

Printing date 04/08/2021 Review date 04/08/2021

## 1 Identification

- · Product identifier
- · Trade name: STD-CUS 1000 mg/l Mo/Sb/Sn/W/Zr
- · Article number N9307115
- · 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



Skull and crossbones

Acute Tox. 3 H301 Toxic if swallowed.

Acute Tox. 3 H311 Toxic in contact with skin.



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 labeled according to the Globally Harmonized System (GHS).
- · Hazard pictograms GHS05, GHS06
- · Signal word Danger
- · Hazard-determining components of labeling:

Hydrofluoric acid

Nitric Acid

· Hazard statements

H301+H311 Toxic if swallowed or in contact with skin. H314 Causes severe skin burns and eye damage.

· Precautionary statements

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

P270 Do not eat, drink or smoke when using this product.

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

*P301+P310 If swallowed: Immediately call a poison center/doctor.* 

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P321 Specific treatment (see on this label).

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.

*P312 Call a poison center/doctor if you feel unwell.* 

P361+P364 Take off immediately all contaminated clothing and wash it 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

#### · HMIS-ratings (scale 0 - 4)



Health = 3 Fire = 0Reactivity = 0

· Other hazards

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

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

## 3 Composition/information on ingredients

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

· Hazardous components:		
	Nitric Acid	5.0%
	Ox. Liq. 2, H272 Skin Corr. 1A, H314	
	Hydrofluoric acid	2.0%
	Acute Tox. 2, H300; Acute Tox. 1, H310; Acute Tox. 2, H330 Skin Corr. 1A, H314	

· Additional Components			
7732-18	Water	92.94%	
	(+-)-tartaric acid	0.01%	
7439-98-	molybdenum	0.01%	
7440-31	tin	0.01%	
(C+1 2)			

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7440-33-7	tungsten	0.01%
7440-36-0	antimony	0.01%
	♦ Acute Tox. 3, H311; Acute Tox. 3, H331	
7440-67-7		0.01%
	🍅 Pyr. Sol. 1, H250; Water-react. 1, H260	

## 4 First-aid measures

- · Description of first aid measures
- · General information:

*Immediately remove any clothing soiled by the product.* 

In case of irregular breathing or respiratory arrest provide artificial respiration.

- · 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:

Do not induce vomiting; immediately call for medical help.

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.

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.

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#### · 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:	action Criteria for Chemicus	
7697-37-2	Nitric Acid	0.16 ppm
7439-98-7	molybdenum	30 mg/m <sup>-</sup>
7440-31-5	tin	6 mg/m <sup>3</sup>
7440-33-7	tungsten	10 mg/m
7440-36-0	antimony	1.5 mg/n
7440-67-7	zirconium	10 mg/m
PAC-2:		·
7697-37-2	Nitric Acid	24 ppm
7439-98-7	molybdenum	330 mg/n
7440-31-5	tin	67 mg/m <sup>3</sup>
7440-33-7	tungsten	330 mg/m
7440-36-0	antimony	13 mg/m <sup>3</sup>
7440-67-7	zirconium	83 mg/m³
<i>PAC-3:</i>		·
7697-37-2	Nitric Acid	92 ppm
7439-98-7	molybdenum	2,000 mg/n
7440-31-5	tin	$400 \text{ mg/m}^3$
7440-33-7	tungsten	2,000 mg/m
7440-36-0	antimony	80 mg/m³
7440-67-7	zirconium	500 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: 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.

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# 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

REL Short-term value: 10 mg/m³, 4 ppm

Long-term value: 5 mg/m³, 2 ppm TLV Short-term value: 10 mg/m<sup>3</sup>, 4 ppm

Long-term value: 5.2 mg/m³, 2 ppm

# 7664-39-3 Hydrofluoric acid

PEL Long-term value: 1\* mg/m<sup>3</sup>, 3 ppm

as F, \*sulfuric acid

REL Long-term value: 2.5 mg/m<sup>3</sup>, 3 ppm

Ceiling limit value: 5\* mg/m³, 6\* ppm

\*15-min, as F

TLV Long-term value: 0.41 mg/m<sup>3</sup>, 0.5 ppm

Ceiling limit value: 1.64 mg/m³, 2 ppm

as F; Skin; BEI

# Ingredients with biological limit values:

#### 7664-39-3 Hydrofluoric acid

BEI 3 mg/g creatinine

Medium: urine

Time: prior to shift

Parameter: Flourides (background)

10 mg/g creatinine Medium: urine Time: end of shift

Parameter: Flourides (background)

- · 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.

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#### 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

Physical and chemical properties		
· Information on basic physical and · General Information	chemical properties	
· Appearance:	T	
Form:	Liquid	
Color:	Transparent	
· Odor:	Characteristic	
· Odor threshold:	Not determined.	
· pH-value:	Not determined.	
· Change in condition Melting point/Melting range: Boiling point/Boiling range:	Undetermined. 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.	

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		(Contd. of page
· 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:	92.9 %	
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.
- · 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: Toxic

Corrosive

Irritant

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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 (International Agency for Research on Cancer)

None of the ingredients is listed.

· NTP (National Toxicology Program)

None of the ingredients is listed.

· OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients is listed.

# 12 Ecological information

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

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system. 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.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

## 14 Transport information

- · UN-Number
- · DOT, ADR, IMDG, IATA

UN3264

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Corrosive liquid, acidic, inorganic, n.o.s. (hydrofluoric aci
Nitric Acid)
3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.
(hydrofluoric acid, Nitric Acid)
CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.
(hydrofluoric acid, Nitric Acid), MARINE POLLUTANT
CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.
(hydrofluoric acid, Nitric Acid)
8 Corrosive substances
8
8 (C1) Corrosive substances
8
8 Corrosive substances
8
8 Corrosive substances
8 Corrosive substances 8
0
***
III
No



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(Contd. of page 9) · 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 MARPOL73/78 and the IBC Code Not applicable. · Transport/Additional information:  $\cdot DOT$ · Quantity limitations On passenger aircraft/rail: 5 L On cargo aircraft only: 60 L Special marking with the symbol (fish and tree). · Remarks: · Excepted quantities (EQ) Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml · IMDG · Limited quantities (LQ) 5LCode: E1 · Excepted quantities (EQ) 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. (HYDROFLUORIC ACID, NITRIC ACID), 8, III

Safety, hea	lth and environmental regulations/legislation specific for the substance or mi	ixture
7732-18-5	Water	92.94%
7697-37-2	Nitric Acid	5.0%
	© Ox. Liq. 2, H272 Skin Corr. 1A, H314	
7664-39-3	Hydrofluoric acid	2.0%
	Acute Tox. 2, H300; Acute Tox. 1, H310; Acute Tox. 2, H330 Skin Corr. 1A, H314	
Sara		
Section 35.	5 (extremely hazardous substances):	
7697-37-2	Nitric Acid	
Section 31.	3 (Specific toxic chemical listings):	
7697-37-2	Nitric Acid	
7440 26 0	antimony	

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

All ingredients are listed.

7732-18-5		ACTIVE
7697-37-2	Nitric Acid	ACTIVE
	( /	ACTIVE
7439-98-7	molybdenum	ACTIVE
7440-31-5	tin	ACTIVE
7440-33-7	e e e e e e e e e e e e e e e e e e e	ACTIVE
7440-36-0	antimony	ACTIVE
7440-67-7	zirconium	ACTIVE

#### · Hazardous Air Pollutants

None of the ingredients is listed.

- · Proposition 65
- · Chemicals known to cause cancer:

None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed.

· Chemicals known to cause developmental toxicity:

None of the ingredients is listed.

- · Cancerogenity categories
- EPA (Environmental Protection Agency)

None of the ingredients is listed.

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

7439-98-7 molybdenum	A3
7440-67-7 zirconium	A4

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

None of the ingredients is listed.

- · National regulations:
- · Information about limitation of use:

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

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

# 16 Other information

Disclaimer

The information provided in this Material Safety Data Sheet is based on our present knowledge, and believed to be correct at the date of publication. However, no representation is made concerning its accuracy and completeness. It is intended as guidance only, and is not to be

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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

BEI: Biological Exposure Limit

Ox. Liq. 2: Oxidizing liquids – Category 2

Acute Tox. 2: Acute toxicity - Category 2

Acute Tox. 3: Acute toxicity – Category 3

Acute Tox. 1: Acute toxicity – Category 1

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 •