

acc. to OSHA HCS

Printing date 09/19/2018

Review date 09/19/2018

## 1 Identification

- **Product identifier**
- **Trade name:** ELAN 6100 DRC SENSITIVITY / DETECTION LIMIT SOLUTION
- **Article number** N8125034
- **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**  
*The product is not classified, according to the Globally Harmonized System (GHS).*

- **Label elements**
- **GHS label elements** Void
- **Hazard pictograms** Void
- **Signal word** Void
- **Hazard statements** Void
- **Classification system:**
- **NFPA ratings (scale 0 - 4)**



- **HMIS-ratings (scale 0 - 4)**

HEALTH	0	Health = 0
FIRE	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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### 3 Composition/information on ingredients

- **Chemical characterization: Substances**
- **CAS No. Description**  
7732-18-5 Water
- **Identification number(s)**
- **EC number: 231-791-2**
- **Chemical characterization: Mixtures**
- **Description: Mixture of the substances listed below with nonhazardous additions.**
- **Hazardous components: Void**

#### · Additional Components

7697-37-2	Nitric Acid  Ox. Liq. 2, H272  Skin Corr. 1A, H314	0.5%
7440-45-1	cerium  Water-react. 2, H261	0.02%
7440-70-2	calcium  Water-react. 2, H261	0.01%
7440-48-4	cobalt  Resp. Sens. 1, H334; Carc. 2, H351  Skin Sens. 1, H317	0.01%
7440-74-6	Indium	0.01%
7439-89-6	iron	0.01%
7439-92-1	lead  Acute Tox. 3, H301  Carc. 2, H351; Repr. 1A, H360-H362  Acute Tox. 4, H332	0.01%
7439-95-4	magnesium  Pyr. Sol. 1, H250; Water-react. 1, H260	0.01%
7440-41-7	beryllium  Acute Tox. 3, H301; Acute Tox. 2, H330  Carc. 1B, H350; STOT RE 1, H372  Skin Irrit. 2, H315; Eye Irrit. 2A, H319; Skin Sens. 1, H317; STOT SE 3, H335	0.01%
7440-09-7	potassium  Water-react. 1, H260  Skin Corr. 1B, H314	0.01%
7440-16-6	rhodium	0.01%
7440-23-5	sodium  Water-react. 1, H260  Skin Corr. 1B, H314	0.01%
7440-39-3	barium  Water-react. 2, H261	0.01%
7440-61-1	uranium  Acute Tox. 2, H300; Acute Tox. 2, H330  STOT RE 2, H373	0.0001%

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7732-18-5 Water

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99.3699%

#### 4 First-aid measures

- **Description of first aid measures**
- **General information:** No special measures required.
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:** Generally the product does not irritate the skin.
- **After eye contact:** Rinse opened eye for several minutes under running water.
- **After swallowing:** If symptoms persist consult doctor.
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

#### 5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** Use fire 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** Not required.
- **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).
- **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
7440-45-1	cerium	30 mg/m <sup>3</sup>
7440-48-4	cobalt	0.18 mg/m <sup>3</sup>
7440-74-6	Indium	0.3 mg/m <sup>3</sup>
7439-89-6	iron	3.2 mg/m <sup>3</sup>
7439-92-1	lead	0.15 mg/m <sup>3</sup>
7439-95-4	magnesium	18 mg/m <sup>3</sup>
7440-41-7	beryllium	0.0023 mg/m <sup>3</sup>

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		(Contd. of page 3)
7440-09-7	potassium	2.3 mg/m <sup>3</sup>
7440-16-6	rhodium	3 mg/m <sup>3</sup>
7440-23-5	sodium	13 mg/m <sup>3</sup>
7440-39-3	barium	1.5 mg/m <sup>3</sup>
7440-61-1	uranium	0.6 mg/m <sup>3</sup>

**· PAC-2:**

7697-37-2	Nitric Acid	24 ppm
7440-45-1	cerium	330 mg/m <sup>3</sup>
7440-48-4	cobalt	2 mg/m <sup>3</sup>
7440-74-6	Indium	3.3 mg/m <sup>3</sup>
7439-89-6	iron	35 mg/m <sup>3</sup>
7439-92-1	lead	120 mg/m <sup>3</sup>
7439-95-4	magnesium	200 mg/m <sup>3</sup>
7440-41-7	beryllium	0.025 mg/m <sup>3</sup>
7440-09-7	potassium	25 mg/m <sup>3</sup>
7440-16-6	rhodium	33 mg/m <sup>3</sup>
7440-23-5	sodium	140 mg/m <sup>3</sup>
7440-39-3	barium	180 mg/m <sup>3</sup>
7440-61-1	uranium	5 mg/m <sup>3</sup>

**· PAC-3:**

7697-37-2	Nitric Acid	92 ppm
7440-45-1	cerium	2,000 mg/m <sup>3</sup>
7440-48-4	cobalt	20 mg/m <sup>3</sup>
7440-74-6	Indium	20 mg/m <sup>3</sup>
7439-89-6	iron	150 mg/m <sup>3</sup>
7439-92-1	lead	700 mg/m <sup>3</sup>
7439-95-4	magnesium	1,200 mg/m <sup>3</sup>
7440-41-7	beryllium	0.1 mg/m <sup>3</sup>
7440-09-7	potassium	150 mg/m <sup>3</sup>
7440-16-6	rhodium	200 mg/m <sup>3</sup>
7440-23-5	sodium	870 mg/m <sup>3</sup>
7440-39-3	barium	1,100 mg/m <sup>3</sup>
7440-61-1	uranium	30 mg/m <sup>3</sup>

**7 Handling and storage**

- **Handling:**
- **Precautions for safe handling** No special measures required.
- **Information about protection against explosions and fires:** No special measures required.

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- *Conditions for safe storage, including any incompatibilities*
- *Storage:*
- *Requirements to be met by storerooms and receptacles: No special requirements.*
- *Information about storage in one common storage facility: Not required.*
- *Further information about storage conditions: None.*
- *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 product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.*
- *Additional information: The lists that were valid during the creation were used as basis.*
- *Exposure controls*
- *Personal protective equipment:*
- *General protective and hygienic measures:*  
*The usual precautionary measures for handling chemicals should be followed.*
- *Breathing equipment: Not required.*
- *Protection of hands:*  
*The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.*  
*Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation*
- *Material of gloves*  
*The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.*
- *Penetration time of glove material*  
*The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.*
- *Eye protection: Goggles recommended during refilling.*

**9 Physical and chemical properties**

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

<i>Form:</i>	<i>Liquid</i>
<i>Color:</i>	<i>Transparent</i>
<i>Odor:</i>	<i>Odorless</i>
<i>Odor threshold:</i>	<i>Not determined.</i>
- *pH-value at 20 °C (68 °F):* <4
- *Change in condition*

<i>Melting point/Melting range:</i>	<i>0 °C (32 °F)</i>
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<b>Boiling point/Boiling range:</b>	100 °C (212 °F)
· <b>Flash point:</b>	Not applicable.
· <b>Flammability (solid, gaseous):</b>	Not applicable.
· <b>Decomposition temperature:</b>	Not determined.
· <b>Auto igniting:</b>	Product is not selfigniting.
· <b>Danger of explosion:</b>	Product does not present an explosion hazard.
· <b>Explosion limits:</b>	
<b>Lower:</b>	Not determined.
<b>Upper:</b>	Not determined.
· <b>Vapor pressure at 20 °C (68 °F):</b>	23 hPa (17.3 mm Hg)
· <b>Density at 20 °C (68 °F):</b>	1 g/cm <sup>3</sup> (8.345 lbs/gal)
· <b>Relative density</b>	Not determined.
· <b>Vapor density</b>	Not determined.
· <b>Evaporation rate</b>	Not determined.
· <b>Solubility in / Miscibility with Water:</b>	Fully miscible.
· <b>Partition coefficient (n-octanol/water):</b>	Not determined.
· <b>Viscosity:</b>	
<b>Dynamic:</b>	Not determined.
<b>Kinematic:</b>	Not determined.
· <b>Solvent content:</b>	
<b>Water:</b>	99.4 %
<b>VOC content:</b>	0.00 %
· <b>Other information</b>	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:** No irritant effect.

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- **on the eye:** No irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**

The product is not subject to classification according to internally approved calculation methods for preparations:

When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

- **Carcinogenic categories**

· **IARC (International Agency for Research on Cancer)**

7440-48-4	cobalt	2B
7439-92-1	lead	2B
7440-41-7	beryllium	I

· **NTP (National Toxicology Program)**

7440-48-4	cobalt	R
7439-92-1	lead	R
7440-41-7	beryllium	K

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

**13 Disposal considerations**

- **Waste treatment methods**
- **Recommendation:** Smaller quantities can be disposed of with household waste.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

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

**14 Transport information**

· <b>UN-Number</b> · DOT, ADR, ADN, IMDG, IATA	Void
· <b>UN proper shipping name</b> · DOT, ADR, ADN, IMDG, IATA	Void
· <b>Transport hazard class(es)</b> · DOT, ADR, ADN, IMDG, IATA · Class	Void
· <b>Packing group</b> · DOT, ADR, IMDG, IATA	Void
· <b>Environmental hazards:</b> · <b>Marine pollutant:</b>	No
· <b>Special precautions for user</b>	Not applicable.
· <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>	Not applicable.
· <b>UN "Model Regulation":</b>	Non regulated according to above specifications. Void

**15 Regulatory information**

· <b>Safety, health and environmental regulations/legislation specific for the substance or mixture</b>			
7732-18-5	Water		99.3699%
7697-37-2	Nitric Acid	 Ox. Liq. 2, H272  Skin Corr. 1A, H314	0.5%
7440-45-1	cerium	 Water-react. 2, H261	0.02%

· **Sara**

· **Section 355 (extremely hazardous substances):**

7697-37-2 Nitric Acid

· **Section 313 (Specific toxic chemical listings):**

7697-37-2 Nitric Acid

7440-48-4 cobalt

7439-92-1 lead

7440-41-7 beryllium

7440-39-3 barium

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

All ingredients are listed.

7697-37-2 Nitric Acid

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7440-45-1	cerium
7440-70-2	calcium
7440-48-4	cobalt
7440-74-6	Indium
7439-89-6	iron
7439-92-1	lead
7439-95-4	magnesium
7440-41-7	beryllium
7440-09-7	potassium
7440-16-6	rhodium
7440-23-5	sodium
7440-39-3	barium
7440-61-1	uranium
7732-18-5	Water

· **Proposition 65**

· **Chemicals known to cause cancer:**

7440-48-4	cobalt
7439-92-1	lead
7440-41-7	beryllium

· **Chemicals known to cause reproductive toxicity for females:**

7439-92-1	lead
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· **Chemicals known to cause reproductive toxicity for males:**

7439-92-1	lead
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· **Chemicals known to cause developmental toxicity:**

7439-92-1	lead
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· **Carcinogenicity categories**

· **EPA (Environmental Protection Agency)**

7439-92-1	lead	B2
7440-41-7	beryllium	B1, K/L(inh), CBD(oral)
7440-39-3	barium	D, CBD(inh), NL(oral)

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

7440-48-4	cobalt	A3
7439-92-1	lead	A3
7440-41-7	beryllium	A1
7440-16-6	rhodium	A4
7440-39-3	barium	A4
7440-61-1	uranium	A1

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

7440-41-7	beryllium
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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, 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*
- **\* Data compared to the previous version altered.**