

SAFETY DATA SHEET

MassCode PCR Purification Kit

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

1.1 Product identifier

Product name	: MassCode PCR Purification Kit		
Part No. (Kit)	: 5190-3605		
Part No.	: DNA-Binding Solution	5190-3606	
	: 5X PCR Wash Buffer	5190-3607	

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

Identified uses	
Analytical reagent.	
DNA-Binding Solution	75 ml
5X PCR Wash Buffer	50 ml

1.3 Details of the supplier of the safety data sheet

Agilent Technologies Manufacturing GmbH & Co. KG
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
	: 5X PCR Wash Buffer	Mixture

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

DNA-Binding Solution

H302 ACUTE TOXICITY: ORAL - Category 4
H412 AQUATIC TOXICITY (CHRONIC) - Category 3

Ingredients of unknown toxicity	: DNA-Binding Solution	Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 1.6%
	: 5X PCR Wash Buffer	Not applicable.
Ingredients of unknown ecotoxicity	: DNA-Binding Solution	Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 1.6%
	: 5X PCR Wash Buffer	Not applicable.

Classification according to Directive 1999/45/EC [DPD]

DNA-Binding Solution The product is classified as dangerous according to Directive 1999/45/EC and its amendments.

5X PCR Wash Buffer The product is not classified as dangerous according to Directive 1999/45/EC and its amendments.

Classification	: DNA-Binding Solution	Xn; R20/21/22 R52/53
	: 5X PCR Wash Buffer	Not classified.

Human health hazards : DNA-Binding Solution Harmful by inhalation, in contact with skin and if swallowed.
: 5X PCR Wash Buffer Not applicable.

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SECTION 2: Hazards identification

Environmental hazards : DNA-Binding Solution Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
 5X PCR Wash Buffer Not applicable.

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

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

2.2 Label elements

Hazard pictograms :



Signal word : DNA-Binding Solution Warning
 5X PCR Wash Buffer No signal word.

Hazard statements : DNA-Binding Solution **GHS07** - Harmful if swallowed.
 Harmful to aquatic life with long lasting effects.
 5X PCR Wash Buffer No known significant effects or critical hazards.

Precautionary statements

Prevention : DNA-Binding Solution Avoid release to the environment. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling.
 5X PCR Wash Buffer Not applicable.

Response : DNA-Binding Solution IF SWALLOWED: Call a POISON CENTER or physician if you feel unwell. Rinse mouth.
 5X PCR Wash Buffer Not applicable.

Storage : DNA-Binding Solution Not applicable.
 5X PCR Wash Buffer Not applicable.

Disposal : DNA-Binding Solution Dispose of contents and container in accordance with all local, regional, national and international regulations.
 5X PCR Wash Buffer Not applicable.

Hazardous ingredients : **DNA-Binding Solution**
 Guanidinium thiocyanate

Supplemental label elements : DNA-Binding Solution Not applicable.
 5X PCR Wash Buffer Not applicable.

Special packaging requirements

Tactile warning of danger : DNA-Binding Solution Not applicable.
 5X PCR Wash Buffer Not applicable.

2.3 Other hazards

Other hazards which do not result in classification : DNA-Binding Solution None known.
 5X PCR Wash Buffer None known.

SECTION 3: Composition/information on ingredients

Substance/mixture : DNA-Binding Solution Mixture
 5X PCR Wash Buffer Mixture

Product/ingredient name	Identifiers	%	Classification		Type
			67/548/EEC	Regulation (EC) No. 1272/2008 [CLP]	
DNA-Binding Solution Guanidinium thiocyanate	EC: 209-812-1 CAS: 593-84-0 Index: 615-004-00-3	35 - <50	Xn; R20/21/22 R32 R52/53	Acute Tox. 4, H302 Acute Tox. 4, H312 Acute Tox. 4, H332 Aquatic Chronic 3, H412	[1]
2-Amino-2-(hydroxymethyl)	EC: 214-684-5 CAS: 1185-53-1	1 - <5	Xi; R36/37/38	Skin Irrit. 2, H315 Eye Irrit. 2, H319	[1]

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SECTION 3: Composition/information on ingredients

propane-1,3-diol hydrochloride			STOT SE 3, H335
		See Section 16 for the full text of the R-phrases declared above.	See Section 16 for the full text of the H statements declared above.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Type

- [1] Substance classified with a health or environmental hazard
- [2] Substance with a workplace exposure limit
- [3] Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII
- [4] Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII
- [5] Substance of equivalent concern

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	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. Get medical attention if irritation occurs.
	5X PCR Wash Buffer	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	Remove victim to fresh air and keep at rest in a position comfortable for breathing. 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. Get medical attention if adverse health effects persist or are severe. 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.
	5X PCR Wash Buffer	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	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.
	5X PCR Wash Buffer	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
Ingestion	: DNA-Binding Solution	Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. 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. Get medical attention. If necessary, call a poison center or 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

SECTION 4: First aid measures

	5X PCR Wash Buffer	or waistband. Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. 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.
Protection of first-aiders	: DNA-Binding Solution	No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.
	5X PCR Wash Buffer	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

Eye contact	: DNA-Binding Solution 5X PCR Wash Buffer	No known significant effects or critical hazards. No known significant effects or critical hazards.
Inhalation	: DNA-Binding Solution	Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
	5X PCR Wash Buffer	No known significant effects or critical hazards.
Skin contact	: DNA-Binding Solution 5X PCR Wash Buffer	No known significant effects or critical hazards. No known significant effects or critical hazards.
Ingestion	: DNA-Binding Solution 5X PCR Wash Buffer	Harmful if swallowed. No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact	: DNA-Binding Solution 5X PCR Wash Buffer	No specific data. No specific data.
Inhalation	: DNA-Binding Solution 5X PCR Wash Buffer	No specific data. No specific data.
Skin contact	: DNA-Binding Solution 5X PCR Wash Buffer	No specific data. No specific data.
Ingestion	: DNA-Binding Solution 5X PCR Wash Buffer	No specific data. No specific data.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician	: 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.
	5X PCR Wash Buffer	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Specific treatments	: DNA-Binding Solution 5X PCR Wash Buffer	No specific treatment. No specific treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media	: DNA-Binding Solution 5X PCR Wash Buffer	Use an extinguishing agent suitable for the surrounding fire. Use an extinguishing agent suitable for the surrounding fire.
Unsuitable extinguishing media	: DNA-Binding Solution 5X PCR Wash Buffer	None known. None known.

5.2 Special hazards arising from the substance or mixture

Hazards from the substance or mixture	: 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.
	5X PCR Wash Buffer	In a fire or if heated, a pressure increase will occur and the container may burst.

SECTION 5: Firefighting measures

Hazardous combustion products	: DNA-Binding Solution	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides sulfur oxides halogenated compounds
	5X PCR Wash Buffer	No specific data.

5.3 Advice for firefighters

Special precautions for fire-fighters	: 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. 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.
	5X PCR Wash Buffer	
Special protective equipment for fire-fighters	: 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.
	5X PCR Wash Buffer	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

For non-emergency personnel	: 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. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
	5X PCR Wash Buffer	
For emergency responders	: 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".
	5X PCR Wash Buffer	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.
5X PCR Wash Buffer	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).

SECTION 6: Accidental release measures

6.3 Methods and materials for containment and cleaning up

Methods for cleaning up	: 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.
	5X PCR Wash Buffer	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

Protective measures	: DNA-Binding Solution	Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapour or mist. Avoid release to the environment. 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 container.
	5X PCR Wash Buffer	Put on appropriate personal protective equipment (see Section 8).
Advice on general occupational hygiene	: DNA-Binding Solution	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.
	5X PCR Wash Buffer	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	: 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. 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.
	5X PCR Wash Buffer	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.

7.3 Specific end use(s)

SECTION 7: Handling and storage

- Recommendations** : DNA-Binding Solution Industrial applications, Professional applications.
 5X PCR Wash Buffer Industrial applications, Professional applications.
- Industrial sector specific solutions** : Not applicable.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

No exposure limit value known.

- Recommended monitoring procedures** : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. 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 agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

Derived effect levels

No DNELs available.

Predicted effect concentrations

No PNECs available.

8.2 Exposure controls

- Appropriate engineering controls** : No special ventilation requirements. Good general ventilation should be sufficient to control worker exposure to airborne contaminants. If this product contains ingredients with exposure limits, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure 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: safety glasses with side-shields.

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.

- 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** : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

SECTION 8: Exposure controls/personal protection

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**9.1 Information on basic physical and chemical properties**Appearance

Physical state	: DNA-Binding Solution	Liquid.
	5X PCR Wash Buffer	Liquid.
Colour	: DNA-Binding Solution	Not available.
	5X PCR Wash Buffer	Not available.
Odour	: DNA-Binding Solution	Not available.
	5X PCR Wash Buffer	Not available.
Odour threshold	: DNA-Binding Solution	Not available.
	5X PCR Wash Buffer	Not available.
pH	: DNA-Binding Solution	6.4
	5X PCR Wash Buffer	6.4
Melting point/freezing point	: DNA-Binding Solution	Not available.
	5X PCR Wash Buffer	0°C
Initial boiling point and boiling range	: DNA-Binding Solution	Not available.
	5X PCR Wash Buffer	100°C
Flash point	: DNA-Binding Solution	Not available.
	5X PCR Wash Buffer	Not available.
Evaporation rate	: DNA-Binding Solution	Not available.
	5X PCR Wash Buffer	Not available.
Flammability (solid, gas)	: DNA-Binding Solution	Not available.
	5X PCR Wash Buffer	Not available.
Upper/lower flammability or explosive limits	: DNA-Binding Solution	Not available.
	5X PCR Wash Buffer	Not available.
Vapour pressure	: DNA-Binding Solution	Not available.
	5X PCR Wash Buffer	Not available.
Vapour density	: DNA-Binding Solution	Not available.
	5X PCR Wash Buffer	Not available.
Relative density	: DNA-Binding Solution	Not available.
	5X PCR Wash Buffer	Not available.
Solubility(ies)	: DNA-Binding Solution	Soluble in the following materials: cold water and hot water.
	5X PCR Wash Buffer	Easily soluble in the following materials: cold water and hot water.
Partition coefficient: n-octanol/water	: DNA-Binding Solution	Not available.
	5X PCR Wash Buffer	Not available.
Auto-ignition temperature	: DNA-Binding Solution	Not available.
	5X PCR Wash Buffer	Not available.
Decomposition temperature	: DNA-Binding Solution	Not available.
	5X PCR Wash Buffer	Not available.
Viscosity	: DNA-Binding Solution	Not available.
	5X PCR Wash Buffer	Not available.
Explosive properties	: DNA-Binding Solution	Not available.
	5X PCR Wash Buffer	Not available.

9.2 Other information

No additional information.

SECTION 10: Stability and reactivity

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

Not available.

Acute toxicity estimates

Route	ATE value
DNA-Binding Solution	
Oral	1063.8 mg/kg
Dermal	2340.4 mg/kg
Inhalation (vapours)	23.4 mg/l

Irritation/Corrosion

Conclusion/Summary : Not available.

Sensitiser

Conclusion/Summary : Not available.

Chronic toxicity / Carcinogenicity / Mutagenicity / Teratogenicity / Reproductive toxicity

Not available.

Specific target organ toxicity (single exposure)

Product/ingredient name	Category	Route of exposure	Target organs
DNA-Binding Solution 2-Amino-2-(hydroxymethyl)propane-1,3-diol hydrochloride	Category 3	Not applicable.	Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on the likely routes of exposure : Not available.

Potential acute health effects

SECTION 11: Toxicological information

Inhalation	: DNA-Binding Solution 5X PCR Wash Buffer	Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure. No known significant effects or critical hazards.
Ingestion	: DNA-Binding Solution 5X PCR Wash Buffer	Harmful if swallowed. No known significant effects or critical hazards.
Skin contact	: DNA-Binding Solution 5X PCR Wash Buffer	No known significant effects or critical hazards. No known significant effects or critical hazards.
Eye contact	: DNA-Binding Solution 5X PCR Wash Buffer	No known significant effects or critical hazards. No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation	: DNA-Binding Solution 5X PCR Wash Buffer	No specific data. No specific data.
Ingestion	: DNA-Binding Solution 5X PCR Wash Buffer	No specific data. No specific data.
Skin contact	: DNA-Binding Solution 5X PCR Wash Buffer	No specific data. No specific data.
Eye contact	: DNA-Binding Solution 5X PCR Wash Buffer	No specific data. No specific data.

Delayed and immediate effects and also 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.

Potential delayed effects : Not available.

Potential chronic health effects

General	: DNA-Binding Solution 5X PCR Wash Buffer	No known significant effects or critical hazards. No known significant effects or critical hazards.
Carcinogenicity	: DNA-Binding Solution 5X PCR Wash Buffer	No known significant effects or critical hazards. No known significant effects or critical hazards.
Mutagenicity	: DNA-Binding Solution 5X PCR Wash Buffer	No known significant effects or critical hazards. No known significant effects or critical hazards.
Teratogenicity	: DNA-Binding Solution 5X PCR Wash Buffer	No known significant effects or critical hazards. No known significant effects or critical hazards.
Developmental effects	: DNA-Binding Solution 5X PCR Wash Buffer	No known significant effects or critical hazards. No known significant effects or critical hazards.
Fertility effects	: DNA-Binding Solution 5X PCR Wash Buffer	No known significant effects or critical hazards. No known significant effects or critical hazards.

Toxicokinetics

Absorption	: DNA-Binding Solution 5X PCR Wash Buffer	Not available. Not available.
Distribution	: DNA-Binding Solution 5X PCR Wash Buffer	Not available. Not available.
Metabolism	: DNA-Binding Solution 5X PCR Wash Buffer	Not available. Not available.
Elimination	: DNA-Binding Solution 5X PCR Wash Buffer	Not available. Not available.

Other information : Not available.

SECTION 12: Ecological information

12.1 Toxicity

Conclusion/Summary : Not available.

12.2 Persistence and degradability

Conclusion/Summary : Not available.

12.3 Bioaccumulative potential

Not available.

12.4 Mobility in soil

Soil/water partition coefficient (K_{oc}) : Not available.

Mobility : Not available.

12.5 Results of PBT and vPvB assessment

PBT : Not applicable.

vPvB : Not applicable.

12.6 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 : Within the present knowledge of the supplier, this product is not regarded as hazardous waste, as defined by EU Directive 91/689/EEC.

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. 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

Regulatory information

ADR/RID / IMDG / IATA : Not regulated.

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code : 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

Substances of very high concern

None of the components are listed.

Annex XVII - : Not applicable.

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

Other EU regulations

Europe inventory : At least one component is not listed.

Black List Chemicals : Not listed

Priority List Chemicals : Not listed

Integrated pollution prevention and control list (IPPC) - Air : Not listed

Integrated pollution prevention and control list (IPPC) - Water : Not listed

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]
 DNEL = Derived No Effect Level
 EUH statement = CLP-specific Hazard statement
 PNEC = Predicted No Effect Concentration
 RRN = REACH Registration Number

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

Classification	Justification
DNA-Binding Solution Acute Tox. 4, H302 Aquatic Chronic 3, H412	Calculation method Calculation method

Full text of abbreviated H statements : **DNA-Binding Solution**
 H302 Harmful if swallowed.
 H312 Harmful in contact with skin.
 H315 Causes skin irritation.
 H319 Causes serious eye irritation.
 H332 Harmful if inhaled.
 H335 May cause respiratory irritation.
 H412 Harmful to aquatic life with long lasting effects.

Full text of classifications [CLP/GHS] : **DNA-Binding Solution**
 Acute Tox. 4, H302 ACUTE TOXICITY: ORAL - Category 4
 Acute Tox. 4, H312 ACUTE TOXICITY: SKIN - Category 4
 Acute Tox. 4, H332 ACUTE TOXICITY: INHALATION - Category 4
 Aquatic Chronic 3, H412 AQUATIC TOXICITY (CHRONIC) - Category 3
 Eye Irrit. 2, H319 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2
 Skin Irrit. 2, H315 SKIN CORROSION/IRRITATION - Category 2
 STOT SE 3, H335 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) [Respiratory tract irritation] - Category 3

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SECTION 16: Other information

Full text of abbreviated R phrases	: DNA-Binding Solution 5X PCR Wash Buffer	R20/21/22- Harmful by inhalation, in contact with skin and if swallowed. R36/37/38- Irritating to eyes, respiratory system and skin. R32- Contact with acids liberates very toxic gas. R52/53- Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Not applicable.
Full text of classifications [DSD/DPD]	: DNA-Binding Solution 5X PCR Wash Buffer	Xn - Harmful Xi - Irritant Not applicable.
Date of issue/ Date of revision	: 30/06/2013	
Date of previous issue	: 30/05/2011.	
Version	: 2	

Notice to reader

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