<table>
<thead>
<tr>
<th>Product code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOVA-3826-01</td>
<td>NextPrep-Mag™ Urine cfDNA Isolation Kit</td>
</tr>
</tbody>
</table>

Components:

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,049</td>
<td>cfDNA Proteinase K</td>
</tr>
<tr>
<td>1,156</td>
<td>Urine cfDNA Binding Solution</td>
</tr>
<tr>
<td>1,051</td>
<td>cfDNA Magnetic Beads</td>
</tr>
<tr>
<td>1,052</td>
<td>cfDNA Wash 1</td>
</tr>
<tr>
<td>1,053</td>
<td>cfDNA Wash 2</td>
</tr>
<tr>
<td>1,054</td>
<td>cfDNA Elution Solution</td>
</tr>
<tr>
<td>1,157</td>
<td>Control PCR Primers</td>
</tr>
</tbody>
</table>

Catalog numbers this SDS covers:

NOVA-3826-01, NOVA-3826-02
1 Identification

· Product identifier
  · Trade name: cfDNA Proteinase K
  · 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
· 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.
  Skin Irrit. 2 H315 Causes skin irritation.
  Eye Irrit. 2A H319 Causes serious eye irritation.

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

· Hazard-determining components of labeling:
  Proteinase, Tritirachium album serine

· Hazard statements
  H315 Causes skin irritation.
  H319 Causes serious eye irritation.
  H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

· Precautionary statements
  P261 Avoid breathing dust/fume/gas/mist/vapors/spray
  P280 Wear protective gloves / eye protection / face protection.
  P284 [In case of inadequate ventilation] wear respiratory protection.
  P304+P341 If inhaled: If breathing is difficult, 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.
  P321 Specific treatment (see on this label).
  P342+P311 If experiencing respiratory symptoms: Call a POISON CENTER/doctor.
  P501 Dispose of contents/container in accordance with local/regional/national/international regulations.
Trade name: cfDNA Proteinase K

- Classification system:
  - NFPA ratings (scale 0 - 4)
    - Health = 1
    - Fire = 1
    - Reactivity = 0
  - HMIS-ratings (scale 0 - 4)
    - Health = *1
    - Fire = 1
    - 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

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

<table>
<thead>
<tr>
<th>Hazardous components:</th>
<th>56-81-5 glycerol</th>
<th>39450-01-6 Proteinase, Tritirachium album serine</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>≥10-≤90%</td>
<td>≤10.0%</td>
</tr>
<tr>
<td>Resp. Sens. 1, H334</td>
<td></td>
<td>Skin Irrit. 2, H315; Eye Irrit. 2A, H319; STOT SE 3, H335</td>
</tr>
</tbody>
</table>

### 4 First-aid measures

- Description of first aid measures
  - 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. If symptoms persist, consult a doctor.
  - 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**: No special measures required.
· **Methods and material for containment and cleaning up**: Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust). Dispose contaminated material as waste according to item 13.
· **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**: 56-81-5 glycerol 45 mg/m³
  · **PAC-2**: 56-81-5 glycerol 180 mg/m³
  · **PAC-3**: 56-81-5 glycerol 1,100 mg/m³

7 Handling and storage

· **Handling**
  · **Precautions for safe handling** Ensure good ventilation/exhaustion at the workplace.
  · **Information about protection against explosions and fires**: No special measures required.
· **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 constituent is the only constituent of the product which has a PEL, TLV or other recommended exposure limit.
    At this time, the remaining constituent has no known exposure limits.
  · **56-81-5 glycerol**
    - **PEL** Long-term value: 15* 5** mg/m³
      - mist; *total dust **respirable fraction
    - **TLV** TLV withdrawn-insufficient data human occup. exp.
· **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 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: Clear

  - **Odor:** undistinguishable

  - **Odor threshold:** Not determined.

  - **pH-value:** Not determined.

- **Change in condition**
  - Melting point/Melting range: Undetermined.
  - Boiling point/Boiling range: 290°C (554 °F)

- **Flash point:** > 100°C (> 212 °F)

- **Flammability (solid, gaseous):** Not applicable.

- **Ignition temperature:** 400°C (752 °F)

- **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.
Trade name: cfDNA Proteinase K

<table>
<thead>
<tr>
<th>Upper:</th>
<th>Not determined.</th>
</tr>
</thead>
<tbody>
<tr>
<td>· Vapor pressure at 20°C (68 °F):</td>
<td>&lt;0.1 hPa (&lt;0 mm Hg)</td>
</tr>
<tr>
<td>· Density at 20°C (68 °F):</td>
<td>1.252 g/cm³ (10.448 lbs/gal)</td>
</tr>
<tr>
<td>· Relative density</td>
<td>Not determined.</td>
</tr>
<tr>
<td>· Vapor density</td>
<td>Not determined.</td>
</tr>
<tr>
<td>· Evaporation rate</td>
<td>Not determined.</td>
</tr>
<tr>
<td>· Solubility in / Miscibility with Water:</td>
<td>Not miscible or difficult to mix.</td>
</tr>
<tr>
<td>· Partition coefficient (n-octanol/water):</td>
<td>Not determined.</td>
</tr>
<tr>
<td>· Viscosity:</td>
<td>Dynamic: Not determined.</td>
</tr>
<tr>
<td></td>
<td>Kinematic: Not determined.</td>
</tr>
<tr>
<td>· Solvent content:</td>
<td>Organic solvents: 90.0 %</td>
</tr>
<tr>
<td></td>
<td>VOC content: 0.00 %</td>
</tr>
<tr>
<td>· Solids content:</td>
<td>0.0 %</td>
</tr>
<tr>
<td>· Other information</td>
<td>No further relevant information available.</td>
</tr>
</tbody>
</table>

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: Irritant to skin and mucous membranes.
  - on the eye: Irritating effect.
- Sensitization: Sensitization possible through inhalation.
- Additional toxicological information:
The product shows the following dangers according to internally approved calculation methods for preparations:
  - Harmful
  - Irritant
- 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.
### 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:** 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, ADN, IMDG, IATA** Void
- **UN proper shipping name**
  - **DOT, ADR, ADN, IMDG, IATA** Void
- **Transport hazard class(es)**
  - **DOT, ADR, ADN, IMDG, IATA** Void
  - **Class**
  - **DOT, ADR, IMDG, IATA** Void
- **Environmental hazards:** Not applicable.
- **Special precautions for user** Not applicable.
- **Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** Not applicable.

(Contd. on page 7)
15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**

<table>
<thead>
<tr>
<th>CAS Number</th>
<th>Substance</th>
<th>Conc. Limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>56-81-5</td>
<td>Glycerol</td>
<td>≥10–≤90%</td>
</tr>
<tr>
<td>39450-01-6</td>
<td>Proteinase, Trirachium album serine</td>
<td>≤10.0%</td>
</tr>
</tbody>
</table>

- **Sara**
  - **Section 355 (extremely hazardous substances):**
    - None of the ingredients is listed.
  - **Section 313 (Specific toxic chemical listings):**
    - None of the ingredients is listed.
- **TSCA (Toxic Substances Control Act):**
  - 56-81-5 Glycerol

- **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**
    - None of the ingredients is listed.
- **EPA (Environmental Protection Agency)**
  - None of the ingredients is listed.
- **TLV (Threshold Limit Value established by ACGIH)**
  - None of the ingredients is listed.
- **NIOSH-Ca (National Institute for Occupational Safety and Health)**
  - None of the ingredients is listed.

- **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).
  - **Hazard pictograms** GHS08
  - **Signal word** Danger
- **Hazard-determining components of labeling:**
  - Proteinase, Trirachium album serine
- **Hazard statements**
  - H315 Causes skin irritation.
  - H319 Causes serious eye irritation.
  - H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- **Precautionary statements**
  - P261 Avoid breathing dust/fume/gas/mist/vapors/spray
  - P280 Wear protective gloves / eye protection / face protection.

(Contd. on page 8)
Trade name: cfDNA Proteinase K

| P284 | [In case of inadequate ventilation] wear respiratory protection. |
| P304+P341 | If inhaled: If breathing is difficult, 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. |
| P321 | Specific treatment (see on this label). |
| P342+P311 | If experiencing respiratory symptoms: Call a POISON CENTER/doctor. |
| P501 | Dispose of contents/container in accordance with local/regional/national/international regulations. |

- National regulations:
  - 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.

- Contact:
  - With in the USA: 1-(800)-762-4000
  - Out side the USA: 1-(203)-712-8488

- Abbreviations and acronyms:
  - 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
  - Skin Irrit. 2: Skin corrosion/irritation – Category 2
  - Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A
  - Resp. Sens. 1: Respiratory sensitisation – Category 1
  - STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

* Data compared to the previous version altered.
1 Identification

- **Product identifier**
  - **Trade name:** Urine cfDNA Binding Solution
  - **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
  - **Emergency telephone number:**
    CHEMTREC (within US) 800-424-9300
    CHEMTREC (from outside US) +1 703-527-3887 (call collect)
    CHEMTREC (within AU) +61-2-9037-2994

2 Hazard(s) identification

- **Classification of the substance or mixture**
  - ![Corrosion](Image)
  - **Eye Dam. 1 H318 Causes serious eye damage.**

- **Acute Tox. 4 H302 Harmful if swallowed.**
- **Acute Tox. 4 H312 Harmful in contact with skin.**

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

- **Hazard-determining components of labeling:**
  - guanidinium thiocyanate
  - Triton X-100

- **Hazard statements**
  - H302+H312 Harmful if swallowed or in contact with skin.
  - H318 Causes serious eye damage.

- **Precautionary statements**
  - 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+P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
  - 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).
  - P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

(Contd. on page 2)
3 Composition/information on ingredients

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

<table>
<thead>
<tr>
<th>Hazardous components</th>
<th>Acute Tox. 3, H331</th>
<th>Acute Tox. 4, H302, Acute Tox. 4, H312</th>
<th>≥10-&lt;70%</th>
</tr>
</thead>
<tbody>
<tr>
<td>593-84-0 guanidinium thiocyanate</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>25322-68-3 Polyethylene glycol</td>
<td></td>
<td></td>
<td>≥10-≤20%</td>
</tr>
<tr>
<td>9002-93-1 Triton X-100</td>
<td></td>
<td></td>
<td>≥1-≤5%</td>
</tr>
</tbody>
</table>

4 First-aid measures

- Description of first aid measures
- General information: 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; 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. Then consult a doctor.
- After swallowing: 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: No further relevant information available.
Trade name: Urine cfDNA Binding Solution

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
  Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:** No special measures required.
- **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.
- **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:**
  - 593-84-0 guanidinium thiocyanate 0.98 mg/m³
  - 25322-68-3 Polyethylene glycol 30 mg/m³

- **PAC-2:**
  - 593-84-0 guanidinium thiocyanate 11 mg/m³
  - 25322-68-3 Polyethylene glycol 1,300 mg/m³

- **PAC-3:**
  - 593-84-0 guanidinium thiocyanate 65 mg/m³
  - 25322-68-3 Polyethylene glycol 7,700 mg/m³

7 Handling and storage

- **Handling:**
  - **Precautions for safe handling** No special precautions are necessary if used correctly.
  - **Information about protection against explosions and fires:** No special measures required.
- **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 constituent is the only constituent of the product which has a PEL, TLV or other recommended exposure limit.
    At this time, the other constituents have no known exposure limits.
Trade name: Urine cfDNA Binding Solution

| 25322-68-3 Polyethylene glycol | WEEL Long-term value: 10 mg/m³ (H); MW>200 |

- **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.
- **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:** Clear
  - **Odor:** undistinguishable
  - **Odor threshold:** Not determined.
- **pH-value:** Not determined.
- **Change in condition**
  - **Melting point/Melting range:** Undetermined.
  - **Boiling point/Boiling range:** Undetermined.
- **Flash point:** > 100°C (> 212 °F)
### Trade name: Urine cfDNA Binding Solution

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>· Flammability (solid, gaseous):</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>· Ignition temperature:</td>
<td></td>
</tr>
<tr>
<td>· Decomposition temperature:</td>
<td>Not determined.</td>
</tr>
<tr>
<td>· Auto igniting:</td>
<td>Product is not selfigniting.</td>
</tr>
<tr>
<td>· Danger of explosion:</td>
<td>Product does not present an explosion hazard.</td>
</tr>
<tr>
<td>· Explosion limits:</td>
<td></td>
</tr>
<tr>
<td>· Lower:</td>
<td>Not determined.</td>
</tr>
<tr>
<td>· Upper:</td>
<td>Not determined.</td>
</tr>
<tr>
<td>· Vapor pressure:</td>
<td>Not determined.</td>
</tr>
<tr>
<td>· Density:</td>
<td>Not determined.</td>
</tr>
<tr>
<td>· Relative density</td>
<td>Not determined.</td>
</tr>
<tr>
<td>· Vapor density</td>
<td>Not determined.</td>
</tr>
<tr>
<td>· Evaporation rate</td>
<td>Not determined.</td>
</tr>
<tr>
<td>· Solubility in / Miscibility with Water:</td>
<td>Not miscible or difficult to mix.</td>
</tr>
<tr>
<td>· Partition coefficient (n-octanol/water):</td>
<td>Not determined.</td>
</tr>
<tr>
<td>· Viscosity:</td>
<td></td>
</tr>
<tr>
<td>· Dynamic:</td>
<td>Not determined.</td>
</tr>
<tr>
<td>· Kinematic:</td>
<td>Not determined.</td>
</tr>
<tr>
<td>· Solvent content:</td>
<td></td>
</tr>
<tr>
<td>· Water:</td>
<td>5.0 %</td>
</tr>
<tr>
<td>· VOC content:</td>
<td>0.00 %</td>
</tr>
<tr>
<td>· Solids content:</td>
<td>62.5 %</td>
</tr>
<tr>
<td>· Other information</td>
<td>No further relevant information available.</td>
</tr>
</tbody>
</table>

### 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.
    - **on the eye**: 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:
Trade name: Urine cfDNA Binding Solution

Harmful
Irritant

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 product to reach ground water, water course or sewage system.
Must not reach bodies of water or drainage ditch undiluted or unneutralized.
Danger to drinking water if even small quantities leak into the ground.

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 UN1760

UN proper shipping name
DOT, ADR Corrosive liquids, n.o.s. (guanidinium thiocyanate)
IMDG, IATA CORROSIVE LIQUID, N.O.S. (guanidinium thiocyanate)
| Transport hazard class(es) |  
| DOT |  
| · Class | 8 Corrosive substances  
| · Label | 8  
| ADR, IMDG, IATA |  
| · Class | 8 Corrosive substances  
| · Label | 8  
| · Packing group |  
| · DOT, ADR, IMDG, IATA | III  
| · Environmental hazards: | Product contains environmentally hazardous substances: Triton X-100  
| · Special precautions for user | Warning: Corrosive substances  
| · Danger code (Kemler): | 60  
| · EMS Number: | F-A,S-B  
| · 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: |  
| · DOT |  
| · Quantity limitations | On passenger aircraft/rail: 5 L  
| | 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 |  
| · Limited quantities (LQ) | 5L  
| · Excepted quantities (EQ) | Code: E1  
| | Maximum net quantity per inner packaging: 30 ml  
| | Maximum net quantity per outer packaging: 1000 ml  
| · UN "Model Regulation": | UN 1760 CORROSIVE LIQUIDS, N.O.S. (GUANIDINIUM THIOCYANATE), 8, III  

(Contd. of page 6)
## 15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**

<table>
<thead>
<tr>
<th>CAS Number</th>
<th>Chemical Name</th>
<th>Hazard Statements</th>
</tr>
</thead>
<tbody>
<tr>
<td>593-84-0</td>
<td>guanidinium thiocyanate</td>
<td>Acute Tox. 3, H331 Acute Tox. 4, H302, Acute Tox. 4, H312</td>
</tr>
<tr>
<td>25322-68-3</td>
<td>Polyethylene glycol</td>
<td>≥10-&lt;70%</td>
</tr>
<tr>
<td>9005-65-6</td>
<td>Tween (Polysorbate) 80</td>
<td>≥10-≤20%</td>
</tr>
<tr>
<td>25322-68-3</td>
<td>Polyethylene glycol</td>
<td>≥10-≤20%</td>
</tr>
<tr>
<td>9005-65-6</td>
<td>Tween (Polysorbate) 80</td>
<td>≥0.1-≤5%</td>
</tr>
<tr>
<td>9002-93-1</td>
<td>Triton X-100</td>
<td></td>
</tr>
<tr>
<td>7732-18-3</td>
<td>Water</td>
<td></td>
</tr>
</tbody>
</table>

- **Sara**
  - **Section 355 (extremely hazardous substances):**
    - None of the ingredients is listed.
  - **Section 313 (Specific toxic chemical listings):**
    - None of the ingredients is listed.

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

<table>
<thead>
<tr>
<th>CAS Number</th>
<th>Chemical Name</th>
<th>TSCA Listed</th>
</tr>
</thead>
<tbody>
<tr>
<td>593-84-0</td>
<td>guanidinium thiocyanate</td>
<td>Yes</td>
</tr>
<tr>
<td>25322-68-3</td>
<td>Polyethylene glycol</td>
<td>Yes</td>
</tr>
<tr>
<td>9005-65-6</td>
<td>Tween (Polysorbate) 80</td>
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<td>9002-93-1</td>
<td>Triton X-100</td>
<td>Yes</td>
</tr>
<tr>
<td>7732-18-3</td>
<td>Water</td>
<td>Yes</td>
</tr>
</tbody>
</table>

- **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.

- **Carcinogenity categories**
  - **EPA (Environmental Protection Agency)**
    - None of the ingredients is listed.
  - **TLV (Threshold Limit Value established by ACGIH)**
    - None of the ingredients is listed.
  - **NIOSH-Ca (National Institute for Occupational Safety and Health)**
    - None of the ingredients is listed.

- **GHS label elements**
  - The product is classified and labeled according to the Globally Harmonized System (GHS).
  - **Hazard pictograms** GHS05, GHS07
  - **Signal word** Danger
  - **Hazard-determining components of labeling:**
    - guanidinium thiocyanate
    - Triton X-100
  - **Hazard statements**
    - H302+H312 Harmful if swallowed or in contact with skin.
    - H318 Causes serious eye damage.
  - **Precautionary statements**
    - P264 Wash thoroughly after handling.
Trade name: Urine cfDNA Binding Solution

P270    Do not eat, drink or smoke when using this product.
P280    Wear protective gloves/protective clothing/eye protection/face protection.
P301 + P312    IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
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).
P501    Dispose of contents/container in accordance with local/regional/national/international regulations.

- National regulations:
- Water hazard class: Water hazard class 2 (Self-assessment): 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.

- Contact:
  With in the USA:  1-(800)-762-4000
  Out side the USA:  1-(203)-712-8488

- Abbreviations and acronyms:
  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
  Acute Tox. 4: Acute toxicity – Category 4
  Acute Tox. 3: Acute toxicity – Category 3
  Eye Dam. 1: Serious eye damage/eye irritation – Category 1

- * Data compared to the previous version altered.
1 Identification

- **Product identifier**
  - **Trade name:** cfDNA Magnetic Beads
  - **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

- **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**
  - Eye Irrit. 2A H319 Causes serious eye irritation.

- **Label elements**
  - **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).
  - **Hazard pictograms** GHS07
  - **Signal word** Warning
  - **Hazard statements**
    - H319 Causes serious eye irritation.
  - **Precautionary statements**
    - P264 Wash thoroughly after handling.
    - P280 Wear eye protection / face protection.
    - P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
    - P337+P313 If eye irritation persists: Get medical advice/attention.

- **Classification system**
  - **NFPA ratings (scale 0 - 4)**
    - Health = 1
    - Fire = 0
    - Reactivity = 0

- **HMIS-ratings (scale 0 - 4)**
  - HEALTH Health = 1
  - FIRE Fire = 0
  - REACTIVITY 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.

(Contd. on page 2)
3 Composition/information on ingredients

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

Table: Hazardous components:

<table>
<thead>
<tr>
<th>CAS Number</th>
<th>Substance</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>25322-68-3</td>
<td>Polyethylene glycol</td>
<td>≥10-≤20%</td>
</tr>
<tr>
<td>60-00-4</td>
<td>edetic acid</td>
<td>≤10.0%</td>
</tr>
</tbody>
</table>

4 First-aid measures

- Description of first aid measures
- 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. If symptoms persist, consult a doctor.
- 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: No special measures required.
- Methods and material for containment and cleaning up: Pick up mechanically.
- 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:
    | CAS Number | Substance                                       | Concentration |
    |------------|------------------------------------------------|---------------|
    | 1185-53-1  | 2-amino-2-(hydroxymethyl)propane-1,3-diolhydrochloride | 12 mg/m3     |
    | 25322-68-3 | Polyethylene glycol                             | 30 mg/m3     |
    | 60-00-4    | edetic acid                                     | 4.1 mg/m3    |
    | 26628-22-8 | sodium azide                                    | 0.026 mg/m3  |
  - PAC-2:
    | CAS Number | Substance                                       | Concentration |
    |------------|------------------------------------------------|---------------|
    | 1185-53-1  | 2-amino-2-(hydroxymethyl)propane-1,3-diolhydrochloride | 130 mg/m3    |
Material Safety Data Sheet
ISO 11014:2009 and GHS 2007

Trade name: cfDNA Magnetic Beads

<table>
<thead>
<tr>
<th>Trade name</th>
<th>CAS number</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polyethylene glycol</td>
<td>25322-68-3</td>
<td>1,300 mg/m³</td>
</tr>
<tr>
<td>edetic acid</td>
<td>60-00-4</td>
<td>45 mg/m³</td>
</tr>
<tr>
<td>sodium azide</td>
<td>26628-22-8</td>
<td>0.29 mg/m³</td>
</tr>
<tr>
<td>PAC-3:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2-amino-2-(hydroxymethyl)propane-1,3-diolhydrochloride</td>
<td>1185-53-1</td>
<td>790 mg/m³</td>
</tr>
<tr>
<td>Polyethylene glycol</td>
<td>25322-68-3</td>
<td>7,700 mg/m³</td>
</tr>
<tr>
<td>edetic acid</td>
<td>60-00-4</td>
<td>200 mg/m³</td>
</tr>
<tr>
<td>sodium azide</td>
<td>26628-22-8</td>
<td>5.3 mg/m³</td>
</tr>
</tbody>
</table>

7 Handling and storage

Handling:
- Precautions for safe handling: No special precautions are necessary if used correctly.
- Information about protection against explosions and fires: No special measures required.

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 constituent is the only constituent of the product which has a PEL, TLV or other recommended exposure limit.
  At this time, the remaining constituent has no known exposure limits.

25322-68-3 Polyethylene glycol

WEEL Long-term value: 10 mg/m³ (H); MW>200

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:
  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

(Contd. on page 4)
Trade name: cfDNA Magnetic Beads

- **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: Brown
  - **Odor:** undistinguishable
  - **Odor threshold:** Not determined.
  - **pH-value:** Not applicable.

- **Change in condition**
  - Melting point/Melting range: Undetermined.
  - Boiling point/Boiling range: Undetermined.

- **Flash point:** Not applicable.

- **Flammability (solid, gaseous):** Not determined.

- **Ignition temperature:**
  - 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 applicable.

- **Density:** Not determined.
- **Relative density** Not determined.
- **Vapor density** Not applicable.
- **Evaporation rate** Not applicable.

- **Solubility in / Miscibility with**
  - Water: Not miscible or difficult to mix.

- **Partition coefficient (n-octanol/water):** Not determined.

- **Viscosity:**
  - Dynamic: Not applicable.
Trade name: cfDNA Magnetic Beads

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:
    26628-22-8 sodium azide
    Oral LD50 27 mg/kg (rat)
    Dermal LD50 20 mg/kg (rabbit)
- Primary irritant effect:
  - on the skin: No irritant effect.
  - on the eye: Irritating effect.
  - Sensitization: No sensitizing effects known.
- Additional toxicological information:
  The product shows the following dangers according to internally approved calculation methods for preparations:
  Irritant

  - 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.
Trade name: cfDNA Magnetic Beads

- 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: 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, ADN, IMDG, IATA Void
- UN proper shipping name
  - DOT, ADR, ADN, IMDG, IATA Void
- Transport hazard class(es)
  - DOT, ADR, ADN, IMDG, IATA Void
  - Class Void
- Packing group
  - DOT, ADR, IMDG, IATA Void
- Environmental hazards: Not applicable.
- Special precautions for user: Not applicable.
- Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code: Not applicable.
- UN "Model Regulation": Non regulated according to above specifications. Void

15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture

<table>
<thead>
<tr>
<th>UN number</th>
<th>Substance</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>1185-53-1</td>
<td>2-amino-2-(hydroxymethyl)propane-1,3-diolhydrochloride</td>
<td>≥10-≤30%</td>
</tr>
<tr>
<td>7647-14-5</td>
<td>sodium chloride</td>
<td>≥10-≤30%</td>
</tr>
<tr>
<td>25322-68-3</td>
<td>Polyethylene glycol</td>
<td>≥10-≤20%</td>
</tr>
<tr>
<td>26628-22-8</td>
<td>sodium azide</td>
<td></td>
</tr>
</tbody>
</table>

- Sara

  - Section 355 (extremely hazardous substances):
    - 26628-22-8 sodium azide
Trade name: cfDNA Magnetic Beads

- Section 313 (Specific toxic chemical listings):
  - 26628-22-8 sodium azide

- TSCA (Toxic Substances Control Act):
  - 1185-53-1 2-amino-2-(hydroxymethyl)propane-1,3-diolhydrochloride
  - 7647-14-5 sodium chloride
  - 25322-68-3 Polyethylene glycol
  - 60-00-4 edetic acid
  - 9005-65-6 Tween (Polysorbate) 80
  - 26628-22-8 sodium azide

- 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)
  - 26628-22-8 sodium azide A4

- NIOSH-Ca (National Institute for Occupational Safety and Health)
  None of the ingredients is listed.

- GHS label elements The product is classified and labeled according to the Globally Harmonized System (GHS).
  - Hazard pictograms GHS07
  - Signal word Warning
  - Hazard statements
    H319 Causes serious eye irritation.

- Precautionary statements
  - P264 Wash thoroughly after handling
  - P280 Wear eye protection / face protection.
  - P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
  - P337+P313 If eye irritation persists: Get medical advice/attention.

- National regulations:

- 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
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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.

- **Contact:**
  - With in the USA: 1-(800)-762-4000
  - Out side the USA: 1-(203)-712-8488

- **Abbreviations and acronyms:**
  - 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
  - Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A

- * Data compared to the previous version altered.
1 Identification

· Product identifier
· Trade name: cfDNA Wash 1
· 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

· 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

Acute Tox. 4  H332 Harmful if inhaled.

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

· Hazard-determining components of labeling:
guanidinium thiocyanate
· Hazard statements
H332 Harmful if inhaled.
· Precautionary statements
P261 Avoid breathing dust/fume/gas/mist/vapors/spray
P271 Use only outdoors or in a well-ventilated area.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P312 Call a POISON CENTER/doctor if you feel unwell.
· Classification system:
· NFPA ratings (scale 0 - 4)

Health = 0
Fire = 0
Reactivity = 0

· HMIS-ratings (scale 0 - 4)

HEALTH 1 Health = 1
FIRE 1 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.

(Contd. on page 2)
Trade name: cfDNA Wash 1

· **vPvB:** Not applicable.

### 3 Composition/information on ingredients

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

#### Hazardous components:

<table>
<thead>
<tr>
<th>CAS Number</th>
<th>Substance</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>25322-68-3</td>
<td>Polyethylene glycol</td>
<td>≥10% ≤50%</td>
</tr>
<tr>
<td>593-84-0</td>
<td>guanidinium thiocyanate</td>
<td></td>
</tr>
<tr>
<td>60-00-4</td>
<td>edetic acid</td>
<td>≥0.1% ≤5%</td>
</tr>
</tbody>
</table>

- Acute Tox. 3, H331
- Acute Tox. 4, H302; Acute Tox. 4, H312
- Eye Irrit. 2A, H319

### 4 First-aid measures

· **Description of first aid measures**
· **General information:** 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. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.
· **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:** Mouth respiratory protective device.

### 6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures** Not required.
· **Environmental precautions:** No special measures required.
· **Methods and material for containment and cleaning up:**
  - Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
  - 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.
Trade name: cfDNA Wash 1

- Protective Action Criteria for Chemicals

- PAC-1:
  - 25322-68-3 Polyethylene glycol 30 mg/m³
  - 593-84-0 guanidinium thiocyanate 0.98 mg/m³
  - 60-00-4 edetic acid 4.1 mg/m³

- PAC-2:
  - 25322-68-3 Polyethylene glycol 1,300 mg/m³
  - 593-84-0 guanidinium thiocyanate 11 mg/m³
  - 60-00-4 edetic acid 45 mg/m³

- PAC-3:
  - 25322-68-3 Polyethylene glycol 7,700 mg/m³
  - 593-84-0 guanidinium thiocyanate 65 mg/m³
  - 60-00-4 edetic acid 200 mg/m³

7 Handling and storage

- Handling:
  - Precautions for safe handling: Ensure good ventilation/exhaustion at the workplace.
  - Information about protection against explosions and fires: No special measures required.

- 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 constituent is the only constituent of the product which has a PEL, TLV or other recommended exposure limit.
  At this time, the other constituents have no known exposure limits.

  25322-68-3 Polyethylene glycol
  WEEL Long-term value: 10 mg/m³
  (H): MW>200

- Additional information: The lists that were valid during the creation were used as basis.

- Exposure controls

- Personal protective equipment:
  - General protective and hygienic measures: Wash hands before breaks and at the end of work.

- 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:
  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: Goggles recommended during refilling.

---

9 Physical and chemical properties

<table>
<thead>
<tr>
<th>Physical and chemical properties</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Information on basic physical and chemical properties</strong></td>
<td></td>
</tr>
<tr>
<td><strong>General Information</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Appearance</strong></td>
<td></td>
</tr>
<tr>
<td>Form</td>
<td>Liquid</td>
</tr>
<tr>
<td>Color</td>
<td>Clear</td>
</tr>
<tr>
<td>Odor</td>
<td>undistinguishable</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>Not determined.</td>
</tr>
<tr>
<td><strong>pH-value</strong></td>
<td>Not determined.</td>
</tr>
<tr>
<td><strong>Change in condition</strong></td>
<td></td>
</tr>
<tr>
<td>Melting point/Melting range</td>
<td>Undetermined.</td>
</tr>
<tr>
<td>Boiling point/Boiling range</td>
<td>100°C (212 °F)</td>
</tr>
<tr>
<td><strong>Flash point</strong></td>
<td>Not applicable.</td>
</tr>
<tr>
<td><strong>Flammability (solid, gaseous)</strong></td>
<td>Not applicable.</td>
</tr>
<tr>
<td><strong>Ignition temperature</strong></td>
<td></td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Auto igniting</td>
<td>Product is not selfigniting.</td>
</tr>
<tr>
<td><strong>Danger of explosion</strong></td>
<td>Product does not present an explosion hazard.</td>
</tr>
<tr>
<td><strong>Explosion limits</strong></td>
<td></td>
</tr>
<tr>
<td>Lower</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Upper</td>
<td>Not determined.</td>
</tr>
<tr>
<td><strong>Vapor pressure at 20°C (68 °F)</strong></td>
<td>23 hPa (17 mm Hg)</td>
</tr>
<tr>
<td><strong>Density</strong></td>
<td>Not determined.</td>
</tr>
<tr>
<td>Relative density</td>
<td>Not determined.</td>
</tr>
<tr>
<td><strong>Vapor density</strong></td>
<td>Not determined.</td>
</tr>
<tr>
<td><strong>Evaporation rate</strong></td>
<td>Not determined.</td>
</tr>
<tr>
<td><strong>Solubility in / Miscibility with</strong></td>
<td></td>
</tr>
<tr>
<td>Water</td>
<td>Not miscible or difficult to mix.</td>
</tr>
<tr>
<td><strong>Partition coefficient (n-octanol/water)</strong></td>
<td>Not determined.</td>
</tr>
<tr>
<td><strong>Viscosity</strong></td>
<td></td>
</tr>
<tr>
<td>Dynamic</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Kinematic</td>
<td>Not determined.</td>
</tr>
<tr>
<td><strong>Solvent content</strong></td>
<td></td>
</tr>
<tr>
<td>Water</td>
<td>23.0 %</td>
</tr>
</tbody>
</table>
Material Safety Data Sheet
ISO 11014:2009 and GHS 2007

Printing date 07/18/2017  Review date 07/18/2017

Trade name: cfDNA Wash 1

| VOC content: | 0.00 % |
| Solids content: | 33.5 % |
| 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: No irritant effect.
    - on the eye: No irritating effect.
  - Sensitization: No sensitizing effects known.
  - Additional toxicological information: Harmful
- 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 product to reach ground water, water course or sewage system. Danger to drinking water if even small quantities leak into the ground.
  - Results of PBT and vPvB assessment
    - PBT: Not applicable.
    - vPvB: Not applicable.
Trade name: cfDNA Wash 1

**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, ADN, IMDG, IATA: Void

- **UN proper shipping name**
  - DOT, ADR, ADN, IMDG, IATA: Void

- **Transport hazard class(es)**
  - DOT, ADR, ADN, IMDG, IATA: Void

- **Packing group**
  - DOT, ADR, IMDG, IATA: Void

- **Environmental hazards:** Not applicable.

- **Special precautions for user** Not applicable.

- **Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** Not applicable.

- **UN "Model Regulation":** Non regulated according to above specifications. Void

### 15 Regulatory information

#### Safety, health and environmental regulations/legislation specific for the substance or mixture

<table>
<thead>
<tr>
<th>Material</th>
<th>Percentage</th>
<th>Regulation</th>
</tr>
</thead>
<tbody>
<tr>
<td>25322-68-3 Polyethylene glycol</td>
<td>≥10-%50%</td>
<td></td>
</tr>
<tr>
<td>7732-18-5 Water</td>
<td>≥10-%25%</td>
<td></td>
</tr>
<tr>
<td>593-84-0 guanidinium thiocyanate</td>
<td>≥10-%20%</td>
<td>Acute Tox. 3, H331; Acute Tox. 4, H312</td>
</tr>
</tbody>
</table>

- **Sara**
  - **Section 355 (extremely hazardous substances):** None of the ingredients is listed.

- **Section 313 (Specific toxic chemical listings):** None of the ingredients is listed.

- **TSCA (Toxic Substances Control Act):**
  - 25322-68-3 Polyethylene glycol
  - 593-84-0 guanidinium thiocyanate
Trade name: cfDNA Wash 1

| 60-00-4 | edetic acid |
| 9005-65-6 | Tween (Polysorbate) 80 |
| 7732-18-5 | Water |

- **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)**
    
    None of the ingredients is listed.
  
  - **NIOSH-Ca (National Institute for Occupational Safety and Health)**
    
    None of the ingredients is listed.

  - **GHS label elements**
    
    The product is classified and labeled according to the Globally Harmonized System (GHS).
    
    - **Hazard pictograms**
      
      GHS07
    
    - **Signal word**
      
      Warning
    
    - **Hazard-determining components of labeling:**
      
      guanidinium thiocyanate
    
    - **Hazard statements**
      
      H332 Harmful if inhaled.
    
    - **Precautionary statements**
      
      P261 Avoid breathing dust/fume/gas/mist/vapors/spray
      
      P271 Use only outdoors or in a well-ventilated area.
      
      P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
      
      P312 Call a POISON CENTER/doctor if you feel unwell.

- **National regulations:**

  - **Water hazard class:** Water hazard class 2 (Self-assessment): hazardous for water.
  
  - **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

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**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.

(Contd. on page 8)
Trade name: cfDNA Wash 1

- Contact:
  With in the USA: 1-(800)-762-4000
  Out side the USA: 1-(203)-712-8488

- Abbreviations and acronyms:
  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
  Acute Tox. 4: Acute toxicity – Category 4
  Acute Tox. 3: Acute toxicity – Category 3
  Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A

* Data compared to the previous version altered.
1 Identification

· Product identifier

· Trade name: cfDNA Wash 2
· 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
· 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)

Health = 0
Fire = 0
Reactivity = 0

· HMIS-ratings (scale 0 - 4)

Health = 0
Fire = 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

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

· Hazardous components:

<table>
<thead>
<tr>
<th>Chemical</th>
<th>CAS No.</th>
<th>Pictogram</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>edetic acid</td>
<td>60-00-4</td>
<td>Eye Irrit. 2A, H319</td>
<td>20.1-55%</td>
</tr>
</tbody>
</table>

(Contd. on page 2)
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: Do not allow to enter sewers/surface or ground 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: | 60-00-4 edetic acid | 4.1 mg/m³ |
| PAC-2: | 60-00-4 edetic acid | 45 mg/m³ |
| PAC-3: | 60-00-4 edetic acid | 200 mg/m³ |

7 Handling and storage

· Handling: No special measures required.
· Information about protection against explosions and fires: No special measures required.
· 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.
Trade name: cfDNA Wash 2

- 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 trough 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:
      - Form: Liquid
      - Color: Clear
      - Odor: undistinguishable
      - 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.
  - Ignition temperature:
    - Decomposition temperature: Not determined.
  - Auto igniting: Product is not selfigniting.
  - Danger of explosion: Product does not present an explosion hazard.
### 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. |
| · 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)**

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:** Generally not hazardous for water
  - **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.

14 Transport information

- **UN-Number**
  - DOT, ADR, ADN, IMDG, IATA: Void
- **UN proper shipping name**
  - DOT, ADR, ADN, IMDG, IATA: Void
- **Transport hazard class(es)**
  - DOT, ADR, ADN, IMDG, IATA: Void
  - **Class:** Void
- **Packing group**
  - DOT, ADR, IMDG, IATA: Void
- **Environmental hazards:**
  - Not applicable.
- **Special precautions for user**
  - Not applicable.
- **Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**
  - Not applicable.
Trade name: cfDNA Wash 2

15 Regulatory information

· Safety, health and environmental regulations/legislation specific for the substance or mixture

<table>
<thead>
<tr>
<th>CAS Number</th>
<th>Substance</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>7732-18-5</td>
<td>Water</td>
<td>≥10−&lt;100%</td>
</tr>
<tr>
<td>60-00-4</td>
<td>edetic acid</td>
<td>≥0.1−≤5%</td>
</tr>
</tbody>
</table>

· Sara

· Section 355 (extremely hazardous substances):
  None of the ingredients is listed.

· Section 313 (Specific toxic chemical listings):
  None of the ingredients is listed.

· TSCA (Toxic Substances Control Act):
  60-00-4 edetic acid
  7732-18-5 Water

· 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)
  None of the ingredients is listed.

· NIOSH-Ca (National Institute for Occupational Safety and Health)
  None of the ingredients is listed.

· GHS label elements: Void
· Hazard pictograms: Void
· Signal word: Void
· Hazard statements: Void

· National regulations:

· Water hazard class: Generally not 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.

- **Contact:**
  - With in the USA: 1-(800)-762-4000
  - Outside the USA: 1-(203)-712-8488

- **Abbreviations and acronyms:**
  - 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
  - Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A

- *Data compared to the previous version altered.*
1 Identification

- Product identifier
  - Trade name: cfDNA Elution Solution
  - 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
- 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)
    
    Health = 0
    Fire = 0
    Reactivity = 0
  - HMIS-ratings (scale 0 - 4)
    HEALTH
    Health = 0
    FIRE
    Fire = 0
    REACTIVITY
    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

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

<table>
<thead>
<tr>
<th>Component</th>
<th>Pesticide</th>
<th>EC No.</th>
<th>CAS No.</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>edetic acid</td>
<td>Eye Irrit. 2A, H319</td>
<td></td>
<td>60-00-4</td>
<td>20.1-52%</td>
</tr>
</tbody>
</table>

(Contd. on page 2)
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: No special measures required.
- 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:
  - edetic acid 60-00-4: 4.1 mg/m³
  - 2-amino-2-(hydroxymethyl)propane-1,3-diolhydrochloride 1185-53-1: 12 mg/m³

- PAC-2:
  - edetic acid 60-00-4: 45 mg/m³
  - 2-amino-2-(hydroxymethyl)propane-1,3-diolhydrochloride 1185-53-1: 130 mg/m³

- PAC-3:
  - edetic acid 60-00-4: 200 mg/m³
  - 2-amino-2-(hydroxymethyl)propane-1,3-diolhydrochloride 1185-53-1: 790 mg/m³

7 Handling and storage

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

(Contd. on page 3)
· 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 trough 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:
  Form: Liquid
  Color: Clear
· Odor: undistinguishable
· 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.
### Trade name: cfDNA Elution Solution

- **Ignition temperature:**
  - **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 at 20°C (68 °F):** 23 hPa (17 mm Hg)

- **Density at 20°C (68 °F):** 1.0123 g/cm³ (8.448 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/water):** Not determined.

- **Viscosity:**
  - **Dynamic:** Not determined.
  - **Kinematic:** Not determined.

- **Solvent content:**
  - **Water:** 95.0 %
  - **VOC content:** 0.00 %

- **Solids content:** 5.0 %

- **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:** No irritant effect.
    - **on the eye:** No irritating effect.

  - **Sensitization:** No sensitizing effects known.
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.

14 Transport information

- **UN-Number**
  - **DOT, ADR, ADN, IMDG, IATA** Void
- **UN proper shipping name**
  - **DOT, ADR, ADN, IMDG, IATA** Void
- **Transport hazard class(es)**
  - **DOT, ADR, ADN, IMDG, IATA**
    - **Class** Void
### Trade name: cfDNA Elution Solution

| · Packing group | Void |
| · DOT, ADR, IMDG, IATA | Not applicable. |
| · Environmental hazards: | Not applicable. |
| · Special precautions for user | Not applicable. |
| · Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code | Not applicable. |
| · UN "Model Regulation": | Non regulated according to above specifications. Void |

### 15 Regulatory information

| · Safety, health and environmental regulations/legislation specific for the substance or mixture |
| 7732-18-5 Water | ≥10-%<100% |
| 7647-14-5 sodium chloride | ≥0.1-%≤2% |
| 60-00-4 edetic acid | Eye Irrit. 2A, H319 ≥0.1-%≤2% |

| · Sara |
| · Section 355 (extremely hazardous substances): |
| None of the ingredients is listed. |

| · Section 313 (Specific toxic chemical listings): |
| None of the ingredients is listed. |

| · TSCA (Toxic Substances Control Act): |
| 60-00-4 edetic acid |
| 7647-14-5 sodium chloride |
| 1185-53-1 2-amino-2-(hydroxymethyl)propane-1,3-diolhydrochloride |
| 7732-18-5 Water |

| · 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) |
| None of the ingredients is listed. |

| · NIOSH-Ca (National Institute for Occupational Safety and Health) |
| None of the ingredients is listed. |

| · GHS label elements | Void |

(Contd. on page 7)
Trade name: cfDNA Elution Solution

- Hazard pictograms: Void
- Signal word: Void
- Hazard statements: Void

- National regulations:
  - 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

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  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
  REL: Recommended Exposure Limit
  Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A

- * Data compared to the previous version altered.
1 Identification

· Product identifier

· Trade name: Control PCR Primers
· 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
· 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)

![NFPA ratings]

Health = 0
Fire = 0
Reactivity = 0

· HMIS-ratings (scale 0 - 4)

![HMIS-ratings]

Health = 0
Fire = 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

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

(Contd. on page 2)
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:** No special measures required.
- **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:** 1185-53-1 2-amino-2-(hydroxymethyl)propane-1,3-diolhydrochloride 12 mg/m³
  - **PAC-2:** 1185-53-1 2-amino-2-(hydroxymethyl)propane-1,3-diolhydrochloride 130 mg/m³
  - **PAC-3:** 1185-53-1 2-amino-2-(hydroxymethyl)propane-1,3-diolhydrochloride 790 mg/m³

7 Handling and storage

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

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 trough 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:
  Form: Fluid
  Color: Transparent
  Odor: undistinguishable
  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.
- Ignition temperature:
  Decomposition temperature: Not determined.
- Auto igniting: Product is not selfigniting.
- Danger of explosion: Product does not present an explosion hazard.
### 45.2.1

- **Explosion limits:**
  - Lower: Not determined.
  - Upper: Not determined.

- **Vapor pressure at 20°C (68 °F):** 23 hPa (17 mm Hg)

- **Density:** Not determined.
- **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/water):** Not determined.

- **Viscosity:**
  - Dynamic at 20°C (68 °F): 0.952 mPas
  - Kinematic: Not determined.

- **Solvent content:**
  - Water: 99.8%
  - 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:** No irritant effect.
  - **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)**
  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.

## 14 Transport information

- **UN-Number**
  - DOT, ADR, ADN, IMDG, IATA Void
- **DOT proper shipping name**
  - DOT, ADR, ADN, IMDG, IATA Void
- **Transport hazard class(es)**
  - DOT, ADR, ADN, IMDG, IATA Void
- **Packing group**
  - DOT, ADR, IMDG, IATA Void
- **Environmental hazards:** Not applicable.
- **Special precautions for user** Not applicable.
- **Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** Not applicable.

(Contd. on page 6)
Material Safety Data Sheet

Trade name: Control PCR Primers

15 Regulatory information

- **UN "Model Regulation":**
  - Non regulated according to above specifications.
  - Void

<table>
<thead>
<tr>
<th>Substance Code</th>
<th>Substance Name</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>7732-18-5</td>
<td>Water</td>
<td>≥10-&lt;100%</td>
</tr>
<tr>
<td>104053-06-7</td>
<td>Oligonucleotide</td>
<td>≤0.1%</td>
</tr>
<tr>
<td>1185-53-1</td>
<td>2-amino-2-(hydroxymethyl)propane-1,3-diolhydrochloride</td>
<td>≤0.1%</td>
</tr>
</tbody>
</table>

- **Sara**
  - **Section 355 (extremely hazardous substances):**
    - None of the ingredients is listed.
  - **Section 313 (Specific toxic chemical listings):**
    - None of the ingredients is listed.
  - **TSCA (Toxic Substances Control Act):**
    - 1185-53-1 2-amino-2-(hydroxymethyl)propane-1,3-diolhydrochloride
    - 7732-18-5 Water

- **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)**
      - None of the ingredients is listed.
    - **NIOSH-Ca (National Institute for Occupational Safety and Health)**
      - None of the ingredients is listed.
  - **GHS label elements**
    - Void
  - **Hazard pictograms**
    - Void
  - **Signal word**
    - Void
  - **Hazard statements**
    - Void
  - **National regulations:**
    - **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**

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  - NFPA: National Fire Protection Association (USA)
  - HMIS: Hazardous Materials Identification System (USA)
  - VOC: Volatile Organic Compounds (USA, EU)
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  - vPvB: very Persistent and very Bioaccumulative
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  - TLV: Threshold Limit Value
  - PEL: Permissible Exposure Limit
  - REL: Recommended Exposure Limit