

# SAFETY DATA SHEET

StrataPrep PCR Purification Kit, Part Number 400773

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

**Product name** : StrataPrep PCR Purification Kit, Part Number 400773  
**Part no. (chemical kit)** : 400773  
**Part no.** : DNA-Binding Solution 400771-13  
 Wash Buffer (5X) 400771-16

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

**Identified uses** : Analytical reagent.  
 DNA-Binding Solution 5 ml  
 Wash Buffer (5X) 10 ml  
**Uses advised against** : None known.

### 1.3 Details of the supplier of the safety data sheet

Agilent Technologies Deutschland GmbH  
 Hewlett-Packard-Str. 8  
 76337 Waldbronn  
 Germany  
 0800 603 1000

**e-mail address of person responsible for this SDS** : pdl-msds\_author@agilent.com

### 1.4 Emergency telephone number

**Emergency telephone number (with hours of operation)** : CHEMTREC®: +(44)-870-8200418

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

**Product definition** : DNA-Binding Solution Mixture  
 Wash Buffer (5X) Mixture

#### Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

##### **DNA-Binding Solution**

H302 ACUTE TOXICITY (oral) Category 4  
 H314 SKIN CORROSION/IRRITATION Category 1C  
 H412 LONG-TERM (CHRONIC) AQUATIC HAZARD Category 3

DNA-Binding Solution The product is classified as hazardous according to Regulation (EC) 1272/2008 as amended.

Wash Buffer (5X) The product is not classified as hazardous according to Regulation (EC) 1272/2008 as amended.

**Ingredients of unknown toxicity** : DNA-Binding Solution Percentage of the mixture consisting of ingredient(s) of unknown acute inhalation toxicity: 1 - 10%

See Section 16 for the full text of the H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

### 2.2 Label elements

**Hazard pictograms** : DNA-Binding Solution



**SECTION 2: Hazards identification**

<b>Signal word</b>	: DNA-Binding Solution Wash Buffer (5X)	Danger No signal word.
<b>Hazard statements</b>	: DNA-Binding Solution  Wash Buffer (5X)	H302 - Harmful if swallowed. H314 - Causes severe skin burns and eye damage. H412 - Harmful to aquatic life with long lasting effects. No known significant effects or critical hazards.
<b><u>Precautionary statements</u></b>		
<b>Prevention</b>	: DNA-Binding Solution  Wash Buffer (5X)	P280 - Wear protective gloves, protective clothing and eye or face protection. Not applicable.
<b>Response</b>	: DNA-Binding Solution  Wash Buffer (5X)	P304 + P310 - IF INHALED: Immediately call a POISON CENTER or doctor. P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor. P303 + P361 + P353, P310 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. Immediately call a POISON CENTER or doctor. Not applicable.
<b>Storage</b>	: DNA-Binding Solution Wash Buffer (5X)	Not applicable. Not applicable.
<b>Disposal</b>	: DNA-Binding Solution  Wash Buffer (5X)	P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations. Not applicable.
<b>Hazardous ingredients</b>	: DNA-Binding Solution	guanidinium thiocyanate
<b>Supplemental label elements</b>	: DNA-Binding Solution Wash Buffer (5X)	Not applicable. Not applicable.
<b>Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles</b>	: DNA-Binding Solution Wash Buffer (5X)	Not applicable. Not applicable.
<b><u>Special packaging requirements</u></b>		
<b>Tactile warning of danger</b>	: DNA-Binding Solution Wash Buffer (5X)	Not applicable. Not applicable.

**2.3 Other hazards**

<b>Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII</b>	: DNA-Binding Solution  Wash Buffer (5X)	This mixture does not contain any substances that are assessed to be a PBT or a vPvB. This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
<b>Other hazards which do not result in classification</b>	: DNA-Binding Solution Wash Buffer (5X)	Causes digestive tract burns. None known.

**SECTION 3: Composition/information on ingredients**

<b>3.1 Substances</b>	: DNA-Binding Solution Wash Buffer (5X)	Mixture Mixture
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SECTION 3: Composition/information on ingredients

Product/ingredient name	Identifiers	%	Classification	Specific Conc. Limits, M-factors and ATEs	Type
DNA-Binding Solution guanidinium thiocyanate	EC: 209-812-1 CAS: 593-84-0	≥25 - ≤50	Acute Tox. 4, H302 Acute Tox. 4, H312 Acute Tox. 4, H332 Skin Corr. 1C, H314 Aquatic Chronic 3, H412 EUH032 EUH071 <b>See Section 16 for the full text of the H statements declared above.</b>	ATE [Oral] = 593 mg/kg ATE [Dermal] = 1100 mg/kg ATE [Inhalation (dusts and mists)] = 3.181 mg/l	[1]

There are no additional ingredients present which, within the current knowledge of the supplier, are classified and contribute to the classification of the substance and hence require reporting in this section.

Type

DNA-Binding Solution

[1] Substance classified with a health or environmental hazard

Occupational exposure limits, if available, are listed in Section 8.

SECTION 4: First aid measures

4.1 Description of first aid measures

Eye contact	: DNA-Binding Solution	Get medical attention immediately. Call a poison center or physician. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician.
	Wash Buffer (5X)	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
Inhalation	: DNA-Binding Solution	Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
	Wash Buffer (5X)	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
Skin contact	: DNA-Binding Solution	Get medical attention immediately. Call a poison center or physician. Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.

**SECTION 4: First aid measures**

	Wash Buffer (5X)	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
<b>Ingestion</b>	: DNA-Binding Solution	Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
	Wash Buffer (5X)	Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
<b>Protection of first-aiders</b>	: DNA-Binding Solution	No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.
	Wash Buffer (5X)	No action shall be taken involving any personal risk or without suitable training.

**4.2 Most important symptoms and effects, both acute and delayed****Potential acute health effects**

<b>Eye contact</b>	: DNA-Binding Solution Wash Buffer (5X)	Causes serious eye damage. No known significant effects or critical hazards.
<b>Inhalation</b>	: DNA-Binding Solution Wash Buffer (5X)	No known significant effects or critical hazards. No known significant effects or critical hazards.
<b>Skin contact</b>	: DNA-Binding Solution Wash Buffer (5X)	Causes severe burns. No known significant effects or critical hazards.
<b>Ingestion</b>	: DNA-Binding Solution Wash Buffer (5X)	Harmful if swallowed. Corrosive to the digestive tract. Causes burns. No known significant effects or critical hazards.

**Over-exposure signs/symptoms**

<b>Eye contact</b>	: DNA-Binding Solution Wash Buffer (5X)	Adverse symptoms may include the following: pain watering redness No specific data.
<b>Inhalation</b>	: DNA-Binding Solution Wash Buffer (5X)	No specific data. No specific data.
<b>Skin contact</b>	: DNA-Binding Solution Wash Buffer (5X)	Adverse symptoms may include the following: pain or irritation redness blistering may occur No specific data.
<b>Ingestion</b>	: DNA-Binding Solution Wash Buffer (5X)	Adverse symptoms may include the following: stomach pains No specific data.

**SECTION 4: First aid measures****4.3 Indication of any immediate medical attention and special treatment needed**

<b>Notes to physician</b>	: DNA-Binding Solution	In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
	Wash Buffer (5X)	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
<b>Specific treatments</b>	: DNA-Binding Solution	No specific treatment.
	Wash Buffer (5X)	No specific treatment.

**SECTION 5: Firefighting measures****5.1 Extinguishing media**

<b>Suitable extinguishing media</b>	: DNA-Binding Solution	Use an extinguishing agent suitable for the surrounding fire.
	Wash Buffer (5X)	Use an extinguishing agent suitable for the surrounding fire.
<b>Unsuitable extinguishing media</b>	: DNA-Binding Solution	None known.
	Wash Buffer (5X)	None known.

**5.2 Special hazards arising from the substance or mixture**

<b>Hazards from the substance or mixture</b>	: DNA-Binding Solution	In a fire or if heated, a pressure increase will occur and the container may burst. This material is harmful to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.
	Wash Buffer (5X)	In a fire or if heated, a pressure increase will occur and the container may burst.
<b>Hazardous combustion products</b>	: DNA-Binding Solution	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides sulfur oxides halogenated compounds
	Wash Buffer (5X)	No specific data.

**5.3 Advice for firefighters**

<b>Special precautions for fire-fighters</b>	: DNA-Binding Solution	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
	Wash Buffer (5X)	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
<b>Special protective equipment for fire-fighters</b>	: DNA-Binding Solution	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
	Wash Buffer (5X)	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

**SECTION 6: Accidental release measures****6.1 Personal precautions, protective equipment and emergency procedures**

<b>For non-emergency personnel</b>	: DNA-Binding Solution	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Do not breathe vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
	Wash Buffer (5X)	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
<b>For emergency responders</b>	: DNA-Binding Solution	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
	Wash Buffer (5X)	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

**6.2 Environmental precautions**

: DNA-Binding Solution	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities.
Wash Buffer (5X)	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

**6.3 Methods and material for containment and cleaning up**

<b>Methods for cleaning up</b>	: DNA-Binding Solution	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
	Wash Buffer (5X)	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

**6.4 Reference to other sections**

: See Section 1 for emergency contact information. See Section 8 for information on appropriate personal protective equipment. See Section 13 for additional waste treatment information.
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**SECTION 7: Handling and storage****7.1 Precautions for safe handling**

<b>Protective measures</b>	: DNA-Binding Solution	Put on appropriate personal protective equipment (see Section 8). Do not get in eyes or on skin or clothing. Do not breathe vapour or mist. Do not ingest. Avoid release to the environment. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse
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**SECTION 7: Handling and storage****Advice on general occupational hygiene**

Wash Buffer (5X)	container.
: DNA-Binding Solution	Put on appropriate personal protective equipment (see Section 8).
Wash Buffer (5X)	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

**7.2 Conditions for safe storage, including any incompatibilities**

<b>Storage</b>	: DNA-Binding Solution	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.
	Wash Buffer (5X)	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

**7.3 Specific end use(s)**

<b>Recommendations</b>	: DNA-Binding Solution Wash Buffer (5X)	Industrial applications, Professional applications. Industrial applications, Professional applications.
<b>Industrial sector specific solutions</b>	: DNA-Binding Solution Wash Buffer (5X)	Not available. Not available.

**SECTION 8: Exposure controls/personal protection****8.1 Control parameters****Occupational exposure limits**

No exposure limit value known.

**Biological exposure indices**

No exposure indices known.

<b>Recommended monitoring procedures</b>	: Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical
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**SECTION 8: Exposure controls/personal protection**

agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

**DNELs/DMELs**

Product/ingredient name	Type	Exposure	Value	Population	Effects
<b>DNA-Binding Solution</b> Guanidinium thiocyanate	DNEL	Long term Oral	0.155 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	0.155 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	0.27 mg/m <sup>3</sup>	General population	Systemic
	DNEL	Long term Dermal	0.31 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	1.092 mg/m <sup>3</sup>	Workers	Systemic
	DNEL	Short term Inhalation	3.28 mg/m <sup>3</sup>	Workers	Systemic

**PNECs**

No PNECs available

**8.2 Exposure controls**

**Appropriate engineering controls** : If user operations generate dust, fumes, gas, vapour or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

**Individual protection measures**

**Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

**Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead.

**Skin protection**

**Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

**Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

**Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.



## SECTION 9: Physical and chemical properties

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

### 9.1 Information on basic physical and chemical properties

#### Appearance

<b>Physical state</b>	: DNA-Binding Solution	Liquid.
	Wash Buffer (5X)	Liquid.
<b>Colour</b>	: DNA-Binding Solution	Not available.
	Wash Buffer (5X)	Not available.
<b>Odour</b>	: DNA-Binding Solution	Not available.
	Wash Buffer (5X)	Not available.
<b>Odour threshold</b>	: DNA-Binding Solution	Not available.
	Wash Buffer (5X)	Not available.
<b>Melting point/freezing point</b>	: DNA-Binding Solution	Not available.
	Wash Buffer (5X)	0°C
<b>Initial boiling point and boiling range</b>	: DNA-Binding Solution	Not available.
	Wash Buffer (5X)	100°C
<b>Flammability</b>	: DNA-Binding Solution	Not applicable.
	Wash Buffer (5X)	Not applicable.
<b>Upper/lower flammability or explosive limits</b>	: DNA-Binding Solution	Not available.
	Wash Buffer (5X)	Not available.
<b>Flash point</b>	: DNA-Binding Solution	Not available.
	Wash Buffer (5X)	Not available.
<b>Auto-ignition temperature</b>	: Not available.	
<b>Decomposition temperature</b>	: DNA-Binding Solution	Not available.
	Wash Buffer (5X)	Not available.
<b>pH</b>	: DNA-Binding Solution	6.4
	Wash Buffer (5X)	6.4
<b>Viscosity</b>	: DNA-Binding Solution	Not available.
	Wash Buffer (5X)	Not available.

<b>Solubility(ies)</b>	: <table><tr><th>Media</th><th>Result</th></tr><tr><td><b>DNA-Binding Solution</b> water</td><td>Soluble</td></tr><tr><td><b>Wash Buffer (5X)</b> water</td><td>Soluble</td></tr></table>	Media	Result	<b>DNA-Binding Solution</b> water	Soluble	<b>Wash Buffer (5X)</b> water	Soluble
Media	Result						
<b>DNA-Binding Solution</b> water	Soluble						
<b>Wash Buffer (5X)</b> water	Soluble						

<b>Partition coefficient: n-octanol/water</b>	: DNA-Binding Solution	Not applicable.
	Wash Buffer (5X)	Not applicable.

Vapour pressure :	Ingredient name	Vapour Pressure at 20°C			Vapour pressure at 50°C		
		mm Hg	kPa	Method	mm Hg	kPa	Method
	DNA-Binding Solution						
	water	17.5	2.3	-	92.258	12.3	-
	Wash Buffer (5X)						
	water	17.5	2.3	-	92.258	12.3	-

<b>Evaporation rate</b>	: DNA-Binding Solution	Not available.
	Wash Buffer (5X)	Not available.

<b>Relative density</b>	: DNA-Binding Solution	Not available.
	Wash Buffer (5X)	Not available.

<b>Vapour density</b>	: DNA-Binding Solution	Not available.
	Wash Buffer (5X)	Not available.

**SECTION 9: Physical and chemical properties**

<b>Explosive properties</b>	: DNA-Binding Solution	Not available.
	Wash Buffer (5X)	Not available.
<b>Oxidising properties</b>	: DNA-Binding Solution	Not available.
	Wash Buffer (5X)	Not available.
<b>Particle characteristics</b>		
<b>Median particle size</b>	: DNA-Binding Solution	Not applicable.
	Wash Buffer (5X)	Not applicable.

**9.2 Other information**

No additional information.

**SECTION 10: Stability and reactivity**

<b>10.1 Reactivity</b>	: DNA-Binding Solution	No specific test data related to reactivity available for this product or its ingredients.
	Wash Buffer (5X)	No specific test data related to reactivity available for this product or its ingredients.
<b>10.2 Chemical stability</b>	: DNA-Binding Solution	The product is stable.
	Wash Buffer (5X)	The product is stable.
<b>10.3 Possibility of hazardous reactions</b>	: DNA-Binding Solution	Under normal conditions of storage and use, hazardous reactions will not occur.
	Wash Buffer (5X)	Under normal conditions of storage and use, hazardous reactions will not occur.
<b>10.4 Conditions to avoid</b>	: DNA-Binding Solution	No specific data.
	Wash Buffer (5X)	No specific data.
<b>10.5 Incompatible materials</b>	: DNA-Binding Solution	May react or be incompatible with oxidising materials.
	Wash Buffer (5X)	May react or be incompatible with oxidising materials.
<b>10.6 Hazardous decomposition products</b>	: DNA-Binding Solution	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	Wash Buffer (5X)	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

**SECTION 11: Toxicological information****11.1 Information on toxicological effects****Acute toxicity**

Product/ingredient name	Result	Species	Dose	Exposure
<b>DNA-Binding Solution</b> Guanidinium thiocyanate	LC50 Inhalation Dusts and mists LD50 Oral	Rat - Female Rat - Male, Female	3.181 mg/l 593 mg/kg	4 hours -

**Acute toxicity estimates**

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapours) (mg/l)	Inhalation (dusts and mists) (mg/l)
<b>DNA-Binding Solution</b> DNA-Binding Solution Guanidinium thiocyanate	1253.7 593	2325.6 1100	N/A N/A	N/A N/A	6.7 3.181

**Irritation/Corrosion****Conclusion/Summary** : Not available.**Sensitiser**

**SECTION 11: Toxicological information****Conclusion/Summary** : Not available.**Mutagenicity****Conclusion/Summary** : Not available.**Carcinogenicity****Conclusion/Summary** : Not available.**Reproductive toxicity****Conclusion/Summary** : Not available.**Teratogenicity****Conclusion/Summary** : Not available.**Specific target organ toxicity (single exposure)**

Not available.

**Specific target organ toxicity (repeated exposure)**

Not available.

**Aspiration hazard**

Not available.

<b>Information on likely routes of exposure</b>	: DNA-Binding Solution Wash Buffer (5X)	Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes. Not available.
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**Potential acute health effects**

<b>Inhalation</b>	: DNA-Binding Solution Wash Buffer (5X)	No known significant effects or critical hazards. No known significant effects or critical hazards.
<b>Ingestion</b>	: DNA-Binding Solution  Wash Buffer (5X)	Harmful if swallowed. Corrosive to the digestive tract. Causes burns. No known significant effects or critical hazards.
<b>Skin contact</b>	: DNA-Binding Solution Wash Buffer (5X)	Causes severe burns. No known significant effects or critical hazards.
<b>Eye contact</b>	: DNA-Binding Solution Wash Buffer (5X)	Causes serious eye damage. No known significant effects or critical hazards.

**Symptoms related to the physical, chemical and toxicological characteristics**

<b>Inhalation</b>	: DNA-Binding Solution Wash Buffer (5X)	No specific data. No specific data.
<b>Ingestion</b>	: DNA-Binding Solution  Wash Buffer (5X)	Adverse symptoms may include the following: stomach pains No specific data.
<b>Skin contact</b>	: DNA-Binding Solution   Wash Buffer (5X)	Adverse symptoms may include the following: pain or irritation redness blistering may occur No specific data.
<b>Eye contact</b>	: DNA-Binding Solution   Wash Buffer (5X)	Adverse symptoms may include the following: pain watering redness No specific data.

**Delayed and immediate effects as well as chronic effects from short and long-term exposure****Short term exposure****Potential immediate effects** : Not available.**Potential delayed effects** : Not available.**Long term exposure****Potential immediate effects** : Not available.

**SECTION 11: Toxicological information**

**Potential delayed effects** : Not available.

**Potential chronic health effects**

**Conclusion/Summary** : Not available.

<b>General</b>	: DNA-Binding Solution Wash Buffer (5X)	No known significant effects or critical hazards. No known significant effects or critical hazards.
<b>Carcinogenicity</b>	: DNA-Binding Solution Wash Buffer (5X)	No known significant effects or critical hazards. No known significant effects or critical hazards.
<b>Mutagenicity</b>	: DNA-Binding Solution Wash Buffer (5X)	No known significant effects or critical hazards. No known significant effects or critical hazards.
<b>Reproductive toxicity</b>	: DNA-Binding Solution Wash Buffer (5X)	No known significant effects or critical hazards. No known significant effects or critical hazards.

**11.2 Information on other hazards****11.2.1 Endocrine disrupting properties**

Not available.

**11.2.2 Other information**

Not available.

**SECTION 12: Ecological information****12.1 Toxicity**

**Conclusion/Summary** : Not available.

**12.2 Persistence and degradability**

Product/ingredient name	Test	Result	Dose	Inoculum
<b>DNA-Binding Solution</b> Guanidinium thiocyanate	OECD 302B Inherent Biodegradability: Zahn-Wellens/ EMPA Test	46 % - Inherent - 28 days	-	-
Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability	
<b>DNA-Binding Solution</b> Guanidinium thiocyanate	-	-	Inherent	

**12.3 Bioaccumulative potential**

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
<b>DNA-Binding Solution</b> Guanidinium thiocyanate	<-1.7	-	Low

**12.4 Mobility in soil**

**Soil/water partition coefficient (K<sub>oc</sub>)** : Not available.

**Mobility** : Not available.

**12.5 Results of PBT and vPvB assessment**

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

**12.6 Endocrine disrupting properties**

Not available.

**SECTION 12: Ecological information****12.7 Other adverse effects**

No known significant effects or critical hazards.

**SECTION 13: Disposal considerations****13.1 Waste treatment methods**Product

**Methods of disposal** : The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.




**Hazardous waste** : The classification of the product may meet the criteria for a hazardous waste.

Packaging

**Methods of disposal** : The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

**Special precautions** : This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

**SECTION 14: Transport information**

	ADR/RID	IMDG	IATA
<b>14.1 UN number or ID number</b>	UN3316	UN3316	UN3316
<b>14.2 UN proper shipping name</b>	CHEMICAL KIT	CHEMICAL KIT	Chemical kit
<b>14.3 Transport hazard class(es)</b>	9 	9 	9 
<b>14.4 Packing group</b>	II	II	II
<b>14.5 Environmental hazards</b>	No.	No.	No.

Additional information**ADR/RID**

: **Hazard identification number** 90  
**Limited quantity** See SP 251  
**Special provisions** 251, 340, 671  
**Tunnel code** (E)

**IMDG**

: **Emergency schedules** F-A, \_S-P\_  
**Special provisions** 251, 340

**IATA**

: **Quantity limitation** Passenger and Cargo Aircraft: 10 kg. Packaging instructions: 960. Cargo Aircraft Only: 10 kg. Packaging instructions: 960. Limited Quantities - Passenger Aircraft: 1 kg. Packaging instructions: Y960.  
**Special provisions** A44, A163

**14.6 Special precautions for user**

: **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

SECTION 14: Transport information

14.7 Transport in bulk according to IMO instruments : Not available.

SECTION 15: Regulatory information

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

EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV - List of substances subject to authorisation

Annex XIV

None of the components are listed.

Substances of very high concern

None of the components are listed.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

Product / Ingredient name	Identifiers	Designation [Usage]
DNA-Binding Solution DNA-Binding Solution	-	3

Label : DNA-Binding Solution Wash Buffer (5X) Not applicable.  
Not applicable.

Other EU regulations

Ozone depleting substances (1005/2009/EU)

Not listed.

Prior Informed Consent (PIC) (649/2012/EU)

Not listed.

Persistent Organic Pollutants

Not listed.

Seveso Directive

This product is not controlled under the Seveso Directive.

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Inventory list

Australia : All components are listed or exempted.  
Canada : All components are listed or exempted.  
China : All components are listed or exempted.  
Eurasian Economic Union : **Russian Federation inventory:** All components are listed or exempted.  
Japan : **Japan inventory (CSCL):** All components are listed or exempted.  
**Japan inventory (ISHL):** All components are listed or exempted.  
New Zealand : All components are listed or exempted.




**SECTION 15: Regulatory information**

<b>Philippines</b>	: All components are listed or exempted.
<b>Republic of Korea</b>	: Not determined.
<b>Taiwan</b>	: All components are listed or exempted.
<b>Thailand</b>	: Not determined.
<b>Turkey</b>	: Not determined.
<b>United States</b>	: All components are active or exempted.
<b>Viet Nam</b>	: All components are listed or exempted.

**15.2 Chemical safety assessment** : This product contains substances for which Chemical Safety Assessments might still be required.

**SECTION 16: Other information**

 Indicates information that has changed from previously issued version.

**Abbreviations and acronyms** :

- ATE = Acute Toxicity Estimate
- CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
- DMEL = Derived Minimal Effect Level
- DNEL = Derived No Effect Level
- EUH statement = CLP-specific Hazard statement
- N/A = Not available
- PBT = Persistent, Bioaccumulative and Toxic
- PNEC = Predicted No Effect Concentration
- RRN = REACH Registration Number
- vPvB = Very Persistent and Very Bioaccumulative

**Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]**

Classification	Justification
<b>DNA-Binding Solution</b> Acute Tox. 4, H302 Skin Corr. 1C, H314 Aquatic Chronic 3, H412	Calculation method Calculation method Calculation method

**Full text of abbreviated H statements**

<b>DNA-Binding Solution</b> H302 H312 H314 H332 H412 EUH032 EUH071	Harmful if swallowed. Harmful in contact with skin. Causes severe skin burns and eye damage. Harmful if inhaled. Harmful to aquatic life with long lasting effects. Contact with acids liberates very toxic gas. Corrosive to the respiratory tract.
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**Full text of classifications [CLP/GHS]**

<b>DNA-Binding Solution</b> Acute Tox. 4 Aquatic Chronic 3 Skin Corr. 1C	ACUTE TOXICITY - Category 4 LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 3 SKIN CORROSION/IRRITATION - Category 1C
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**Version** : 1

**Notice to reader**

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