BIOPORTO® Diagnostics

Material Safety Data Sheet (MSDS)

According to Annex II of EC Regulation No. 1907/2006 concerning REACH

1. Identification of the substance/preparation and of the company/undertaking

25x Wash Solution Concentrate for MBL Oligomer ELISA Kit (KIT 029) (for *in vitro* diagnostic use)

Catalog No: WASH 029-30 and WASH 029-250

The 25x Wash Solution Concentrate is intended by BioPorto Diagnostics for use with the MBL Oligomer ELISA Kit (KIT 029) when used with automated ELISA washing systems. The kit already contains 30 mL 25x Wash Solution Concentrate, which should be sufficient for manual washing.

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2. Hazards identification

None of the hazardous reagents are present in an amount that qualifies the products as hazardous according to Directive 67/548/EC.

However exposure to large amounts and/or ingestion can potentially be hazardous.

Hazard to man	Kit component: ④ 25x Wash Solution Conc.
Harmful by inhalation	X
Harmful in contact with skin and if swallowed	X
Danger of cumulative effects	X
Risk of percutaneous absorption.	X
Risk of sensitization of skin.	X
Biological risks	
Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment	X

3. Composition/information on ingredients

The Wash Solution Concentrate is a 25x concentrated buffer for washing microtiter plates used in the MBL Oligomer ELISA Kit (KIT 029) supplied by BioPorto Diagnostics.

No single component contains a hazardous ingredient in an amount that requires labeling. The contents of ingredients listed as hazardous are given below:

	Component	Ingredient	Concentration	CAS#	EC#	Classification (pure ingredient)	Classification (kit component)
④	25x Wash Solution Conc.	Thimerosal	0.038% (w/v)	54-64-8	200-210-4	Tx; R26/27/28, R33 N; R50/53	NA
	Wash Solution Ready-to-use	Thiomersal	0.0015% (w/v)	54-64-8	200-210-4	Tx; R26/27/28, R33 N; R50/53	NA

4. First aid measures

First aid personnel should ensure self protection.

After inhalation:	Immediately remove the casualty from exposure and move to fresh air. If breathing stops, immediately apply mechanical ventilation and apply an oxygen mask if available. Arrange medical treatment.
After skin contact:	Wash off with plenty of water. Remove contaminated clothing. If necessary arrange medical treatment.
After eye contact:	Rinse out with plenty of water with the eyelids held wide open. Arrange medical treatment.
After swallowing:	Immediately make casualty drink plenty of water. Immediately arrange medical treatment.

5. Fire-fighting measures

Data for buffer solution. Not for individual ingredients.

Suitable extinguishing media
Use water spray, dry sand, carbon dioxide or foam depending on the surrounding materials and equipment.

Special risks
None known.

6. Accidental release measures

Person-related precautionary measures
Do not inhale aerosols. Immediately change contaminated clothing.

Environmental-precautionary measures
Do not allow to enter sewerage system. Contain spill.

Procedures for cleaning/absorption
Take up with liquid-absorbent material. Forward for disposal. Clean up and disinfect affected area.

7. Handling and storage

Handling
Cannot be stored indefinitely. Expiry date is printed on the label.
General good laboratory practice should be maintained.

Take care to keep workplace clean and dry. The substances used should not be present at the place of work in quantities above those required for carrying out the work. Do not leave containers open. Avoid general contact by handling. Compatible materials: glass, plastic.

Storage
Store the bottle with the lid tightly closed at 2-8°C.
Diluted Wash Solution can be stored for 4 weeks at 2-8°C.

Specific use
The product is intended for *in vitro* diagnostic or research use only.
Intended for professional use only.

8. Exposure controls/personal protection

Data for buffer solution (not for individual ingredients).

Personal protective clothing
Protective clothing should be selected specifically for the working place, depending on concentration and quantity of the hazardous substances handled.

Respiratory protection
Required only in unintentional release of the substance.

Eye protection
Not required when handling as recommended.

Skin protection
Required. Wear laboratory coat and protective gloves. The glove material must be sufficient impermeable and resistant to the substance. Check the tightness before wear. Protect the skin.

General protective and hygienic measures
Foods and beverages should not be consumed in the vicinity of the work area. Wash hands before work breaks and on finishing the work.

9. Physical and chemical properties

Data for buffer solution (not for individual ingredients)

Appearance:	Clear to opaque solution, odorless
pH:	Neutral
Boiling point:	NA
Flash point:	NA
Flammability:	NA
Explosive properties:	NA
Oxidizing properties:	NA
Vapor pressure:	NA
Relative density:	NA
Solubility:	Soluble in water
Viscosity:	NA
Vapor density:	NA
Evaporation rate:	NA
Additional parameters:	NA

10. Stability and reactivity

Stability: Stable. However note expiry date printed on the label. Store at 2-8°C and replace the component at this temperature at the end of the working procedure.

Diluted Wash Solution remains stable for 4 weeks at 2-8°C.

Conditions to avoid: Heating above room temperature, freezing.

Materials to avoid: Generally use only clean glass and plastic suitable for laboratory use for handling the buffer solution.
Note that individual ingredients are incompatible with strong oxidizing agents, strong acids, strong bases, aluminum, reducing agents.

Dangerous reactions: In the case of fire see chapter 5.

11. Toxicological information

Because of the small size of the container and the low concentration of hazardous ingredient, the toxicological risks are minor.

Toxicological experiments have not been done on the buffer solution.

The following toxicological information is for the hazardous ingredient in pure form from ChemIdplus:

Thimerosal
Thimerosal is a topical antiseptic used on skin and mucous membranes. It is also used as a preservative in pharmaceuticals. Thimerosal acts as an anti-infective agent, fungicide, bactericide, disinfectant, wood preservative, and germicide.

Acute toxicity

After inhalation:	Irritation and/or damage of the mucous membranes of respiratory tract.
After swallowing:	Irritation of the mouth, throat, and other tissues of the gastrointestinal system can occur.
After skin contact:	Irritation of the skin. Danger of skin absorption.
After eye contact:	Eye irritation test (rabbit): Slight irritation of the eye.

Systemic effects of thimerosal exposure
Acute: Metallic taste, nausea, vomiting, abdominal pain, bloody diarrhea, intestinal burns, glottal edema, aspiration pneumonia, drop in blood pressure, cardiac arrhythmia, circulatory collapse and renal failure.
Chronic: Inflammation of the mouth with loss of teeth and mercurial line. The principal signs manifest themselves

in the CNS (impaired speech, vision, hearing and sensitivity, loss of memory, irritability, hallucinations, delirium).

Animal toxicological data: LD_{50} (oral, rat): 75 mg/kg.

Human toxicological data: An oral dose of 29 mg/kg caused degenerative changes in the brain, anorexia and changes in motor activity.

An oral dose of 83 mg/kg caused coma, gastritis, renal tubular failure, dermatitis, gingivitis, delirium, polyneuropathy and respiratory failure.

Further toxicological information: Danger of cumulative effects. Long-term exposure leads to damage of the nervous system.

12. Ecological information

Thimerosal
Highly toxic for aquatic organisms. May cause long-term adverse effects in the aquatic environment. Hazard for drinking water supplies.

NCLASS data
Toxicity: L(E)C50 < 1mg/L
Degradation: Readily degradable = No
Bioaccumulation: Log Pow = NA, BCF = NA

ECOTOX data
Fish toxicity: Lepomis macrochirus (Bluegill) LC_{50}: 110 mg/L (24 h)

Further ecological information
Do not allow to enter waters, waste water or soil.

Due to the small size of the container and the low concentrations of hazardous ingredient, ecological risks are minor.

13. Disposal considerations

Product: Must be disposed in compliance with the respective national regulations.

Packaging: Must be disposed in compliance with the respective national regulations.

14. Transport information

No special transport regulations

ADR (road)/ RID (rail):	NA
IMDG (sea):	NA
ICAO / IATA (air):	NA

15. Regulatory information

Does not contain a hazardous ingredient in an amount that requires identification and labeling according to EC directives.

16. Other information

For use with the MBL Oligomer ELISA kit (KIT029) when used with automated ELISA washing systems.

Read instructions for use before using the product. Observe the general safety regulations when handling chemicals. Good laboratory practice is the best preventive measure to avoid hazards.

The information above is believed to be accurate and represents the best information currently available to us. Data are predominantly from the NCLASS, Ecotox and ChemIdplus databases and the Merck Index.

Prepared by: CR Date: 2009-02-03
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