

Printing date 07/27/2021 Review date 07/27/2021

1 Identification

- · Product identifier
- · Trade name: STD, Instrument Calibration Standard 1
- · Article number N9303816
- · Application of the substance / the mixture Laboratory chemicals
- · Details of the supplier of the safety data sheet
- · Manufacturer/Supplier:

PerkinElmer, Inc.

710 Bridgeport Avenue

Shelton, Connecticut 06484 USA

CustomerCareUS@perkinelmer.com

203-925-4600

· Emergency telephone number:

CHEMTREC (within US) 800-424-9300

CHEMTREC (from outside US) +1 703-527-3887 (call collect)

CHEMTREC (within AU) +(61)-290372994

2 Hazard(s) identification

· Classification of the substance or mixture



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

Eye Dam. 1 H318 Causes serious eye damage.

- · Label elements
- · GHS label elements The product is classified and labeled according to the Globally Harmonized System (GHS).
- · Hazard pictograms GHS05
- · Signal word Danger
- Hazard-determining components of labeling:

Nitric Acid

· Hazard statements

H314 Causes severe skin burns and eve damage.

· Precautionary statements

P260 Do not breathe dusts or mists. P264 Wash thoroughly after handling.

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

P301+P330+P331 If swallowed: Rinse mouth. Do NOT induce vomiting.

P303+P361+P353 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/

shower.

P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present

and easy to do. Continue rinsing.

P310 Immediately call a poison center/doctor.
 P321 Specific treatment (see on this label).
 P363 Wash contaminated clothing before reuse.

P405 Store locked up.

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P501

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

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



Health = 3Fire = 0

Reactivity = 0

· HMIS-ratings (scale 0 - 4)



3 Health = 3Fire = 0

REACTIVITY 0 Reactivity = 0

· Other hazards

The product does not contain any organic halogen compounds (AOX), nitrates, heavy metal compounds or formaldehydes.

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

3 Composition/information on ingredients

· CAS No. Description

7732-18-5 Water

- · EC number: 231-791-2
- · Chemical characterization: Mixtures
- · **Description:** Mixture of the substances listed below with nonhazardous additions.

7697-37-2	Nitric Acid	© Ox. Liq. 2, H272 Skin Corr. 1A, H314
Additional	Components	
7732-18-5	Water	94.941%
7440-02-0	nickel Carc. 2, H351; STOT RE 1, H372 Skin Sens. 1, H317	0.02%
1313-27-5	molybdenum trioxide Acute Tox. 3, H301 Carc. 2, H351 Eye Irrit. 2A, H319; STOT SE 3, H335	0.002%
7429-90-5	aluminium	0.002%
7439-92-1	lead & Carc. 2, H351; Repr. 1A, H360	0.002%
7439-96-5	manganese	0.002%



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7440-22-4	silver	(Contd. of page 0.002)
7440-28-0		0.002
	♦ Acute Tox. 2, H300; Acute Tox. 2, H330	
	♦ STOT RE 2, H373	
7440-29-1	Aquatic Chronic 4, H413	0.002
/440-29-1	<i>Morium</i>	

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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 copious amounts of water and provide fresh air. Immediately call a doctor.
- · Most important symptoms and effects, both acute and delayed No further relevant information available.
- · Indication of any immediate medical attention and special treatment needed

No further relevant information available.

5 Fire-fighting measures

- · Extinguishing media
- · Suitable extinguishing agents: Use fire fighting measures that suit the environment.
- · Special hazards arising from the substance or mixture

During heating or in case of fire poisonous gases are produced.

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

6 Accidental release measures

· Personal precautions, protective equipment and emergency procedures

Mount respiratory protective device.

Wear protective equipment. Keep unprotected persons away.

- · Environmental precautions: Inform respective authorities in case of seepage into water course or sewage system.
- · Methods and material for containment and cleaning up:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Use neutralizing agent.

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

· Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

· Protective Action Criteria for Chemicals

PAC-1:	
7697-37-2 Nitric Acid	0.16 ppm
7440-02-0 nickel	4.5 mg/m^3
1313-27-5 molybdenum trioxide	2.3 mg/m^3
7439-92-1 lead	0.15 mg/m^3
7439-96-5 manganese	3 mg/m^3
7440-22-4 silver	0.3 mg/m^3
7440-28-0 thallium	0.06 mg/m^3
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		(Contd. of page
7440-29-1 thorium		30 mg/m^3
7440-36-0 antimony		1.5 mg/m^3
7440-38-2 Arsenic		1.5 mg/m^3
7440-39-3 barium		1.5 mg/m^3
7440-41-7 beryllium		0.0023 mg/m
7440-43-9 cadmium		0.10 mg/m^3
7440-47-3 chromiun	1	1.5 mg/m^3
7440-48-4 cobalt		0.18 mg/m^3
7440-50-8 copper		$3 mg/m^3$
7440-61-1 uranium		0.6 mg/m^3
7440-62-2 vanadium	l	$3 mg/m^3$
7440-66-6 zinc		6 mg/m^3
7782-49-2 selenium		0.6 mg/m^3
· PAC-2:		0
7697-37-2 Nitric Act		24 ppm
7440-02-0 nickel	и	$\frac{24 \text{ ppm}}{50 \text{ mg/m}^3}$
1313-27-5 molybden	num triovida	$\frac{30 \text{ mg/m}^3}{43 \text{ mg/m}^3}$
7439-92-1 lead	um moxide	$\frac{43 \text{ mg/m}^3}{120 \text{ mg/m}^3}$
7439-96-5 mangane.	50	$\frac{120 \text{ mg/m}}{5 \text{ mg/m}^3}$
7440-22-4 silver	10	$\frac{3 \text{ mg/m}}{170 \text{ mg/m}^3}$
7440-28-0 thallium		3.3 mg/m^3
7440-29-1 thorium		$\frac{330 \text{ mg/m}^3}{330 \text{ mg/m}^3}$
7440-36-0 antimony		13 mg/m ³
7440-38-2 Arsenic		$\frac{13 \text{ mg/m}}{17 \text{ mg/m}^3}$
7440-39-3 barium		$\frac{17 \text{ mg/m}^3}{180 \text{ mg/m}^3}$
7440-33-3 bartum 7440-41-7 beryllium		0.025 mg/m
7440-43-9 cadmium		0.76 mg/m^{3}
7440-47-3 chromium	1	$\frac{0.70 \text{ mg/m}^3}{17 \text{ mg/m}^3}$
7440-48-4 cobalt	ı	$\frac{1 / mg/m}{2 mg/m^3}$
7440-48-4 Cobaii 7440-50-8 copper		$\frac{2 \text{ mg/m}^3}{33 \text{ mg/m}^3}$
7440-50-8 copper		$\frac{55 \text{ mg/m}^3}{5 \text{ mg/m}^3}$
7440-62-2 vanadium		5.8 mg/m^3
7440-66-6 zinc		$\frac{3.6 \text{ mg/m}}{21 \text{ mg/m}^3}$
7782-49-2 selenium		$\frac{21 \text{ mg/m}}{6.6 \text{ mg/m}^3}$
		0.0 mg/m
• PAC-3:	• 1	lo2
7697-37-2 Nitric Act	<u>a</u>	92 ppm
7440-02-0 nickel	1	99 mg/m ³
1313-27-5 molybden	um trioxide	260 mg/m^3
7439-92-1 lead		700 mg/m^3
7439-96-5 mangane.	3 <i>e</i>	1,800 mg/m (Contd. on page



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		(Contd. of page 5)
7440-22-4		990 mg/m³
7440-28-0	thallium	20 mg/m³
7440-29-1	thorium	$2,000 \text{ mg/m}^3$
7440-36-0	antimony	80 mg/m³
7440-38-2	Arsenic	100 mg/m^3
7440-39-3	barium	$1,100 \text{ mg/m}^3$
7440-41-7	beryllium	0.1 mg/m^3
7440-43-9	cadmium	4.7 mg/m^3
7440-47-3	chromium	99 mg/m³
7440-48-4	cobalt	20 mg/m³
7440-50-8	copper	200 mg/m³
7440-61-1	uranium	30 mg/m³
7440-62-2	vanadium	35 mg/m³
7440-66-6	zinc	120 mg/m³
7782-49-2	selenium	40 mg/m³

7 Handling and storage

- · Handling:
- · Precautions for safe handling

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of aerosols.

· Information about protection against explosions and fires:

The product is not flammable.

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:

Store in a cool place.

Keep receptacle tightly sealed.

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

8 Exposure controls/personal protection

- · Additional information about design of technical systems: No further data; see item 7.
- · Control parameters

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

7697-37-2 Nitric Acid

PEL Long-term value: 5 mg/m³, 2 ppm

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REL Short-term value: 10 mg/m³, 4 ppm Long-term value: 5 mg/m³, 2 ppm TLV Short-term value: 10 mg/m³, 4 ppm Long-term value: 5.2 mg/m³, 2 ppm

- · Additional information: The lists that were valid during the creation were used as basis.
- · Exposure controls
- · Personal protective equipment:
- · General protective and hygienic measures:

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Avoid contact with the eyes.

Avoid contact with the eyes and skin.

· Breathing equipment:

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

· Protection of hands:



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· Penetration time of glove material

The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.

· Eye protection:



Tightly sealed goggles or safety glasses

9 Physical and chemical properties

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

Form: Liquid
Color: Transparent
Odor: Odorless
Odor threshold: Not determined.

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· pH-value:	Not determined.	
· Change in condition		
Melting point/Melting range:	0 °C (32 °F)	
Boiling point/Boiling range:	100 °C (212 °F)	
· Flash point:	Not applicable.	
Flammability (solid, gaseous):	Not applicable.	
Decomposition temperature:	Not determined.	
· Auto igniting:	Product is not selfigniting.	
· Danger of explosion:	Product does not present an explosion hazard.	
	Not determined.	
· Explosion limits:		
Lower:	Not determined.	
Upper:	Not determined.	
Vapor pressure at 20 °C (68 °F):	23 hPa (17.3 mm Hg)	
Density at 20 °C (68 °F):	1 g/cm³ (8.345 lbs/gal)	
· Relative density	Not determined.	
· Vapor density	Not determined.	
Evaporation rate	Not determined.	
Solubility in / Miscibility with		
Water:	Not miscible or difficult to mix.	
Partition coefficient (n-octanol/wate	e r): Not determined.	
· Viscosity:		
Dynamic:	Not determined.	
Kinematic:	Not determined.	
Solvent content:		
Water:	94.9 %	
VOC content:	0.00 %	
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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· Hazardous decomposition products: No dangerous decomposition products known.

11 Toxicological information

- · Information on toxicological effects
- · Acute toxicity:
- · Primary irritant effect:
- · on the skin: Caustic effect on skin and mucous membranes.
- · on the eye:

Strong caustic effect.

Strong irritant with the danger of severe eye injury.

- · Sensitization: No sensitizing effects known.
- · Additional toxicological information:

The product shows the following dangers according to internally approved calculation methods for preparations: Corrosive

Irritant

Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

· Carcinogenic categories

· IARC (Inte	rnational Agency for Research on Cancer)	
7440-02-0	nickel	2B
1313-27-5	molybdenum trioxide	2B
7439-92-1	lead	2B
7440-29-1	thorium	1
7440-38-2	Arsenic	1
7440-41-7	beryllium	1
7440-43-9	cadmium	1
7440-47-3	chromium	3
7440-48-4	cobalt	2B
7782-49-2	selenium	3
· NTP (Natio	onal Toxicology Program)	
7440-02-0	nickel	R
7439-92-1	lead	R
7440-38-2	Arsenic	K
7440-41-7	beryllium	K
7440-43-9	cadmium	K
7440-48-4	cobalt	R
· OSHA-Ca ((Occupational Safety & Health Administration)	
7440-38-2	Arsenic	
7440-43-9	cadmium	

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12 Ecological information

- · Toxicity
- · Aquatic toxicity: No further relevant information available.
- · Persistence and degradability No further relevant information available.
- · Behavior in environmental systems:
- · Bioaccumulative potential No further relevant information available.
- · Mobility in soil No further relevant information available.
- · Additional ecological information:
- · General notes:

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system. Must not reach bodies of water or drainage ditch undiluted or unneutralized.

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

13 Disposal considerations

- · Waste treatment methods
- · Recommendation:

Dispose of container and materials in accordance with local, regional and national regulations.

- · Uncleaned packagings:
- · Recommendation: Disposal must be made according to official regulations.

	ransport		

· UN-Number · DOT, ADR, IMDG, IATA	UN3264
· UN proper shipping name · DOT · ADR	Corrosive liquid, acidic, inorganic, n.o.s. (nitric acid) 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.
· IMDG, IATA	(nitric acid) CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (nitric acid)

- · Transport hazard class(es)
- $\cdot DOT$



· Class 8 Corrosive substances

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Label	8
ADR	
Class	8 (C1) Corrosive substances
Label	8
IMDG, IATA	
Class	8 Corrosive substances
Label	8
Packing group DOT, ADR, IMDG, IATA	III
Environmental hazards:	
Marine pollutant:	No
Special precautions for user Hazard identification number (Kemler code	Warning: Corrosive substances
EMS Number:	F- A , S - B
Segregation groups	Acids
Stowage Category Stowage Code	A SW2 Clear of living quarters.
Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	
Transport/Additional information:	11
DOT Quantity limitations	On passenger aircraft/rail: 5 L
zy wiiwwwiis	On cargo aircraft only: 60 L
ADR	
Excepted quantities (EQ)	Code: E1
	Maximum net quantity per inner packaging: 30 ml
	Maximum net quantity per outer packaging: 1000 ml
IMDG	51
Limited quantities (LQ) Excepted quantities (EQ)	5L Code: E1
Excepted quantities (EQ)	Maximum net quantity per inner packaging: 30 ml
	Maximum net quantity per outer packaging: 1000 ml

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· UN "Model Regulation":

UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (NITRIC ACID), 8, III

7697-37-2 Nitric Acid	Safety, heal	th and environmental regulation	s/legislation specific for the substance or mixture	
Skin Corr. 1A, H314 7440-02-0 nickel Carc. 2, H351; STOT RE 1, H372 Sara Section 355 (extremely hazardous substances): 7697-37-2 Nitric Acid Section 313 (Specific toxic chemical listings): 7697-37-2 Nitric Acid 7440-02-0 nickel 1313-27-5 molybdenum trioxide 7429-90-5 aluminium 7439-92-1 lead 7440-28-0 thallium 7440-36-0 antimony 7440-38-2 Arsenic 7440-39-3 barium 7440-41-7 beryllium 7440-43-9 cadmium 7440-44-1 chromium 7440-48-4 cobalt 7440-66-6 zinc 7782-49-2 selenium TSCA (Toxic Substances Control Act): All ingredients are listed. 7732-18-5 Water 7697-37-2 Nitric Acid	7732-18-5	Water		94.9419
Sara Section 355 (extremely hazardous substances): 7697-37-2 Nitric Acid Section 313 (Specific toxic chemical listings): 7697-37-2 Nitric Acid 7440-02-0 nickel 1313-27-5 molybdenum trioxide 7429-90-5 aluminium 7439-92-1 lead 7439-96-5 manganese 7440-22-4 silver 7440-28-0 thallium 7440-36-0 antimony 7440-38-2 Arsenic 7440-41-7 beryllium 7440-43-9 cadmium 7440-43-9 cadmium 7440-44-3 chromium 7440-48-4 cobalt 7440-60-6 zinc 7782-49-2 selenium TSCA (Toxic Substances Control Act): All ingredients are listed. 7732-18-5 Water	7697-37-2	Nitric Acid	© Ox. Liq. 2, H272 Skin Corr. 1A, H314	5.0%
Section 355 (extremely hazardous substances): 7697-37-2 Nitric Acid Section 313 (Specific toxic chemical listings): 7697-37-2 Nitric Acid 7440-02-0 nickel 1313-27-5 molybdenum trioxide 7429-90-5 aluminium 7439-92-1 lead 7439-96-5 manganese 7440-22-4 silver 7440-36-0 antimony 7440-38-0 artimony 7440-38-0 artimony 7440-41-7 beryllium 7440-41-7 beryllium 7440-43-9 cadmium 7440-44-4 cobalt 7440-48-4 cobalt 7440-60-6 zinc 7482-90-2 selenium TSCA (Toxic Substances Control Act): All ingredients are listed. 7732-18-5 Water	7440-02-0	nickel	© Carc. 2, H351; STOT RE 1, H372 Skin Sens. 1, H317	0.02%
	Sara		· "	
Section 313 (Specific toxic chemical listings): 7697-37-2 Nitric Acid 7440-02-0 nickel 313-27-5 molybdenum trioxide 7429-90-5 aluminium 7439-92-1 lead 7440-22-4 silver 7440-28-0 thallium 7440-38-2 Arsenic 7440-38-2 Arsenic 7440-41-7 beryllium 7440-43-9 cadmium 7440-43-9 cadmium 7440-43-9 cadmium 7440-48-4 cobalt 7440-48-4 cobalt 7440-60-6 zinc 7782-49-2 selenium TSCA (Toxic Substances Control Act): All ingredients are listed. 7732-18-5 Water 7697-37-2 Nitric Acid	Section 355	(extremely hazardous substance	es):	
7697-37-2 Nitric Acid 7440-02-0 nickel 1313-27-5 molybdenum trioxide 7429-90-5 aluminium 7439-92-1 lead 7440-22-4 silver 7440-28-0 thallium 7440-38-1 antimony 7440-39-3 barium 7440-41-7 beryllium 7440-43-9 cadmium 7440-43-9 chromium 7440-48-4 cobalt 7440-60-2 vanadium 7440-62-2 vanadium 7582-49-2 selenium TSCA (Toxic Substances Control Act): All ingredients are listed. 7732-18-5 Water 7697-37-2 Nitric Acid	7697-37-2	Nitric Acid		
7697-37-2 Nitric Acid 7440-02-0 nickel 1313-27-5 molybdenum trioxide 7429-90-5 aluminium 7439-92-1 lead 7440-22-4 silver 7440-28-0 thallium 7440-38-1 antimony 7440-39-3 barium 7440-41-7 beryllium 7440-43-9 cadmium 7440-43-9 codmium 7440-48-4 cobalt 7440-60-2 vanadium 7440-66-5 zinc 7782-49-2 selenium TSCA (Toxic Substances Control Act): All ingredients are listed. 7732-18-5 Water 7697-37-2 Nitric Acid	Section 313	(Specific toxic chemical listings):	
1313-27-5 molybdenum trioxide 7429-90-5 aluminium 7439-92-1 lead 7439-96-5 manganese 7440-22-4 silver 7440-28-0 thallium 7440-36-0 antimony 7440-39-3 barium 7440-41-7 beryllium 7440-43-9 cadmium 7440-43-9 codmium 7440-48-4 cobalt 7440-68-8 copper 7440-62-2 vanadium 7440-66-6 zinc 7782-49-2 selenium TSCA (Toxic Substances Control Act): All ingredients are listed. 7732-18-5 Water 7697-37-2 Nitric Acid				
7429-90-5 aluminium 7439-92-1 lead 7439-96-5 manganese 7440-22-4 silver 7440-28-0 thallium 7440-36-0 antimony 7440-38-2 Arsenic 7440-43-3 barium 7440-41-7 beryllium 7440-43-9 cadmium 7440-48-4 cobalt 7440-50-8 copper 7440-62-2 vanadium 7440-66-6 zinc 7782-49-2 selenium TSCA (Toxic Substances Control Act): All ingredients are listed. 7732-18-5 Water 7697-37-2 Nitric Acid	7440-02-0	nickel		
7439-92-1 lead 7439-96-5 manganese 7440-22-4 silver 7440-28-0 thallium 7440-36-0 antimony 7440-38-2 Arsenic 7440-41-7 beryllium 7440-43-9 cadmium 7440-47-3 chromium 7440-48-4 cobalt 7440-50-8 copper 7440-62-2 vanadium 7440-66-6 zinc 7782-49-2 selenium TSCA (Toxic Substances Control Act): All ingredients are listed. 7732-18-5 Water 7697-37-2 Nitric Acid	1313-27-5	molybdenum trioxide		
7439-96-5 manganese 7440-22-4 silver 7440-28-0 thallium 7440-36-0 antimony 7440-38-2 Arsenic 7440-41-7 beryllium 7440-43-9 cadmium 7440-47-3 chromium 7440-48-4 cobalt 7440-50-8 copper 7440-66-6 zinc 7782-49-2 selenium TSCA (Toxic Substances Control Act): All ingredients are listed. 7732-18-5 Water 7697-37-2 Nitric Acid	7429-90-5	aluminium		
7440-22-4 silver 7440-28-0 thallium 7440-36-0 antimony 7440-38-2 Arsenic 7440-39-3 barium 7440-41-7 beryllium 7440-43-9 cadmium 7440-44-3 chromium 7440-48-4 cobalt 7440-50-8 copper 7440-66-2 vanadium 7440-66-6 zinc 7782-49-2 selenium TSCA (Toxic Substances Control Act): All ingredients are listed. 7732-18-5 Water 7697-37-2 Nitric Acid	7439-92-1	lead		
7440-22-4 silver 7440-28-0 thallium 7440-36-0 antimony 7440-38-2 Arsenic 7440-39-3 barium 7440-41-7 beryllium 7440-43-9 cadmium 7440-47-3 chromium 7440-48-4 cobalt 7440-50-8 copper 7440-62-2 vanadium 7440-66-6 zinc 7782-49-2 selenium TSCA (Toxic Substances Control Act): All ingredients are listed. 7732-18-5 Water 7697-37-2 Nitric Acid	7439-96-5	manganese		
7440-36-0 antimony 7440-38-2 Arsenic 7440-39-3 barium 7440-41-7 beryllium 7440-43-9 cadmium 7440-47-3 chromium 7440-48-4 cobalt 7440-50-8 copper 7440-62-2 vanadium 7440-66-6 zinc 7782-49-2 selenium TSCA (Toxic Substances Control Act): All ingredients are listed. 7732-18-5 Water 7697-37-2 Nitric Acid	7440-22-4	silver		
7440-38-2 Arsenic 7440-39-3 barium 7440-41-7 beryllium 7440-43-9 cadmium 7440-47-3 chromium 7440-48-4 cobalt 7440-50-8 copper 7440-62-2 vanadium 7440-66-6 zinc 7782-49-2 selenium TSCA (Toxic Substances Control Act): All ingredients are listed. 7732-18-5 Water 7697-37-2 Nitric Acid	7440-28-0	thallium		
7440-39-3 barium 7440-41-7 beryllium 7440-43-9 cadmium 7440-47-3 chromium 7440-48-4 cobalt 7440-50-8 copper 7440-62-2 vanadium 7440-66-6 zinc 7782-49-2 selenium TSCA (Toxic Substances Control Act): All ingredients are listed. 7732-18-5 Water 7697-37-2 Nitric Acid	7440-36-0	antimony		
7440-41-7 beryllium 7440-43-9 cadmium 7440-47-3 chromium 7440-48-4 cobalt 7440-50-8 copper 7440-62-2 vanadium 7440-66-6 zinc 7782-49-2 selenium TSCA (Toxic Substances Control Act): All ingredients are listed. 7732-18-5 Water 7697-37-2 Nitric Acid	7440-38-2	Arsenic		
7440-43-9 cadmium 7440-47-3 chromium 7440-48-4 cobalt 7440-50-8 copper 7440-62-2 vanadium 7440-66-6 zinc 7782-49-2 selenium TSCA (Toxic Substances Control Act): All ingredients are listed. 7732-18-5 Water 7697-37-2 Nitric Acid	7440-39-3	barium		
7440-47-3 chromium 7440-48-4 cobalt 7440-50-8 copper 7440-62-2 vanadium 7440-66-6 zinc 7782-49-2 selenium TSCA (Toxic Substances Control Act): All ingredients are listed. 7732-18-5 Water 7697-37-2 Nitric Acid	7440-41-7	beryllium		
7440-48-4 cobalt 7440-50-8 copper 7440-62-2 vanadium 7440-66-6 zinc 7782-49-2 selenium TSCA (Toxic Substances Control Act): All ingredients are listed. 7732-18-5 Water 7697-37-2 Nitric Acid	7440-43-9	cadmium		
7440-50-8 copper 7440-62-2 vanadium 7440-66-6 zinc 7782-49-2 selenium TSCA (Toxic Substances Control Act): All ingredients are listed. 7732-18-5 Water 7697-37-2 Nitric Acid	7440-47-3	chromium		
7440-62-2 vanadium 7440-66-6 zinc 7782-49-2 selenium TSCA (Toxic Substances Control Act): All ingredients are listed. 7732-18-5 Water 7697-37-2 Nitric Acid	7440-48-4	cobalt		
7440-66-6 zinc 7782-49-2 selenium TSCA (Toxic Substances Control Act): All ingredients are listed. 7732-18-5 Water 7697-37-2 Nitric Acid	7440-50-8	copper		
7782-49-2 selenium TSCA (Toxic Substances Control Act): All ingredients are listed. 7732-18-5 Water 7697-37-2 Nitric Acid	7440-62-2	vanadium		
TSCA (Toxic Substances Control Act): All ingredients are listed. 7732-18-5 Water 7697-37-2 Nitric Acid	7440-66-6	zinc		
All ingredients are listed. 7732-18-5 Water 7697-37-2 Nitric Acid	7782-49-2	selenium		
7732-18-5 Water 7697-37-2 Nitric Acid				
7697-37-2 Nitric Acid	_			1 COUNTY
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7429-90-5	aluminium	ACTIVI
7439-92-1	lead	ACTIVI
7439-96-5	manganese	ACTIVI
7440-22-4		ACTIVI
7440-28-0	thallium	ACTIVI
7440-29-1	thorium	ACTIVI
7440-36-0	antimony	ACTIVI
7440-38-2	Arsenic	ACTIVI
7440-39-3	barium	ACTIVI
7440-41-7	beryllium	ACTIVI
7440-43-9	cadmium	ACTIVI
7440-47-3	chromium	ACTIVI
7440-48-4	cobalt	ACTIVI
7440-50-8	copper	ACTIVI
7440-61-1	uranium	ACTIVI
7440-62-2	vanadium	ACTIVI
7440-66-6	zinc	ACTIVI
7782-49-2	selenium	ACTIVI
147-71-7	(-)-tartaric acid	ACTIVI
· Hazardous	Air Pollutants	'
7439-92-1	lead	
7439-96-5	manganese	
7440-48-4	cobalt	
· Proposition	65	
· Chemicals	known to cause cancer:	
7440-02-0	nickel	
7439-92-1	lead	
7440-38-2	Arsenic	
7440-41-7	beryllium	
7440-43-9	cadmium	
7440-48-4	cobalt	
· Chemicals	known to cause reproductive toxicity for females:	
7439-92-1	lead	
· Chemicals	known to cause reproductive toxicity for males:	
7439-92-1		
7440-43-9		
	known to cause developmental toxicity:	
7439-92-1	<u> </u>	
7440-43-9		
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· Cancerogenity categories

· EPA (Environmental Protection Agency)		
7439-92-1	lead	B2
7439-96-5	manganese	D
7440-22-4	silver	D
7440-38-2	Arsenic	A
7440-39-3	barium	D, CBD(inh), NL(oral)
7440-41-7	beryllium	B1, K/L(inh), CBD(oral)
7440-43-9	cadmium	B1
7440-47-3	chromium	D
7440-50-8	copper	D
7440-66-6	zinc	D, I, II
7782-49-2	selenium	D
TLV (Threshold Limit Value established by ACGIH)		

127 (The chical dimension of Technic		
7440-02-0	nickel	A5
7429-90-5	aluminium	A4
7439-92-1	lead	A3
7440-38-2	Arsenic	A1
7440-39-3	barium	A4
7440-41-7	·	A1
7440-43-9	cadmium	A2
7440-47-3	chromium	A4
7440-48-4	cobalt	A3
7440-61-1	uranium	A1

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

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7440-02	0 nickel	
7440-38	2 Arsenic	
	7 beryllium	
7440-43	9 cadmium	
7440-61	1 uranium	

· National regulations:

· Information about limitation of use:

Workers are not allowed to be exposed to this hazardous material. Exceptions can be made by the authorities in certain cases.

- · Water hazard class: Water hazard class 1 (Self-assessment): slightly hazardous for water.
- · Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16 Other information

Disclaimer

The information provided in this Material Safety Data Sheet is based on our present knowledge,

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

· Department issuing SDS: Environmental, Health and Safety

· Contact:

Within the USA: 1-(800)-762-4000 Outside the USA: 1-(203)-712-8488

· Abbreviations and acronyms:

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

ICAO: International Civil Aviation Organisation

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

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

VOC: Volatile Organic Compounds (USA, EU)

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

 $TLV: Threshold\ Limit\ Value$

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

Ox. Liq. 2: Oxidizing liquids – Category 2

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

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

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

* * Data compared to the previous version altered.

USA