317	0.03%
7440-22-4	silver	0.03%
7440-39-3	barium Water-react. 2, H261	0.03%
7440-43-9	cadmium Acute Tox. 3, H301; Acute Tox. 2, H330 Muta. 2, H341; Carc. 1B, H350; Repr. 2, H361; STOT RE 1, H372	0.03%
7440-47-3	chromium	0.03%
7440-48-4	cobalt Resp. Sens. 1, H334 Skin Sens. 1, H317	0.03%
7440-50-8	copper	0.03%
7440-62-2	vanadium	0.03%
7440-66-6	zinc Water-react. 2, H261	0.03%
7439-96-5	manganese	0.02%
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. 2, H319; Skin Sens. 1, H317; STOT SE 3, H335	0.01%

· **SVHC**

7439-92-1	lead

· **Additional information:** For the wording of the listed hazard phrases refer to section 16.

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 plenty of water and provide fresh air. Call for a doctor immediately.
· **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 extinguishing methods suitable to surrounding conditions.
· **Special hazards arising from the substance or mixture**
During heating or in case of fire poisonous gases are produced.

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· **Advice for firefighters**
· **Protective equipment:** Mouth respiratory protective device.

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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.
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).
Use neutralising agent.
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
· **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

*
7 Handling and Storage

· **Handling:**
· **Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
· **Information about fire - and explosion protection:** 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 container tightly sealed.
· **Specific end use(s)** No further relevant information available.

*
8 Exposure controls and personal protection

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

· **Control parameters**

· **Ingredients with limit values that require monitoring at the workplace:**	
7697-37-2 Nitric Acid	
WES	Short-term value: 10 mg/m³, 4 ppm Long-term value: 5.2 mg/m³, 2 ppm

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7440-38-2 Arsenic	
WES	Long-term value: 0.05 mg/m³ Note (g); as As

· **Additional information:** The lists valid during the making 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.
· **Respiratory protection:**
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.
· **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 trough time has to be found out by the manufacturer of the protective gloves and has to be observed.
· **Eye protection:**

Tightly sealed goggles

*
9 Physical and Chemical Properties

· **Information on basic physical and chemical properties**
· **General Information**
· **Appearance:**

Form:	Liquid
Colour:	Transparent
· **Odour:**	Characteristic
· **Odour threshold:**	Not determined.
· **pH-value at 20 °C:**	<2

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· **Change in condition**	
Melting point/freezing point:	0 °C
Initial boiling point and boiling range:	83 °C
· **Flash point:**	Not applicable.
· **Flammability (solid, gas):**	Not applicable.
· **Decomposition temperature:**	Not determined.
· **Auto-ignition temperature:**	Product is not selfigniting.
· **Explosive properties:**	Product does not present an explosion hazard. Not determined.
· **Explosion limits:**	
Lower:	Not determined.
Upper:	Not determined.
· **Vapour pressure at 20 °C:**	23 hPa
· **Density at 20 °C:**	1.0698 g/cm³
· **Relative density**	Not determined.
· **Vapour density**	Not determined.
· **Evaporation rate**	Not determined.
· **Solubility in / Miscibility with water:**	Fully miscible.
· **Partition coefficient: n-octanol/water:**	Not determined.
· **Viscosity:**	
Dynamic:	Not determined.
Kinematic:	Not determined.
· **Solvent content:**	
Water:	92.4 %
Solids content:	0.6 %
· **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.

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11 Toxicological Information

· **Information on toxicological effects**
· **Acute toxicity**
· **Primary irritant effect:**
· **Skin corrosion/irritation** Strong caustic effect on skin and mucous membranes.
· **Serious eye damage/irritation**
Strong caustic effect.
Strong irritant with the danger of severe eye injury.
· **Respiratory or skin sensitisation** No sensitising effects known.
· **Additional toxicological information:**
The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:
Corrosive
Irritant
Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

*
12 Ecological Information

· **Toxicity**
· **Aquatic toxicity:** No further relevant information available.
· **Persistence and degradability** No further relevant information available.
· **Behaviour 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 product to reach ground water, water course or sewage system.
Must not reach sewage water or drainage ditch undiluted or unneutralised.
Danger to drinking water if even small quantities leak into the ground.
Rinse off of bigger amounts into drains or the aquatic environment may lead to decreased pH-values. A low pH-value harms aquatic organisms. In the dilution of the use-level the pH-value is considerably increased, so that after the use of the product the aqueous waste, emptied into drains, is only low water-dangerous.
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.
· **Other adverse effects** No further relevant information available.

13 Disposal considerations

· **Waste treatment methods**
· **Recommendation**
Must not be disposed together with household garbage. Do not allow product to reach sewage system.

· **Uncleaned packaging:**
· **Recommendation:** Disposal must be made according to official regulations.

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· **Recommended cleansing agents:** *Water, if necessary together with cleansing agents.*

14 Transport information

· **UN-Number**	
· **ADG, IMDG, IATA**	*UN3264*
· **UN proper shipping name**	
· **ADG**	*3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (nitric acid)*
· **IMDG, IATA**	*CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (nitric acid)*
· **Transport hazard class(es)**	
· **ADG**	

· **Class**	*8 (C1) Corrosive substances.*
· **Label**	*8*
· **IMDG, IATA**	

· **Class**	*8 Corrosive substances.*
· **Label**	*8*
· **Packing group**	
· **ADG, IMDG, IATA**	*III*
· **Environmental hazards:**	
· **Marine pollutant:**	*No*
· **Special precautions for user**	*Warning: Corrosive substances.*
· **Hazard identification number (Kemler code):**	*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 Marpol and the IBC Code**	*Not applicable.*

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· **Transport/Additional information:**

· **ADG**	
· **Limited quantities (LQ)**	5L
· **Excepted quantities (EQ)**	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· **Transport category**	3
· **Tunnel restriction code**	E
· **IMDG**	
· **Limited quantities (LQ)**	5L
· **Excepted quantities (EQ)**	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· **UN "Model Regulation":**	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		92.35%
7697-37-2	Nitric Acid	Ox. Liq. 2, H272 Skin Corr. 1, H314	5.0%
7440-09-7	potassium	Water-react. 1, H260 Skin Corr. 1, H314	2.0%

· **Australia: Priority Existing Chemicals**

None of the ingredients is listed.

· **Directive 2012/18/EU**

· **Named dangerous substances - ANNEX I** 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.

· **Waterhazard class:** Water hazard class 2 (Self-assessment): hazardous for water.

· **Other regulations, limitations and prohibitive regulations**

· **Substances of very high concern (SVHC) according to REACH, Article 57**

7439-92-1	lead

· **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,

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Trade name: INTERFERENCE CHECK 18 A/S STANDARD

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and believed to be correct at the date of publication. However, no representation is made concerning its accuracy and completeness. It is intended as guidance only, and is not to be considered a warranty or quality specification. All materials may present unknown hazards, and should be used with caution. Although certain hazards are described, we cannot guarantee that these are the only hazards which exist. PerkinElmer Life and Analytical Sciences shall not be held liable for any damage resulting from handling or from contact with the product.

· **Relevant phrases**
H260 In contact with water releases flammable gases which may ignite spontaneously.
H261 In contact with water releases flammable gases.
H272 May intensify fire; oxidiser.
H300 Fatal if swallowed.
H301 Toxic if swallowed.
H314 Causes severe skin burns and eye damage.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H330 Fatal if inhaled.
H331 Toxic if inhaled.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335 May cause respiratory irritation.
H341 Suspected of causing genetic defects.
H350 May cause cancer.
H351 Suspected of causing cancer.
H360 May damage fertility or the unborn child.
H361 Suspected of damaging fertility or the unborn child.
H372 Causes damage to organs through prolonged or repeated exposure.
H373 May cause damage to organs through prolonged or repeated exposure.

· **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
IATA: International Air Transport Association
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)
PBT: Persistent, Bioaccumulative and Toxic
SVHC: Substances of Very High Concern
vPvB: very Persistent and very Bioaccumulative
Water-react. 1: Substances and mixtures which in contact with water emit flammable gases – Category 1
Ox. Liq. 2: Oxidizing liquids – Category 2
Acute Tox. 2: Acute toxicity - oral – Category 2
Acute Tox. 3: Acute toxicity - oral – Category 3
Skin Corr. 1: Skin corrosion/irritation – Category 1
Skin Corr. 1A: Skin corrosion/irritation – Category 1A
Eye Dam. 1: Serious eye damage/eye irritation – Category 1
Repr. 1A: Reproductive toxicity – Category 1A

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STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2

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

AU

according to WHS Regulations

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Hazardous according to criteria of Australian Safety and Compensation Council.

1 Identification

· **Product identifier**

· **Trade name: MERCURY 100 PPM A/S STANDARD**
· **Article number:** N9300223
· **Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
· **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

Supplier/Local:

PerkinElmer Australia
Lvl 2, Bldg 5, Brandon Office Park
530-540 Springvale Road
Glen Waverley
Melbourne
VIC 3150
Australia
1-800-033-391
ausales@perkinelmer.com
· **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. 1 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 labelled according to the Globally Harmonised System (GHS).
· **Hazard pictograms** GHS05
· **Signal word** Danger

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Trade name: MERCURY 100 PPM A/S STANDARD

(Contd. of page 1)

· **Hazard-determining components of labelling:**
Nitric Acid
· **Hazard statements**
H314 Causes severe skin burns and eye damage.
· **Precautionary statements**
P260 Do not breathe dusts or mists.
P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER/doctor.
P321 Specific treatment (see on this label).
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.
· **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 and Information on Ingredients

· **Chemical characterisation: Mixtures**
· **Description:** Mixture of substances listed below with nonhazardous additions.

· **Dangerous components:**			
7697-37-2	Nitric Acid	Ox. Liq. 2, H272 Skin Corr. 1, H314	5.0%

· **Additional Components**			
7732-18-5	Water		94.99%
7439-97-6	mercury	Acute Tox. 2, H330 Repr. 1B, H360; STOT RE 1, H372	0.01%

· **Additional information:** For the wording of the listed hazard phrases refer to section 16.

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 plenty of water and provide fresh air. Call for a doctor immediately.
· **Most important symptoms and effects, both acute and delayed** No further relevant information available.

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Trade name: MERCURY 100 PPM A/S STANDARD

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· **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 extinguishing methods suitable to surrounding conditions.
· **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 neutralising agent.
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
· **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

*
7 Handling and Storage

· **Handling:**
· **Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
· **Information about fire - and explosion protection:** 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 container tightly sealed.
· **Specific end use(s)** No further relevant information available.

*
8 Exposure controls and personal protection

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

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Trade name: MERCURY 100 PPM A/S STANDARD

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· **Control parameters**

· **Ingredients with limit values that require monitoring at the workplace:**	
7697-37-2 Nitric Acid	
WES	Short-term value: 10 mg/m³, 4 ppm Long-term value: 5.2 mg/m³, 2 ppm

· **Additional information:** The lists valid during the making 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.
· **Respiratory protection:**
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.
· **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 trough time has to be found out by the manufacturer of the protective gloves and has to be observed.
· **Eye protection:**

Tightly sealed goggles

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9 Physical and Chemical Properties

· **Information on basic physical and chemical properties**
· **General Information**
· **Appearance:**

Form:	Liquid
Colour:	Transparent
· **Odour:**	Odourless

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according to WHS Regulations

Printing date 09.10.2020 Revision: 09.10.2020

Trade name: MERCURY 100 PPM A/S STANDARD

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· **Odour threshold:**	Not determined.
· **pH-value:**	Not determined.
· **Change in condition**	
Melting point/freezing point:	0 °C
Initial boiling point and boiling range:	100 °C
· **Flash point:**	Not applicable.
· **Flammability (solid, gas):**	Not applicable.
· **Decomposition temperature:**	Not determined.
· **Auto-ignition temperature:**	Product is not selfigniting.
· **Explosive properties:**	Product does not present an explosion hazard. Not determined.
· **Explosion limits:**	
Lower:	Not determined.
Upper:	Not determined.
· **Vapour pressure at 20 °C:**	23 hPa
· **Density at 20 °C:**	1 g/cm³
· **Relative density**	Not determined.
· **Vapour 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:	95.0 %
· **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.

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according to WHS Regulations

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Trade name: MERCURY 100 PPM A/S STANDARD

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11 Toxicological Information

· **Information on toxicological effects**
· **Acute toxicity**
· **Primary irritant effect:**
· **Skin corrosion/irritation** Strong caustic effect on skin and mucous membranes.
· **Serious eye damage/irritation**
Strong caustic effect.
Strong irritant with the danger of severe eye injury.
· **Respiratory or skin sensitisation** No sensitising effects known.
· **Additional toxicological information:**
The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:
Corrosive
Irritant
Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

12 Ecological Information

· **Toxicity**
· **Aquatic toxicity:** No further relevant information available.
· **Persistence and degradability** No further relevant information available.
· **Behaviour 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 sewage water or drainage ditch undiluted or unneutralised.
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.
· **Other adverse effects** No further relevant information available.

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13 Disposal considerations

· **Waste treatment methods**
· **Recommendation**
Must not be disposed together with household garbage. Do not allow product to reach sewage system.

· **Uncleaned packaging:**
· **Recommendation:** Disposal must be made according to official regulations.

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Trade name: MERCURY 100 PPM A/S STANDARD

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14 Transport information

· **UN-Number**	
· **ADG, IMDG, IATA**	UN3264
· **UN proper shipping name**	
· **ADG**	3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (nitric acid) 1760 CORROSIVE LIQUID, N.O.S. (NITRIC ACID)
· **IMDG, IATA**	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (nitric acid)
· **Transport hazard class(es)**	
· **ADG**	
	
· **Class**	8 (C9) Corrosive substances.
· **Label**	8
· **IMDG, IATA**	
	
· **Class**	8 Corrosive substances.
· **Label**	8
· **Packing group**	
· **ADG, IMDG, IATA**	III
· **Environmental hazards:**	
· **Marine pollutant:**	No
· **Special precautions for user**	Warning: Corrosive substances.
· **Hazard identification number (Kemler code):**	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 Marpol and the IBC Code**	Not applicable.
· **Transport/Additional information:**	
· **ADG**	
· **Limited quantities (LQ)**	5L
· **Excepted quantities (EQ)**	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· **Transport category**	3

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Trade name: MERCURY 100 PPM A/S STANDARD

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· **Tunnel restriction code**	E
· **IMDG**	
· **Limited quantities (LQ)**	5L
· **Excepted quantities (EQ)**	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· **UN "Model Regulation":**	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		94.99%
7697-37-2	Nitric Acid	Ox. Liq. 2, H272 Skin Corr. 1, H314	5.0%
7439-97-6	mercury	Acute Tox. 2, H330 Repr. 1B, H360; STOT RE 1, H372	0.01%

· **Australia: Priority Existing Chemicals**

None of the ingredients is listed.

· **Directive 2012/18/EU**
· **Named dangerous substances - ANNEX I** 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.

· **Waterhazard 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 Life and Analytical Sciences shall not be held liable for any damage resulting from handling or from contact with the product.

· **Relevant phrases**
H272 May intensify fire; oxidiser.
H314 Causes severe skin burns and eye damage.
H330 Fatal if inhaled.
H360 May damage fertility or the unborn child.

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Trade name: MERCURY 100 PPM A/S STANDARD

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H372 Causes damage to organs through prolonged or repeated exposure.

· **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
IATA: International Air Transport Association
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)
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
Ox. Liq. 2: Oxidizing liquids – Category 2
Skin Corr. 1: Skin corrosion/irritation – Category 1
Eye Dam. 1: Serious eye damage/eye irritation – Category 1
· ***** Data compared to the previous version altered.**

according to WHS Regulations

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Hazardous according to criteria of Australian Safety and Compensation Council.

1 Identification

· **Product identifier**

· **Trade name: FIVE ELEMENT A/S STD INTRER CHK**
· **Article number:** N9300208
· **Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
· **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

Supplier/Local:

PerkinElmer Australia
Lvl 2, Bldg 5, Brandon Office Park
530-540 Springvale Road
Glen Waverley
Melbourne
VIC 3150
Australia
1-800-033-391
ausales@perkinelmer.com
· **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 labelled according to the Globally Harmonised System (GHS).
· **Hazard pictograms** GHS05
· **Signal word** Danger

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Trade name: FIVE ELEMENT A/S STD INTRER CHK

(Contd. of page 1)

· **Hazard-determining components of labelling:**
Nitric Acid
· **Hazard statements**
H314 Causes severe skin burns and eye damage.
· **Precautionary statements**
P260 Do not breathe dusts or mists.
P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER/doctor.
P321 Specific treatment (see on this label).
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.
· **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 and Information on Ingredients

· **Chemical characterisation: Mixtures**
· **Description:** Mixture of substances listed below with nonhazardous additions.

· **Dangerous components:**			
7697-37-2	Nitric Acid	Ox. Liq. 2, H272 Skin Corr. 1, H314	5.0%
7439-89-6	iron	Acute Tox. 2, H300	0.5%

· **Additional Components**		
7732-18-5	Water	93.38%
7440-70-2	calcium Water-react. 2, H261	0.6%
7439-95-4	magnesium Pyr. Sol. 1, H250; Water-react. 1, H260	0.3%
7429-90-5	aluminium	0.12%
7440-23-5	sodium Water-react. 1, H260 Skin Corr. 1, H314	0.1%

· **Additional information:** For the wording of the listed hazard phrases refer to section 16.

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Trade name: FIVE ELEMENT A/S STD INTRER CHK

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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 plenty of water and provide fresh air. Call for a doctor immediately.
· **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 extinguishing methods suitable to surrounding conditions.
· **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.
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).
Use neutralising agent.
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
· **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and Storage

· **Handling:**
· **Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
· **Information about fire - and explosion protection:** Keep respiratory protective device available.

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Trade name: FIVE ELEMENT A/S STD INTRER CHK

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

*

8 Exposure controls and personal protection

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

· **Control parameters**

· **Ingredients with limit values that require monitoring at the workplace:**	
7697-37-2 Nitric Acid	
WES	Short-term value: 10 mg/m³, 4 ppm Long-term value: 5.2 mg/m³, 2 ppm

· **Additional information:** The lists valid during the making 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.
· **Respiratory protection:**
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.
· **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 trough time has to be found out by the manufacturer of the protective gloves and has to be observed.

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Trade name: FIVE ELEMENT A/S STD INTRER CHK

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· **Eye protection:**

Tightly sealed goggles

· **Body protection:** *Apron*

*

9 Physical and Chemical Properties

· **Information on basic physical and chemical properties**	
· **General Information**	
· **Appearance:**	
Form:	*Liquid*
Colour:	*Transparent*
· **Odour:**	*Characteristic*
· **Odour threshold:**	*Not determined.*
· **pH-value:**	*Not determined.*
· **Change in condition**	
Melting point/freezing point:	*0 °C*
Initial boiling point and boiling range:	*100 °C*
· **Flash point:**	*Not applicable.*
· **Flammability (solid, gas):**	*Not applicable.*
· **Decomposition temperature:**	*Not determined.*
· **Auto-ignition temperature:**	*Product is not selfigniting.*
· **Explosive properties:**	*Product does not present an explosion hazard.* *Not determined.*
· **Explosion limits:**	
Lower:	*Not determined.*
Upper:	*Not determined.*
· **Vapour pressure at 20 °C:**	*23 hPa*
· **Density at 20 °C:**	*1 g/cm³*
· **Relative density**	*Not determined.*
· **Vapour density**	*Not determined.*
· **Evaporation rate**	*Not determined.*
· **Solubility in / Miscibility with water:**	*Fully miscible.*
· **Partition coefficient: n-octanol/water:**	*Not determined.*
· **Viscosity:**	
Dynamic:	*Not determined.*
Kinematic:	*Not determined.*

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according to WHS Regulations

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Trade name: FIVE ELEMENT A/S STD INTRER CHK

(Contd. of page 5)

· **Solvent content:**	
Water:	93.4 %
Solids content:	1.6 %
· **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:**
· **Skin corrosion/irritation** Caustic effect on skin and mucous membranes.
· **Serious eye damage/irritation**
Strong caustic effect.
Strong irritant with the danger of severe eye injury.
· **Respiratory or skin sensitisation** No sensitising effects known.
· **Additional toxicological information:**
The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:
Corrosive
Irritant
Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

12 Ecological Information

· **Toxicity**
· **Aquatic toxicity:** No further relevant information available.
· **Persistence and degradability** No further relevant information available.
· **Behaviour 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 sewage water or drainage ditch undiluted or unneutralised.

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according to WHS Regulations

Printing date 09.10.2020 Revision: 09.10.2020

Trade name: FIVE ELEMENT A/S STD INTRER CHK

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· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.
· **Other adverse effects** No further relevant information available.

13 Disposal considerations

· **Waste treatment methods**
· **Recommendation**
Must not be disposed together with household garbage. Do not allow product to reach sewage system.

· **Uncleaned packaging:**
· **Recommendation:** Disposal must be made according to official regulations.
· **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

14 Transport information

· **UN-Number**	
· **ADG, IMDG, IATA**	UN3264
· **UN proper shipping name**	
· **ADG**	3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Nitric Acid)
· **IMDG, IATA**	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Nitric Acid)
· **Transport hazard class(es)**	
· **ADG**	
· **Class**	8 (C1) Corrosive substances.
· **Label**	8
· **IMDG, IATA**	
· **Class**	8 Corrosive substances.
· **Label**	8
· **Packing group**	
· **ADG, IMDG, IATA**	III
· **Environmental hazards:**	
· **Marine pollutant:**	No

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according to WHS Regulations

Printing date 09.10.2020 Revision: 09.10.2020

Trade name: FIVE ELEMENT A/S STD INTRER CHK

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· **Special precautions for user**	Warning: Corrosive substances.
· **Hazard identification number (Kemler code):**	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 Marpol and the IBC Code**	Not applicable.
· **Transport/Additional information:**	
· **ADG**	
· **Limited quantities (LQ)**	5L
· **Excepted quantities (EQ)**	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· **Transport category**	3
· **Tunnel restriction code**	E
· **IMDG**	
· **Limited quantities (LQ)**	5L
· **Excepted quantities (EQ)**	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· **UN "Model Regulation":**	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		93.38%
7697-37-2	Nitric Acid	Ox. Liq. 2, H272 Skin Corr. 1, H314	5.0%
7440-70-2	calcium	Water-react. 2, H261	0.6%

· **Australia: Priority Existing Chemicals**

None of the ingredients is listed.

· **Directive 2012/18/EU**

· **Named dangerous substances - ANNEX I** 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.

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

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Trade name: FIVE ELEMENT A/S STD INTRER CHK

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

16 Other information

Disclaimer
The information provided in this Material Safety Data Sheet is based on our present knowledge, and believed to be correct at the date of publication. However, no representation is made concerning its accuracy and completeness. It is intended as guidance only, and is not to be considered a warranty or quality specification. All materials may present unknown hazards, and should be used with caution. Although certain hazards are described, we cannot guarantee that these are the only hazards which exist. PerkinElmer Life and Analytical Sciences shall not be held liable for any damage resulting from handling or from contact with the product.

· **Relevant phrases**
H250 Catches fire spontaneously if exposed to air.
H260 In contact with water releases flammable gases which may ignite spontaneously.
H261 In contact with water releases flammable gases.
H272 May intensify fire; oxidiser.
H300 Fatal if swallowed.
H314 Causes severe skin burns and eye damage.

· **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
IATA: International Air Transport Association
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)
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
Ox. Liq. 2: Oxidizing liquids – Category 2
Acute Tox. 2: Acute toxicity - oral – Category 2
Skin Corr. 1: Skin corrosion/irritation – Category 1
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.**

according to WHS Regulations

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Not classified as hazardous according to criteria of Australian Safety and Compensation Council.

1 Identification

· **Product identifier**

· **Trade name: ANTIMONY 1000 PPM A/S STANDARD**
· **Article number:** N9300207
· **Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
· **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

Supplier/Local:

PerkinElmer Australia
Lvl 2, Bldg 5, Brandon Office Park
530-540 Springvale Road
Glen Waverley
Melbourne
VIC 3150
Australia
1-800-033-391
ausales@perkinelmer.com
· **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**
The product is not classified, according to the Globally Harmonised System (GHS).

· **Label elements**
· **GHS label elements** Void
· **Hazard pictograms** Void
· **Signal word** Void

· **Hazard-determining components of labelling:**
antimony
· **Hazard statements** Void
· **Other hazards**
The product does not contain any organic halogen compounds (AOX), nitrates, heavy metal compounds or formaldehydes.

(Contd. on page 2)

according to WHS Regulations

Printing date 09.10.2020 Revision: 09.10.2020

Trade name: ANTIMONY 1000 PPM A/S STANDARD

(Contd. of page 1)

· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.

*
3 Composition and Information on Ingredients

· **Chemical characterisation: Mixtures**
· **Description:** Mixture of substances listed below with nonhazardous additions.
· **Dangerous components:** Void

· **Additional Components**		
7732-18-5	Water	98.9%
147-71-7	(-)-tartaric acid Skin Irrit. 2, H315	0.6%
7697-37-2	Nitric Acid Ox. Liq. 2, H272 Skin Corr. 1, H314	0.4%
7440-36-0	antimony Acute Tox. 3, H311; Acute Tox. 3, H331	0.1%

· **Additional information:** For the wording of the listed hazard phrases refer to section 16.

4 First Aid Measures

· **Description of first aid measures**
· **General information:** No special measures required.
· **After inhalation:** Supply fresh air; consult doctor in case of complaints.
· **After skin contact:** Generally the product does not irritate the skin.
· **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 extinguishing methods suitable to surrounding conditions.
· **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.

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according to WHS Regulations

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Trade name: ANTIMONY 1000 PPM A/S STANDARD

(Contd. of page 2)

Dilute with plenty of water.
Do not allow to enter sewers/ surface or ground water.
· **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
· **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.

7 Handling and Storage

· **Handling:**
· **Precautions for safe handling** *No special measures required.*
· **Information about fire - and explosion protection:** *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:** *None.*
· **Specific end use(s)** *No further relevant information available.*

8 Exposure controls and personal protection

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

· **Control parameters**
· **Ingredients with limit values that require monitoring at the workplace:**
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
· **Additional information:** *The lists valid during the making were used as basis.*

· **Exposure controls**
· **Personal protective equipment:**
· **General protective and hygienic measures:**
The usual precautionary measures are to be adhered to when handling chemicals.
· **Respiratory protection:** *Not required.*
· **Protection of hands:**
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 trough time has to be found out by the manufacturer of the protective gloves and has to be observed.

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according to WHS Regulations

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Trade name: ANTIMONY 1000 PPM A/S STANDARD

(Contd. of page 3)

· **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:**	
Form:	Liquid
Colour:	Transparent
· **Odour:**	Odourless
· **Odour threshold:**	Not determined.
· **pH-value at 20 °C:**	<4
· **Change in condition**	
Melting point/freezing point:	0 °C
Initial boiling point and boiling range:	100 °C
· **Flash point:**	Not applicable.
· **Flammability (solid, gas):**	Not applicable.
· **Decomposition temperature:**	Not determined.
· **Auto-ignition temperature:**	Product is not selfigniting.
· **Explosive properties:**	Product does not present an explosion hazard. Not determined.
· **Explosion limits:**	
Lower:	Not determined.
Upper:	Not determined.
· **Vapour pressure at 20 °C:**	23 hPa
· **Density at 20 °C:**	1 g/cm³
· **Relative density**	Not determined.
· **Vapour density**	Not determined.
· **Evaporation rate**	Not determined.
· **Solubility in / Miscibility with water:**	Fully miscible.
· **Partition coefficient: n-octanol/water:**	Not determined.
· **Viscosity:**	
Dynamic:	Not determined.
Kinematic:	Not determined.
· **Solvent content:**	
Water:	98.9 %
Solids content:	0.7 %

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according to WHS Regulations

Printing date 09.10.2020 Revision: 09.10.2020

Trade name: ANTIMONY 1000 PPM A/S STANDARD

(Contd. of page 4)

· **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:**
· **Skin corrosion/irritation** No irritant effect.
· **Serious eye damage/irritation** No irritating effect.
· **Respiratory or skin sensitisation** No sensitising effects known.
· **Additional toxicological information:**
The product is not subject to classification according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version.
When used and handled according to specifications, the product does not have any harmful effects to our experience and the information provided to us.

12 Ecological Information

· **Toxicity**
· **Aquatic toxicity:** No further relevant information available.
· **Persistence and degradability** No further relevant information available.
· **Behaviour 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.
· **vPvB:** Not applicable.
· **Other adverse effects** No further relevant information available.

13 Disposal considerations

· **Waste treatment methods**
· **Recommendation** Smaller quantities can be disposed of with household waste.

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according to WHS Regulations

Printing date 09.10.2020 Revision: 09.10.2020

Trade name: ANTIMONY 1000 PPM A/S STANDARD

(Contd. of page 5)

· **Uncleaned packaging:**
· **Recommendation:** Disposal must be made according to official regulations.
· **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

14 Transport information

· **UN-Number** · **ADG, ADN, IMDG, IATA**	Void
· **UN proper shipping name** · **ADG, ADN, IMDG, IATA**	Void
· **Transport hazard class(es)** · **ADG, ADN, IMDG, IATA** · **Class**	Void
· **Packing group** · **ADG, IMDG, IATA**	Void
· **Environmental hazards:** · **Marine pollutant:**	No
· **Special precautions for user**	Not applicable.
· **Transport in bulk according to Annex II of Marpol and the IBC Code**	Not applicable.
· **UN "Model Regulation":**	Non regulated according to above specifications. Void

15 Regulatory information

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

7732-18-5	Water		98.9%
147-71-7	(-)-tartaric acid	Skin Irrit. 2, H315	0.6%
7697-37-2	Nitric Acid	Ox. Liq. 2, H272 Skin Corr. 1, H314	0.4%

· **Australia: Priority Existing Chemicals**

None of the ingredients is listed.

· **Directive 2012/18/EU**
· **Named dangerous substances - ANNEX I** 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.

· **Waterhazard class:** Generally not hazardous for water.

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Trade name: ANTIMONY 1000 PPM A/S STANDARD

(Contd. of page 6)

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

16 Other information

Disclaimer
The information provided in this Material Safety Data Sheet is based on our present knowledge, and believed to be correct at the date of publication. However, no representation is made concerning its accuracy and completeness. It is intended as guidance only, and is not to be considered a warranty or quality specification. All materials may present unknown hazards, and should be used with caution. Although certain hazards are described, we cannot guarantee that these are the only hazards which exist. PerkinElmer Life and Analytical Sciences shall not be held liable for any damage resulting from handling or from contact with the product.

· **Relevant phrases**
H272 May intensify fire; oxidiser.
H311 Toxic in contact with skin.
H314 Causes severe skin burns and eye damage.
H315 Causes skin irritation.
H331 Toxic if inhaled.

· **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
IATA: International Air Transport Association
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)
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
· *** Data compared to the previous version altered.**

according to WHS Regulations

Printing date 09.10.2020 Revision: 09.10.2020

Hazardous according to criteria of Australian Safety and Compensation Council.

1 Identification

· **Product identifier**

· **Trade name: STD NITRIC ACID BLANK 5% HNO3 500 ML**
· **Article number:** N9308571
· **Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
· **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

Supplier/Local:

PerkinElmer Australia
Lvl 2, Bldg 5, Brandon Office Park
530-540 Springvale Road
Glen Waverley
Melbourne
VIC 3150
Australia
1-800-033-391
ausales@perkinelmer.com
· **Emergency telephone number:**
CHEMTREC (within US) 800-424-9300
CHEMTREC (from outside US) +1 703-527-3887 (call collect)
CHEMTREC (within AU) +(61)-290372994

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2 Hazard(s) Identification

· **Classification of the substance or mixture**

corrosion

Skin Corr. 1 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 labelled according to the Globally Harmonised System (GHS).
· **Hazard pictograms** GHS05
· **Signal word** Danger

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Trade name: STD NITRIC ACID BLANK 5% HNO3 500 ML

(Contd. of page 1)

· **Hazard-determining components of labelling:**
Nitric Acid
· **Hazard statements**
H314 Causes severe skin burns and eye damage.
· **Precautionary statements**
P260 Do not breathe dusts or mists.
P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER/doctor.
P321 Specific treatment (see on this label).
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.
· **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 and Information on Ingredients

· **Chemical characterisation: Mixtures**
· **Description:** Mixture of substances listed below with nonhazardous additions.

· **Dangerous components:**			
7697-37-2	Nitric Acid	Ox. Liq. 2, H272 Skin Corr. 1, H314	5.0%

· **Additional Components**		
7732-18-5	Water	95.0%

· **Additional information:** For the wording of the listed hazard phrases refer to section 16.

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 plenty of water and provide fresh air. Call for a doctor immediately.
· **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.

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according to WHS Regulations

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Trade name: STD NITRIC ACID BLANK 5% HNO3 500 ML

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5 Fire Fighting Measures

· **Extinguishing media**
· **Suitable extinguishing agents:** Use fire extinguishing methods suitable to surrounding conditions.
· **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.

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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 neutralising 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.

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7 Handling and Storage

· **Handling:**
· **Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
· **Information about fire - and explosion protection:** 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 container tightly sealed.
· **Specific end use(s)** No further relevant information available.

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8 Exposure controls and personal protection

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

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according to WHS Regulations

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Trade name: STD NITRIC ACID BLANK 5% HNO3 500 ML

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· **Control parameters**

· **Ingredients with limit values that require monitoring at the workplace:**	
7697-37-2 Nitric Acid	
WES	Short-term value: 10 mg/m³, 4 ppm Long-term value: 5.2 mg/m³, 2 ppm

· **Additional information:** The lists valid during the making 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.
· **Respiratory protection:**
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.
· **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 trough time has to be found out by the manufacturer of the protective gloves and has to be observed.
· **Eye protection:**

Tightly sealed goggles

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9 Physical and Chemical Properties

· **Information on basic physical and chemical properties**
· **General Information**
· **Appearance:**

Form:	Liquid
Colour:	Clear
· **Odour:**	Characteristic

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according to WHS Regulations

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Trade name: STD NITRIC ACID BLANK 5% HNO3 500 ML

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· **Odour threshold:**	Not determined.
· **pH-value:**	Not determined.
· **Change in condition**	
Melting point/freezing point:	Undetermined.
Initial boiling point and boiling range:	100 °C
· **Flash point:**	Not applicable.
· **Flammability (solid, gas):**	Not applicable.
· **Decomposition temperature:**	Not determined.
· **Auto-ignition temperature:**	Product is not selfigniting.
· **Explosive properties:**	Product does not present an explosion hazard. Not determined.
· **Explosion limits:**	
Lower:	Not determined.
Upper:	Not determined.
· **Vapour pressure at 20 °C:**	23 hPa
· **Density:**	Not determined.
· **Relative density**	Not determined.
· **Vapour 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:	95.0 %
· **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.

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according to WHS Regulations

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Trade name: STD NITRIC ACID BLANK 5% HNO3 500 ML

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11 Toxicological Information

· **Information on toxicological effects**
· **Acute toxicity**
· **Primary irritant effect:**
· **Skin corrosion/irritation** Strong caustic effect on skin and mucous membranes.
· **Serious eye damage/irritation**
Strong caustic effect.
Strong irritant with the danger of severe eye injury.
· **Respiratory or skin sensitisation** No sensitising effects known.
· **Additional toxicological information:**
The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:
Corrosive
Irritant
Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

12 Ecological Information

· **Toxicity**
· **Aquatic toxicity:** No further relevant information available.
· **Persistence and degradability** No further relevant information available.
· **Behaviour 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 sewage water or drainage ditch undiluted or unneutralised.
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.
· **Other adverse effects** No further relevant information available.

13 Disposal considerations

· **Waste treatment methods**
· **Recommendation**
Must not be disposed together with household garbage. Do not allow product to reach sewage system.

· **Uncleaned packaging:**
· **Recommendation:** Disposal must be made according to official regulations.

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according to WHS Regulations

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Trade name: STD NITRIC ACID BLANK 5% HNO3 500 ML

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14 Transport information

· **UN-Number**	
· **ADG, IMDG, IATA**	UN3264
· **UN proper shipping name**	
· **ADG**	3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (nitric acid)
· **IMDG, IATA**	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (nitric acid)
· **Transport hazard class(es)**	
· **ADG**	
	
· **Class**	8 (C1) Corrosive substances.
· **Label**	8
· **IMDG, IATA**	
	
· **Class**	8 Corrosive substances.
· **Label**	8
· **Packing group**	
· **ADG, IMDG, IATA**	III
· **Environmental hazards:**	
· **Marine pollutant:**	No
· **Special precautions for user**	Warning: Corrosive substances.
· **Hazard identification number (Kemler code):**	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 Marpol and the IBC Code**	Not applicable.
· **Transport/Additional information:**	
· **ADG**	
· **Limited quantities (LQ)**	5L
· **Excepted quantities (EQ)**	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· **Transport category**	3

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according to WHS Regulations

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Trade name: STD NITRIC ACID BLANK 5% HNO3 500 ML

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· **Tunnel restriction code**	E
· **IMDG**	
· **Limited quantities (LQ)**	5L
· **Excepted quantities (EQ)**	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· **UN "Model Regulation":**	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		95.0%
7697-37-2	Nitric Acid	Ox. Liq. 2, H272 Skin Corr. 1, H314	5.0%

· **Australia: Priority Existing Chemicals**

None of the ingredients is listed.

· **Directive 2012/18/EU**
· **Named dangerous substances - ANNEX I** 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.

· **Waterhazard 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
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· **Relevant phrases**
H272 May intensify fire; oxidiser.
H314 Causes severe skin burns and eye damage.

· **Department issuing SDS:** Environmental, Health and Safety
· **Contact:**
Within the USA: 1-(800)-762-4000
Outside the USA: 1-(203)-712-8488

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Trade name: STD NITRIC ACID BLANK 5% HNO3 500 ML

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· **Abbreviations and acronyms**
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
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)
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
Ox. Liq. 2: Oxidizing liquids – Category 2
Skin Corr. 1: Skin corrosion/irritation – Category 1
Eye Dam. 1: Serious eye damage/eye irritation – Category 1
· *** Data compared to the previous version altered.**

according to WHS Regulations

Printing date 09.10.2020 Revision: 09.10.2020

Hazardous according to criteria of Australian Safety and Compensation Council.

1 Identification

· **Product identifier**

· **Trade name: STD HYDROCHLORIC ACID BLANK 5% HCL 500 ML**
· **Article number:** N9308572
· **Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
· **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

Supplier/Local:

PerkinElmer Australia
Lvl 2, Bldg 5, Brandon Office Park
530-540 Springvale Road
Glen Waverley
Melbourne
VIC 3150
Australia
1-800-033-391
ausales@perkinelmer.com
· **Emergency telephone number:**
CHEMTREC (within US) 800-424-9300
CHEMTREC (from outside US) +1 703-527-3887 (call collect)
CHEMTREC (within AU) +(61)-290372994

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2 Hazard(s) Identification

· **Classification of the substance or mixture**

corrosion

Skin Corr. 1 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 labelled according to the Globally Harmonised System (GHS).
· **Hazard pictograms** GHS05
· **Signal word** Danger

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· **Hazard-determining components of labelling:**
Hydrochloric Acid
· **Hazard statements**
H314 Causes severe skin burns and eye damage.
· **Precautionary statements**
P260 Do not breathe dusts or mists.
P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER/doctor.
P321 Specific treatment (see on this label).
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.
· **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 and Information on Ingredients

· **Chemical characterisation: Mixtures**
· **Description:** Mixture of substances listed below with nonhazardous additions.

· **Dangerous components:**

7647-01-0	Hydrochloric Acid Skin Corr. 1, H314; Eye Dam. 1, H318 Acute Tox. 4, H302; STOT SE 3, H335	5.0%

· **Additional Components**

7732-18-5	Water	95.0%

· **Additional information:** For the wording of the listed hazard phrases refer to section 16.

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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 plenty of water and provide fresh air. Call for a doctor immediately.
· **Most important symptoms and effects, both acute and delayed** No further relevant information available.

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

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5 Fire Fighting Measures

· **Extinguishing media**
· **Suitable extinguishing agents:** Use fire extinguishing methods suitable to surrounding conditions.
· **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.

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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.
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).
Use neutralising 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.

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7 Handling and Storage

· **Handling:**
· **Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
· **Information about fire - and explosion protection:** 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 container tightly sealed.
· **Specific end use(s)** No further relevant information available.

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8 Exposure controls and personal protection

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

· **Control parameters**

· **Ingredients with limit values that require monitoring at the workplace:**	
7647-01-0 Hydrochloric Acid	
WES	Peak limitation: 7.5 mg/m³, 5 ppm

· **Additional information:** The lists valid during the making 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.
· **Respiratory protection:**
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.
· **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 trough time has to be found out by the manufacturer of the protective gloves and has to be observed.
· **Eye protection:**

Tightly sealed goggles

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9 Physical and Chemical Properties

· **Information on basic physical and chemical properties**
· **General Information**
· **Appearance:**
Form: Liquid

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Colour:	Clear
· **Odour:**	Characteristic
· **Odour threshold:**	Not determined.
· **pH-value:**	Not determined.
· **Change in condition**	
Melting point/freezing point:	Undetermined.
Initial boiling point and boiling range:	100 °C
· **Flash point:**	Not applicable.
· **Flammability (solid, gas):**	Not applicable.
· **Decomposition temperature:**	Not determined.
· **Auto-ignition temperature:**	Product is not selfigniting.
· **Explosive properties:**	Product does not present an explosion hazard. Not determined.
· **Explosion limits:**	
Lower:	Not determined.
Upper:	Not determined.
· **Vapour pressure at 20 °C:**	23 hPa
· **Density at 20 °C:**	1.0075 g/cm³
· **Relative density**	Not determined.
· **Vapour density**	Not determined.
· **Evaporation rate**	Not determined.
· **Solubility in / Miscibility with water:**	Fully miscible.
· **Partition coefficient: n-octanol/water:**	Not determined.
· **Viscosity:**	
Dynamic:	Not determined.
Kinematic:	Not determined.
· **Solvent content:**	
Water:	95.0 %
· **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.

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· **Hazardous decomposition products:** No dangerous decomposition products known.

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11 Toxicological Information

· **Information on toxicological effects**
· **Acute toxicity**
· **Primary irritant effect:**
· **Skin corrosion/irritation** Strong caustic effect on skin and mucous membranes.
· **Serious eye damage/irritation**
Strong caustic effect.
Strong irritant with the danger of severe eye injury.
· **Respiratory or skin sensitisation** No sensitising effects known.
· **Additional toxicological information:**
The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:
Corrosive
Irritant
Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

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12 Ecological Information

· **Toxicity**
· **Aquatic toxicity:** No further relevant information available.
· **Persistence and degradability** No further relevant information available.
· **Behaviour 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 sewage water or drainage ditch undiluted or unneutralised.
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.
· **Other adverse effects** No further relevant information available.

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13 Disposal considerations

· **Waste treatment methods**
· **Recommendation**
Must not be disposed together with household garbage. Do not allow product to reach sewage system.

· **Uncleaned packaging:**
· **Recommendation:** Disposal must be made according to official regulations.

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· **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

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14 Transport information

· **UN-Number**	
· **ADG, IMDG, IATA**	UN1789
· **UN proper shipping name**	
· **ADG**	1789 HYDROCHLORIC ACID solution
· **IMDG, IATA**	HYDROCHLORIC ACID solution
· **Transport hazard class(es)**	
· **ADG**	
· **Class**	8 (C1) Corrosive substances.
· **Label**	8
· **IMDG, IATA**	
· **Class**	8 Corrosive substances.
· **Label**	8
· **Packing group**	
· **ADG, IMDG, IATA**	II
· **Environmental hazards:**	
· **Marine pollutant:**	No
· **Special precautions for user**	Warning: Corrosive substances.
· **Hazard identification number (Kemler code):**	80
· **EMS Number:**	F-A,S-B
· **Segregation groups**	Strong acids
· **Stowage Category**	C
· **Transport in bulk according to Annex II of Marpol and the IBC Code**	Not applicable.
· **Transport/Additional information:**	
· **ADG**	
· **Limited quantities (LQ)**	1L
· **Excepted quantities (EQ)**	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· **Transport category**	2

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· **Tunnel restriction code**	E
· **IMDG**	
· **Limited quantities (LQ)**	1L
· **Excepted quantities (EQ)**	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· **UN "Model Regulation":**	UN 1789 HYDROCHLORIC ACID SOLUTION, 8, II

15 Regulatory information

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

7732-18-5	Water	95.0%
7647-01-0	Hydrochloric Acid Skin Corr. 1, H314; Eye Dam. 1, H318 Acute Tox. 4, H302; STOT SE 3, H335	5.0%

· **Australia: Priority Existing Chemicals**

None of the ingredients is listed.

· **Directive 2012/18/EU**
· **Named dangerous substances - ANNEX I** 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.

· **Waterhazard 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 Life and Analytical Sciences shall not be held liable for any damage resulting from handling or from contact with the product.

· **Relevant phrases**
H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H318 Causes serious eye damage.
H335 May cause respiratory irritation.

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

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· **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
IATA: International Air Transport Association
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)
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
Acute Tox. 4: Acute toxicity - oral – Category 4
Skin Corr. 1: Skin corrosion/irritation – Category 1
Eye Dam. 1: Serious eye damage/eye irritation – Category 1
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

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