

Printing date 05/06/2020 Review date 05/06/2020

## 1 Identification

- · Product identifier
- · Trade name: Standard Quality Control 1B
- · Article number N9304131
- · Application of the substance / the mixture Laboratory chemicals
- Details of the supplier of the safety data sheet
- · Manufacturer/Supplier:

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

· Emergency telephone number:

CHEMTREC (within US) 800-424-9300

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

CHEMTREC (within AU) +(61)-290372994

## 2 Hazard(s) identification

· Classification of the substance or mixture



# Health hazard

Resp. Sens. 1 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Carc. 1A H350 May cause cancer.

Repr. 1A H360 May damage fertility or the unborn child.



## Corrosion

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

Eye Dam. 1 H318 Causes serious eye damage.



Acute Tox. 4 H332 Harmful if inhaled.

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

Aquatic Acute 3 H402 Harmful to aquatic life.

Aquatic Chronic 3 H412 Harmful to aquatic life with long lasting effects.

- · Label elements
- · GHS label elements The product is classified and labeled according to the Globally Harmonized System (GHS).
- · Hazard pictograms GHS05, GHS07, GHS08
- · Signal word Danger

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#### · Hazard-determining components of labeling:

Nitric Acid beryllium Arsenic lead cobalt nickel

#### · Hazard statements

H332 Harmful if inhaled.

H314 Causes severe skin burns and eye damage.

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H317 May cause an allergic skin reaction.

H350 May cause cancer.

H360 May damage fertility or the unborn child.

H402 Harmful to aquatic life.

H412 Harmful to aquatic life with long lasting effects.

## · Precautionary statements

*P201 Obtain special instructions before use.* 

P202 Do not handle until all safety precautions have been read and understood.

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

*P271 Use only outdoors or in a well-ventilated area.* 

*P272* Contaminated work clothing must not be allowed out of the workplace.

*P273* Avoid release to the environment.

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

P284 [In case of inadequate ventilation] wear respiratory 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.

P308+P313 IF exposed or concerned: Get medical advice/attention.

P321 Specific treatment (see on this label).

P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
P342+P311 If experiencing respiratory symptoms: Call a poison center/doctor.

*P363* Wash contaminated clothing before reuse.

P405 Store locked up.

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

#### · Classification system:

#### · NFPA ratings (scale 0 - 4)



Health = 3 Fire = 0Reactivity = 0

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· HMIS-ratings (scale 0 - 4)

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\*3 *Health* = \*3
0 *Fire* = 0

REACTIVITY 0 Reactivity = 0

· Other hazards

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

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

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

Hazardous	components:	
7697-37-2	Nitric Acid	10.0%
	<b>♦</b> Ox. Liq. 2, H272	
	Skin Corr. 1A, H314	
7439-89-6	iron	0.1%
	� Acute Tox. 2, H300	
7439-92-1	lead	0.1%
	<b>♦</b> Carc. 2, H351; Repr. 1A, H360	
7440-02-0	-	0.1%
	<b>♦</b> Carc. 2, H351; STOT RE 1, H372	
	Skin Sens. 1, H317	
7440-28-0	thallium	0.1%
	♦ Acute Tox. 2, H300; Acute Tox. 2, H330	
	<b>♦</b> STOT RE 2, H373	
	Åquatic Chronic 4, H413	
7440-38-2	Arsenic	0.1%
	♦ Acute Tox. 3, H301; Acute Tox. 3, H331	
	& Carc. 1A, H350	
	Aquatic Acute 1, H400; Aquatic Chronic 1, H410	
7440-41-7	L	0.1%
	Acute Tox. 3, H301; Acute Tox. 2, H330	
	© Carc. 1B, H350; STOT RE 1, H372	
<del>-</del>	Skin Irrit. 2, H315; Eye Irrit. 2A, H319; Skin Sens. 1, H317; STOT SE 3, H335	0.10
7440-43-9	L	0.1%
	Acute Tox. 3, H301; Acute Tox. 2, H330	
	Muta. 2, H341; Carc. 1B, H350; Repr. 2, H361; STOT RE 1, H372 Aquatic Acute 1, H400; Aquatic Chronic 1, H410	
7.4.40 40 4	•	0.10
7440-48-4		0.1%
	Resp. Sens. 1, H334; Carc. 2, H351 Skin Sens. 1, H317	
	Aquatic Chronic 4, H413	
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7440	·	(Contd. of page
7440-66-6		0.1%
	<b>♦</b> Water-react. 2, H261	
	Aquatic Acute 1, H400; Aquatic Chronic 1, H410	
7782-49-2	selenium	0.1%
	♦ Acute Tox. 3, H301; Acute Tox. 3, H331	
	<b>♦</b> STOT RE 2, H373	
	Aquatic Chronic 4, H413	
Additional	Components	
7732-18-5	Water	88.1%
7439-93-2	lithium	0.1%
	<b>♦</b> Water-react. 1, H260	
	Skin Corr. 1B, H314	
7439-95-4	magnesium	0.1%
	Pyr. Sol. 1, H250; Water-react. 1, H260	
7439-96-5	manganese	0.1%
7439-98-7	molybdenum	0.1%
7440-24-6	strontium	0.1%
	<b>◈</b> Water-react. 1, H260	
7440-47-3	chromium	0.1%
7440-50-8	copper	0.1%
7440-62-2	vanadium	0.1%
7440-70-2	calcium	0.1%
	♦ Water-react. 2, H261	

## 4 First-aid measures

- Description of first aid measures
- General information:

Immediately remove any clothing soiled by the product.

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

· After inhalation:

Supply fresh air and to be sure call for a doctor.

In case of unconsciousness place patient stably in side position for transportation.

- · After skin contact: Immediately wash with water and soap and rinse thoroughly.
- · After eye contact: Rinse opened eye for several minutes under running water. 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.

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#### · 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 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

7697-37-2 Nitric Acid	0.16 ppm
7439-89-6 iron	$3.2 \text{ mg/m}^3$
7439-92-1 lead	$0.15 \text{ mg/m}^3$
7439-93-2 lithium	$3.3 \text{ mg/m}^3$
7439-95-4 magnesium	18 mg/m³
7439-96-5 manganese	3 mg/m <sup>3</sup>
7439-98-7 molybdenum	$30 \text{ mg/m}^3$
7440-02-0 nickel	$4.5 \text{ mg/m}^3$
7440-24-6 strontium	30 mg/m³
7440-28-0 thallium	$0.06 \text{ mg/m}^3$
7440-38-2 Arsenic	$1.5 \text{ mg/m}^3$
7440-41-7 beryllium	0.0023 mg/m
7440-43-9 cadmium	$0.10 \text{ mg/m}^3$
7440-47-3 chromium	$1.5 \text{ mg/m}^3$
7440-48-4 cobalt	$0.18 \text{ mg/m}^3$
7440-50-8 copper	3 mg/m <sup>3</sup>
7440-62-2 vanadium	$3 \text{ mg/m}^3$
7440-66-6 zinc	$6 \text{ mg/m}^3$
7782-49-2 selenium	$0.6 \text{ mg/m}^3$

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· PAC-2:	
7697-37-2 Nitric Acid	24 ppm
7439-89-6 iron	35 mg/m <sup>3</sup>
7439-92-1 lead	120 mg/m³
7439-93-2 lithium	36 mg/m³
7439-95-4 magnesium	$200 \text{ mg/m}^3$
7439-96-5 manganese	5 mg/m <sup>3</sup>
7439-98-7 molybdenum	330 mg/m³
7440-02-0 nickel	50 mg/m <sup>3</sup>
7440-24-6 strontium	$330 \text{ mg/m}^3$
7440-28-0 thallium	$3.3 \text{ mg/m}^3$
7440-38-2 Arsenic	$17 \text{ mg/m}^3$
7440-41-7 beryllium	0.025 mg/m
7440-43-9 cadmium	$0.76 \text{ mg/m}^3$
7440-47-3 chromium	17 mg/m³
7440-48-4 cobalt	$2 mg/m^3$
7440-50-8 copper	33 mg/m³
7440-62-2 vanadium	$5.8 \text{ mg/m}^3$
7440-66-6 zinc	21 mg/m³
7782-49-2 selenium	$6.6 \text{ mg/m}^3$
· PAC-3:	
7697-37-2 Nitric Acid	92 ppm
7439-89-6 iron	$150 \text{ mg/m}^3$
7439-92-1 lead	700 mg/m³
7439-93-2 lithium	$220 \text{ mg/m}^3$
7439-95-4 magnesium	1,200 mg/m
7439-96-5 manganese	1,800 mg/m
7439-98-7 molybdenum	2,000 mg/m
7440-02-0 nickel	99 mg/m³
7440-24-6 strontium	2,000 mg/m
7440-28-0 thallium	$20 \text{ mg/m}^3$
7440-38-2 Arsenic	$100  \text{mg/m}^3$
7440-41-7 beryllium	$0.1 \text{ mg/m}^3$
7440-43-9 cadmium	$4.7 \text{ mg/m}^3$
7440-47-3 chromium	99 mg/m³
7440-48-4 cobalt	$20 \text{ mg/m}^3$
7440-50-8 copper	$200 \text{ mg/m}^3$
7440-62-2 vanadium	$35 \text{ mg/m}^3$
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7782-49-2	selenium	40 mg/m³

# 7 Handling and storage

- · Handling:
- Precautions for safe handling

Ensure good ventilation/exhaustion at the workplace.

Open and handle receptacle with care.

Prevent formation of aerosols.

- · Information about protection against explosions and fires: Keep respiratory protective device available.
- · Conditions for safe storage, including any incompatibilities
- · Storage:
- Requirements to be met by storerooms and receptacles: No special requirements.
- Information about storage in one common storage facility: Not required.
- · Further information about storage conditions: Keep receptacle tightly sealed.
- · Specific end use(s) No further relevant information available.

# 8 Exposure controls/personal protection

- · Additional information about design of technical systems: No further data; see item 7.
- · Control parameters
- · Components with limit values that require monitoring at the workplace:

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

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

	<u> </u>
7697-	37-2 Nitric Acid
PEL .	Long-term value: 5 mg/m³, 2 ppm
	Short-term value: 10 mg/m³, 4 ppm
	Long-term value: 5 mg/m³, 2 ppm
	Short-term value: 10 mg/m³, 4 ppm
	Long-term value: 5.2 mg/m³, 2 ppm
7440-	02-0 nickel
PEL .	Long-term value: 1 mg/m³
REL .	Long-term value: 0.015 mg/m³
	as Ni; See Pocket Guide App. A
	Long-term value: 1.5* mg/m³
	elemental, *inhalable fraction
7440-	38-2 Arsenic
PEL .	Long-term value: $0.5*0.01**mg/m^3$
	as As; *organic**inorg. compds.; 29 CFR 1910.1018
REL	Ceiling limit value: 0.002 mg/m³
	as As; 15min; See Pocket Guide App. A
	(C

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TLV	Long-term value: 0.01 mg/m³	
	as As; BEI	
7440	-41-7 beryllium	
PEL	Short-term value: 0.002 mg/m³	
	Long-term value: 0.0002; 0.002* mg/m³	
	Ceiling limit value: $0.025*/** mg/m^3$ , $0.005* ppm$	
	as Be; *see 1910.1024; **30 min peak/8-hr shift	
REL	Ceiling limit value: 0.0005 mg/m³	
	as Be; See Pocket Guide App. A	
TLV	Long-term value: 0.00005 mg/m³	
	as Be; inhalable; RSEN; soluble comp.: Skin, DSEN	
7440	0-43-9 cadmium	
PEL	Long-term value: 0.005 mg/m³	
	as Cd; see 29 CFR 1910.1027	
REL	See Pocket Guide App. A	
	Long-term value: $0.01 \ 0.002* \ mg/m^3$	
·	as Cd; *respirable fraction; BEI	
7440	0-48-4 cobalt	
PEL	Long-term value: 0.1* mg/m³	
	as Co; *for metal dust and fume	
REL	Long-term value: 0.05 mg/m³	
	as Co; metal dust & fume	
TLV	Long-term value: 0.02* mg/m³	
12,	*inh. fraction; DSEN, RSEN, BEI	
7782	2-49-2 selenium	
PEL	Long-term value: 0.2 mg/m³	
	as Se	
REL	Long-term value: 0.2 mg/m³	
1122	as Se	
TI.V	Long-term value: 0.2 mg/m³	
12,	as Se	
T		
	edients with biological limit values: 0-38-2 Arsenic	
	35 µg As/L	
	Medium: urine	
	Time: end of workweek  Payameter: In regarie greenie plus methylated metabolites (hackground)	
	Parameter: Inorganic arsenic plus methylated metabolites (background)	td. on pag

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#### 7440-43-9 cadmium

BEI 5 μg/g creatinine

Medium: urine Time: not critical

Parameter: Cadmium (background)

 $5 \mu g/L$ 

Medium: blood Time: not critical

Parameter: Cadmium (background)

#### 7440-48-4 cobalt

BEI 15 μg/L

Medium: urine

Time: end of shift at end of workweek Parameter: Cobalt (background)

 $1 \mu g/L$ 

Medium: blood

Time: end of shift at end of workweek

Parameter: Cobalt (background, semi-quantitative)

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

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Store protective clothing separately.

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.

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· Eye protection:

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Tightly sealed goggles or safety glasses

Information on basic physical and c	chemical properties	
General Information		
Appearance:	I::J	
Form: Color:	Liquid Clear	
Odor:	Characteristic	
Odor threshold:	Not determined.	
pH-value:	Not determined.	
Change in condition		
Melting point/Melting range:	Undetermined.	
Boiling point/Boiling range:	100 °C (212 °F)	
Flash point:	Not applicable.	
Flammability (solid, gaseous):	Not applicable.	
Decomposition temperature:	Not determined.	
Auto igniting:	Product is not selfigniting.	
Danger of explosion:	Product does not present an explosion hazard.	
<b>.</b>	Not determined.	
Explosion limits:		
Lower:	Not determined.	
Upper:	Not determined.	
Vapor pressure at 20 °C (68 °F):	23 hPa (17.3 mm Hg)	
Density:	Not determined.	
Relative density	Not determined.	
Vapor density	Not determined.	
Evaporation rate	Not determined.	
Solubility in / Miscibility with		
Water:	Fully miscible.	
Partition coefficient (n-octanol/wate	e <b>r):</b> Not determined.	
Viscosity:		
Dynamic:	Not determined.	
Kinematic:	Not determined.	
Solvent content:		
Water:	88.1 %	

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VOC content:	0.00 %	
Solids content: Other information	1.8 % 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:

· LD/LC50 values that are relevant for classification:			
7440-43-9 cadmium			
Oral   LD50   225 mg/kg (rat)			

- Primary irritant effect:
- · on the skin: Caustic effect on skin and mucous membranes.
- · on the eve:

Strong caustic effect.

Strong irritant with the danger of severe eye injury.

· Sensitization:

Sensitization possible through inhalation.

Sensitization possible through skin contact.

· Additional toxicological information:

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

Corrosive

Irritant

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

· Carcinogenic categories

· IARC (Inte	rnational Agency for Research on Cancer)	
7439-92-1	lead	2B
7440-02-0	nickel	2B
7440-38-2	Arsenic	1
7440-41-7	beryllium	1
7440-43-9	cadmium	1
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7440-47	chromium	3
7440-48-	t cobalt	2B
7782-49-	? selenium	3
· NTP (Na	tional Toxicology Program)	
7439-92-	! lead	R
7440-02-	nickel	R
7440-38-	? Arsenic	K
7440-41-	beryllium	K
7440-43-	cadmium	K
7440-48-	t cobalt	R
· OSHA-C	a (Occupational Safety & Health Administration)	
7440-38	? Arsenic	
7440-43-	cadmium	
	<u> </u>	

# 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.
- Ecotoxical effects:
- · Remark: Harmful to fish
- · Additional ecological information:
- · General notes:

Do not allow product to reach ground water, water course or sewage system, even in small quantities.

Must not reach bodies of water or drainage ditch undiluted or unneutralized.

Danger to drinking water if even extremely small quantities leak into the ground.

Harmful to aquatic organisms

- · 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.

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· Recommended cleansing agent: Water, if necessary with cleansing agents.

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UN-Number DOT, ADR, IMDG, IATA	UN2031
UN proper shipping name	
DOT	Nitric acid
ADR	2031 NITRIC ACID
IMDG, IATA	NITRIC ACID
Transport hazard class(es)	
DOT	
^	
COHNOSIVE	
Class	8 Corrosive substances
Label	8
ADR	
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
Class	8 (C1) Corrosive substances
Label	8
IMDG, IATA	
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
Class	8 Corrosive substances
Label	8
Packing group	
DOT, ADR, IMDG, IATA	II
Environmental hazards:	
Marine pollutant:	No
Special precautions for user	Warning: Corrosive substances
Hazard identification number (Kemler code).	
EMS Number:	F-A,S-B
Segregation groups	Strong acids

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Segregation Code	SG36 Stow "separated from" SGG18-alkalis. SG49 Stow "separated from" SGG6-cyanides
Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
Transport/Additional information:	
DOT	
Quantity limitations	On passenger aircraft/rail: 1 L
	On cargo aircraft only: 30 L
ADR	
Excepted quantities (EQ)	Code: E2
	Maximum net quantity per inner packaging: 30 ml
	Maximum net quantity per outer packaging: 500 ml
·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 2031 NITRIC ACID, 8, II

Safety, health and environmental regulations/legislation specific for the substance or mixture			
7732-18-5	Water		88.19
7697-37-2	Nitric Acid	Ox. Liq. 2, H272 Skin Corr. 1A, H314	10.0%
7439-89-6	iron	♠ Acute Tox. 2, H300	0.1%
Sara			•
Section 35:	5 (extremely hazardous substances):		
7697-37-2	Nitric Acid		
Section 31.	3 (Specific toxic chemical listings):		
7697-37-2	Nitric Acid		
7439-92-1	lead		
7439-96-5	manganese		
7440-02-0	nickel		
7440-28-0	thallium		
7440-38-2	Arsenic		
7440-41-7	beryllium		
7440-43-9	cadmium		
7440-47-3	chromium		
	cobalt		



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7440-50-8		
7440-62-2		
7440-66-6		
7782-49-2		
	cic Substances Control Act): ents are listed.	
7732-18-5	Water	ACTIV
7697-37-2	Nitric Acid	ACTIV
7439-89-6	iron	ACTIV
7439-92-1	lead	ACTIV
7439-93-2	lithium	ACTIV
7439-95-4	magnesium	ACTIV
7439-96-5	manganese	ACTIV
7439-98-7	molybdenum	ACTIV
7440-02-0	nickel	ACTIV
7440-24-6	strontium	ACTIV
7440-28-0	thallium	ACTIV
7440-38-2	Arsenic	ACTIV
7440-41-7	beryllium	ACTIV
7440-43-9	cadmium	ACTIV
7440-47-3	chromium	ACTIV
7440-48-4	cobalt	ACTIV
7440-50-8	copper	ACTIV
7440-62-2	vanadium	ACTIV
7440-66-6	zinc	ACTIV
7440-70-2	calcium	ACTIV
7782-49-2	selenium	ACTIV
	Air Pollutants	
7439-92-1		
	manganese	
7440-48-4		
Proposition		
	known to cause cancer:	
7439-92-1		
7440-02-0		
7440-38-2		
7440-41-7		
7440-43-9		
7440-48-4	cobalt	



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		(Contd. of page
Chemicals	known to cause reproductive toxicity for females:	
7439-92-1	lead	
Chemicals	known to cause reproductive toxicity for males:	
7439-92-1	lead	
7440-43-9	cadmium	
Chemicals	known to cause developmental toxicity:	
7439-92-1	lead	
7440-43-9	cadmium	
Canceroge	enity categories	
_	ironmental Protection Agency)	
7439-92-1	lead	B2
7439-96-5	manganese	D
7440-38-2	Arsenic	A
	beryllium	B1, K/L(inh), CBD(ord
	cadmium	BI
	chromium	D
7440-50-8		D
7440-66-6		D, I, II
7782-49-2	selenium	D
TLV (Thre	eshold Limit Value established by ACGIH)	
7439-92-1	lead	1
	molybdenum	1
7440-02-0	1	1
7440-38-2	1	A
	beryllium	1
	cadmium	1
	chromium	
7440-48-4		1
	a (National Institute for Occupational Safety and I	Health)
7440-02-0		
7/10-38-2	Arsenic	
	beryllium	

## · National regulations:

· Additional classification according to Decree on Hazardous Materials:

Carcinogenic hazardous material group III (dangerous).

## · 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.

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Workers are not allowed to be exposed to the hazardous carcinogenic materials contained in this preparation. Exceptions can be made by the authorities in certain cases.

- · Water hazard class: Water hazard class 3 (Self-assessment): extremely hazardous for water.
- · Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

## 16 Other information

Disclaimer

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

· Department issuing SDS: Environmental, Health and Safety

Contact:

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

· Abbreviations and acronyms:

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

ICAO: International Civil Aviation Organisation

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

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

BEI: Biological Exposure Limit

Water-react. 2: Substances and mixtures which in contact with water emit flammable gases – Category 2

Ox. Liq. 2: Oxidizing liquids - Category 2

Acute Tox. 2: Acute toxicity - Category 2

Acute Tox. 3: Acute toxicity – Category 3

Acute Tox. 4: Acute toxicity - Category 4

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

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

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

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

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

Resp. Sens. 1: Respiratory sensitisation – Category 1

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Skin Sens. 1: Skin sensitisation – Category 1 Muta. 2: Germ cell mutagenicity – Category 2 Carc. 1A: Carcinogenicity - Category 1A Carc. 1B: Carcinogenicity - Category 1B Carc. 2: Carcinogenicity – Category 2 Repr. 1A: Reproductive toxicity – Category 1A Repr. 2: Reproductive toxicity – Category 2 STOT SE 3: Specific target organ toxicity (single exposure) – Category 3 STOT RE 1: Specific target organ toxicity (repeated exposure) – Category 1 STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2

Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard - Category 1

Aquatic Acute 3: Hazardous to the aquatic environment - acute aquatic hazard - Category 3 Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard - Category 1 Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard - Category 3

Aquatic Chronic 4: Hazardous to the aquatic environment - long-term aquatic hazard - Category 4

<sup>\* \*</sup> Data compared to the previous version altered.