

Printing date 07/09/2018

**1** Identification

Review date 07/09/2018

· Product identifier	
• Trade name: <u>STD, Spike Sample Standard 3</u> • Article number N9303841 • 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 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
- · Signal word Danger
- Hazard-determining components of labeling: Nitric Acid

· Hazard statements

H314 Causes severe skin burns and eye 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.

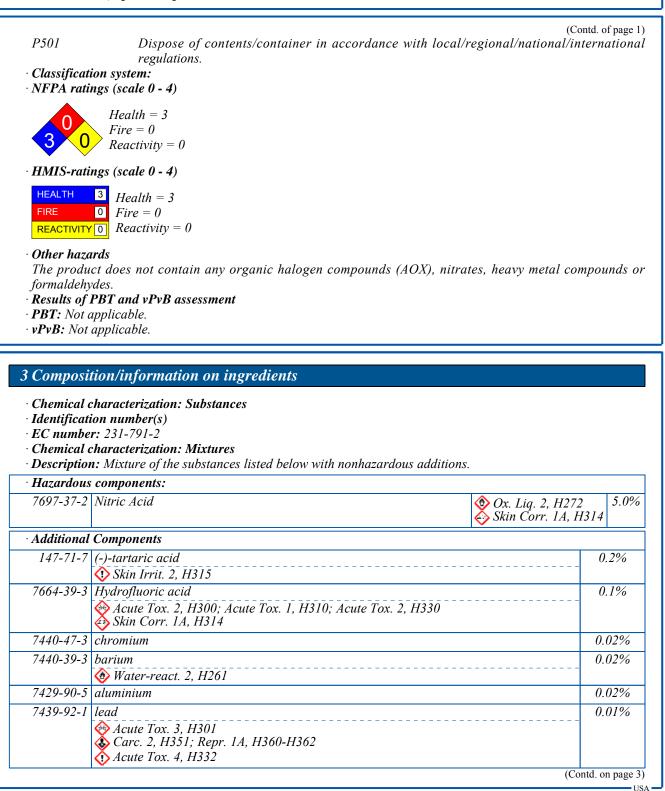
(Contd. on page 2)



Printing date 07/09/2018

Review date 07/09/2018

#### Trade name: STD, Spike Sample Standard 3





Printing date 07/09/2018

Review date 07/09/2018

#### Trade name: STD, Spike Sample Standard 3

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	trimanganese tetraoxide	0.01%
7440-02-0		0.01%
	🗞 Carc. 2, H351; STOT RE 1, H372	
7782-49-2		0.01%
	🗞 STOT RE 2, H373	
7440-22-4	silver	0.01%
7440-28-0	thallium	0.01%
	🕉 STOT RE 2, H373	
7440-62-2	vanadium	0.01%
7440-66-6	zinc	0.01%
	Water-react. 2, H261	
7440-48-4	cobalt	0.005%
	🐼 Resp. Sens. 1, H334; Carc. 2, H351	
	🐼 Skin Sens. 1, H317	
7440-50-8	copper	0.0025
7440-36-0	antimony	0.0019
7440-43-9	cadmium (non-pyrophoric)	0.0005
	Tuta. 2, H341; Carc. 1B, H350; Repr. 2, H361; STOT RE 1, H372	
7440-41-7	beryllium	0.0005
	<b>&amp;</b> Carc. 1B, H350; STOT RE 1, H372	
	🐼 Skin Irrit. 2, H315; Eye Irrit. 2A, H319; Skin Sens. 1, H317; STOT SE 3, H335	
7440-38-2		0.0004
	<i>𝒫 Acute Tox. 3, H301; Acute Tox. 3, H331</i>	
	🗞 Carc. 1A, H350	
7732-18-5	Water	94.5501

# 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 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.

(Contd. on page 4) USA



Printing date 07/09/2018

Review date 07/09/2018

(Contd. of page 3)

Trade name: STD, Spike Sample Standard 3

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

# 5 Fire-fighting measures

- · Extinguishing media
- Suitable extinguishing agents: Use fire fighting measures that suit the environment.
- Special hazards arising from the substance or mixture No further relevant information available.
- · Advice for firefighters
- · Protective equipment: No special measures required.

### 6 Accidental release measures

• Personal precautions, protective equipment and emergency procedures 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** 

Kejerence 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
7440-47-3 chromium	$1.5 mg/m^3$
7440-39-3 barium	1.5 mg/m <sup>3</sup>
7439-92-1 lead	$0.15 mg/m^3$
1317-35-7 trimanganese tetraoxide	$4.2 mg/m^3$
7440-02-0 nickel	$4.5 mg/m^3$
7782-49-2 selenium	$0.6 \ mg/m^3$
7440-22-4 silver	$0.3 mg/m^3$
7440-28-0 thallium	$0.06 \ mg/m^3$
7440-62-2 vanadium	$3 mg/m^3$
7440-66-6 zinc	6 mg/m <sup>3</sup>
7440-48-4 cobalt	$0.18 mg/m^3$
7440-50-8 copper	$3 mg/m^3$
7440-36-0 antimony	$1.5 mg/m^3$
7440-43-9 cadmium (non-pyrophoric)	0.10 mg/m <sup>3</sup>
7440-41-7 beryllium	0.0023 mg/m



Printing date 07/09/2018

Review date 07/09/2018

# Trade name: STD, Spike Sample Standard 3

7440-38-2 Arsenic	(Contd. of page 1.5 mg/m <sup>3</sup>
<i>PAC-2:</i>	0
7697-37-2 Nitric Acid	24 ppm
7440-47-3 chromium	17 mg/m <sup>3</sup>
7440-39-3 barium	180 mg/m <sup>3</sup>
7439-92-1 lead	120 mg/m <sup>3</sup>
1317-35-7 trimanganese tetraoxide	6.9 mg/m <sup>3</sup>
7440-02-0 nickel	50 mg/m <sup>3</sup>
7782-49-2 selenium	$6.6 \text{ mg/m}^3$
7440-22-4 silver	170 mg/m <sup>3</sup>
7440-28-0 thallium	3.3 mg/m <sup>3</sup>
7440-62-2 vanadium	5.8 mg/m <sup>3</sup>
7440-66-6 zinc	21 mg/m <sup>3</sup>
7440-48-4 cobalt	2 mg/m <sup>3</sup>
7440-50-8 copper	33 mg/m <sup>3</sup>
7440-36-0 antimony	13 mg/m <sup>3</sup>
7440-43-9 cadmium (non-pyrophoric)	0.76 mg/m <sup>3</sup>
7440-41-7 beryllium	0.025 mg/m
7440-38-2 Arsenic	17 mg/m <sup>3</sup>
PAC-3:	
7697-37-2 Nitric Acid	92 ppm
7440-47-3 chromium	99 mg/m <sup>3</sup>
7440-39-3 barium	1,100 mg/m
7439-92-1 lead	700 mg/m <sup>3</sup>
1317-35-7 trimanganese tetraoxide	41 mg/m <sup>3</sup>
7440-02-0 nickel	99 mg/m <sup>3</sup>
7782-49-2 selenium	40 mg/m <sup>3</sup>
7440-22-4 silver	990 mg/m <sup>3</sup>
7440-28-0 thallium	20 mg/m <sup>3</sup>
7440-62-2 vanadium	35 mg/m <sup>3</sup>
7440-66-6 zinc	120 mg/m <sup>3</sup>
7440-48-4 cobalt	20 mg/m <sup>3</sup>
7440-50-8 copper	200 mg/m <sup>3</sup>
7440-36-0 antimony	80 mg/m <sup>3</sup>
7440-43-9 cadmium (non-pyrophoric)	$4.7 mg/m^3$
7440-41-7 beryllium	$0.1 \text{ mg/m}^3$
7440-38-2 Arsenic	100 mg/m <sup>3</sup>

(Contd. on page 6)



Printing date 07/09/2018

Review date 07/09/2018

#### Trade name: STD, Spike Sample Standard 3

(Contd. of page 5)

### 7 Handling and storage

- · Handling:
- *Precautions for safe handling* No special precautions are necessary if used correctly.
- Information about protection against explosions and fires: The product is not flammable.
- · 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:

7697-37-2 Nitric Acid

PEL Long-term value: 5 mg/m<sup>3</sup>, 2 ppm

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

- TLV Short-term value: 10 mg/m<sup>3</sup>, 4 ppm Long-term value: 5.2 mg/m<sup>3</sup>, 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: 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.

(Contd. on page 7)

USA



### Printing date 07/09/2018

Review date 07/09/2018

#### Trade name: STD, Spike Sample Standard 3

(Contd. of page 6)

· 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

General Information		
Appearance:	T · · 1	
Form:	Liquid	
Color:	Transparent	
Odor: Odor threshold:	Characteristic Not determined.	
Oaor inresnola:	Not determined.	
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.	
Explosion limits:		
Lower:	Not determined.	
Upper:	Not determined.	
Vapor pressure:	Not determined.	
Density at 20 °C (68 °F):	1 g/cm <sup>3</sup> (8.345 lbs/gal)	
Relative density	Not determined.	
Vapor density	Not determined.	
Evaporation rate	Not determined.	
Solubility in / Miscibility with		
Water:	Not miscible or difficult to mix.	
Partition coefficient (n-octanol/wat	er): Not determined.	
Viscosity:		
Dynamic:	Not determined.	
Kinematic:	Not determined.	



Printing date 07/09/2018

Review date 07/09/2018

#### Trade name: STD, Spike Sample Standard 3

		(Contd. of page 7)
· Solvent content:		
Water:	94.6 %	
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: 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	ernational Agency for Research on Cancer)	
7440-47-3	chromium	3
7439-92-1	lead	2B
7440-02-0	nickel	2B
7782-49-2	selenium	3
7440-48-4	cobalt	2B
7440-43-9	cadmium (non-pyrophoric)	1
7440-41-7	beryllium	1
7440-38-2	Arsenic	1
	(Contd. on )	page 9)



Printing date 07/09/2018

Review date 07/09/2018

Trade name: STD, Spike Sample Standard 3

(Contd. of page 8)

· NTP (Natio	onal Toxicology Program)	
7439-92-1	lead R	1
7440-02-0	nickel R	
7440-48-4	cobalt R	1
7440-43-9	cadmium (non-pyrophoric) K	1
7440-41-7	beryllium K	1
7440-38-2	Arsenic K	
	(Occupational Safety & Health Administration)	٦
7440-43-9	cadmium (non-pyrophoric)	1
7440-38-2	Arsenic	

# 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.*

# 14 Transport information

· UN-Number · DOT, ADR, IMDG, IATA

UN3264

(Contd. on page 10)

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# acc. to OSHA HCS

Printing date 07/09/2018

Review date 07/09/2018

	(Contd. of pag
UN proper shipping name	
DOT	Corrosive liquid, acidic, inorganic, n.o.s. (Nitric Acid, Hydroge
	fluoride)
ADR	3264 Corrosive liquid, acidic, inorganic, n.o.s. (Nitric Aci
	Hydrogen fluoride)
IMDG, IATA	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Nitric Act HYDROGEN FLUORIDE)
Transport hazard class(es)	
-	
DOT	
CORROSIVE	
V	
Class	8 Corrosive substances
Label	8
ADR	
$\wedge$	
8	
Class	8 (C1) Corrosive substances
Label	8
IMDG, IATA	······
1. Second Second	
V	
Class	8 Corrosive substances
Label	8
Packing group	
DOT, ADR, IMDG, IATA	III
Environmental hazards:	
Marine pollutant:	No
Special precautions for user	Warning: Corrosive substances
Danger code (Kemler):	80 E 4 S B
EMS Number: Segregation groups	F-A,S-B Acids
Stowage Category	B
Stowage Code	SW2 Clear of living quarters.
Transport in bulk according to Anne.	x II of
MARPOL73/78 and the IBC Code	Not applicable.



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# acc. to OSHA HCS

Printing date 07/09/2018

Review date 07/09/2018

Trade name: STD, Spike Sample Standard 3

	(Contd. of page 10
Transport/Additional information:	
DOT	
Quantity limitations	On passenger aircraft/rail: 1 L
	On cargo aircraft only: 30 L
ADR	
Excepted quantities (EQ)	Code: El
· · ~	Maximum net quantity per inner packaging: 30 ml
	Maximum net quantity per outer packaging: 1000 ml
IMDG	
Limited quantities (LQ)	1L
Excepted quantities $(\widetilde{EQ})$	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

7732-18-5	lth and environmental regulations/legisle		94.5501
/09/-3/-2	Nitric Acid	🕐 Ox. Liq. 2, H272 Skin Corr. 1A, H314	5.0%
147-71-7	(-)-tartaric acid	🗘 Skin Irrit. 2, H315	0.2%
Sara		·	-
Section 35.	5 (extremely hazardous substances):		
7697-37-2	Nitric Acid		
Section 31.	3 (Specific toxic chemical listings):		
7697-37-2	Nitric Acid		
7440-47-3	chromium		
7440-39-3	barium		
7429-90-5	aluminium		
7439-92-1	lead		
1317-35-7	trimanganese tetraoxide		
7440-02-0	nickel		
7782-49-2	selenium		
7440-22-4	silver		
7440-28-0	thallium		
7440-62-2	vanadium		
7440-66-6	zinc		
7440-48-4	cobalt		



Printing date 07/09/2018

Review date 07/09/2018

(Contd. of page 11)

# Trade name: STD, Spike Sample Standard 3 7440-50-8 copper 7440-36-0 antimony 7440-43-9 cadmium (non-pyrophoric) 7440-41-7 beryllium 7440-38-2 Arsenic · TSCA (Toxic Substances Control Act): All ingredients are listed. 7697-37-2 Nitric Acid 147-71-7 (-)-tartaric acid 7440-47-3 chromium 7440-39-3 barium 7429-90-5 aluminium 7439-92-1 lead 1317-35-7 trimanganese tetraoxide 7440-02-0 nickel 7782-49-2 selenium 7440-22-4 silver 7440-28-0 thallium 7440-62-2 vanadium

7440-66-6 zinc 7440-48-4 cobalt 7440-50-8 copper 7440-36-0 antimony 7440-43-9 cadmium (non-pyrophoric) 7440-41-7 beryllium 7440-38-2 Arsenic 7732-18-5 Water · Proposition 65 · Chemicals known to cause cancer: 7439-92-1 lead 7440-02-0 nickel 7440-48-4 cobalt 7440-43-9 cadmium (non-pyrophoric) 7440-41-7 beryllium 7440-38-2 Arsenic

• 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 (non-pyrophoric)

(Contd. on page 13)

USA



Printing date 07/09/2018

Review date 07/09/2018

Trade name: STD, Spike Sample Standard 3

Chemicals known to cause developmental toxicity: 7439-92-1 lead	
7440-43-9 cadmium (non-pyrophoric)	
Cancerogenity categories EPA (Environmental Protection Agency)	
7440-47-3 chromium	D
7440-39-3 barium	D, CBD(inh), NL(oral)
7439-92-1 lead	$\frac{D}{B2}$
1317-35-7 trimanganese tetraoxide	D2
7782-49-2 selenium	
7440-22-4 silver	
7440-66-6 zinc	D D, I, II
7440-50-8 copper	D, 1, 11
7440-43-9 cadmium (non-pyrophoric)	B1
7440-41-7 beryllium	B1 B1, K/L(inh), CBD(ora.
7440-38-2 Arsenic	
TLV (Threshold Limit Value established by ACGIH)	11
7440-47-3 chromium	
7440-39-3 barium	A
7429-90-5 aluminium	A
7439-92-1 lead	A
7440-02-0 nickel	A
7440-48-4 cobalt	A
7440-43-9 cadmium (non-pyrophoric)	A
7440-41-7 beryllium	
7440-38-2 Arsenic	A
NIOSH-Ca (National Institute for Occupational Safety and I	Health)
7440-02-0 nickel	
7440-43-9 cadmium (non-pyrophoric)	
7440-41-7 beryllium	

· 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.

(Contd. on page 14)

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# acc. to OSHA HCS

Printing date 07/09/2018

Review date 07/09/2018

# Trade name: STD, Spike Sample Standard 3

(Contd. of page 13)

6	6 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 a International Transport of Dangerous Goods by Rail)
	International Transport of Dangerous Goods by Rall) ICAO: International Civil Aviation Organisation
	ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the Internation
	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.