

08/03/2020 Kit Components

Product code	Description
1721063	Alkaline Phosphatase Substrate Kit
1721003	Mikamie i nospiiatase Substrate ikit
Components:	
9701241	p-nitrophenyl-phosphate substrate tablets
9701861	5X AP Diethanolamine Buffer





Printing date 08/03/2020 Reviewed on 07/22/2020

1 Identification

- · Product identifier
- · Trade name: p-nitrophenyl-phosphate substrate tablets
- · Catalog or product number: 9701241, 9701160
- · CAS Number:
- 4264-83-9
- EC number:
- 224-246-5
- · Application of the substance / the mixture Laboratory chemicals
- · Details of the supplier of the safety data sheet
- · Manufacturer/Supplier:

Bio-Rad Laboratories (Canada) Ltd.

1329 Meyerside Drive

Mississauga, Ontario

L5T 1C9

Canada

phone: 1-800-268-0213 Fax: 1-888-913-9779

- · Information department: sales_canada@bio-rad.com
- Emergency telephone number: 1-800-424-6723 option 2

2 Hazard identification

· Classification of the substance or mixture

The substance is not classified, according to the Globally Harmonized System (GHS).

- · Label elements
- · GHS label elements Not Applicable
- · Hazard pictograms Not Applicable
- · Signal word Not Applicable
- · Hazard statements Not Applicable

3 Composition/Information on ingredients

- · Chemical characterization: Substances
- · CAS No. Description:

4264-83-9 disodium 4-nitrophenyl phosphate

- · Identification number(s):
- **EC number:** 224-246-5
- · Additional information: For the wording of the listed risk phrases referto section 16.

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 Rinse mouth with water. Seek medical attention and appropriate follow-up.

(Contd. on page 2)





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Trade name: p-nitrophenyl-phosphate substrate tablets

(Contd. of page 1)

- · Information for 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 Wear protective clothing.
- · Environmental precautions: Do not allow to enter sewers/ surface or ground water.
- · Methods and material for containment and cleaning up: Pick up mechanically.
- · Reference to other sections

No dangerous substances are released.

See Section 7 for information on safe handling

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

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: According to product specification
- · 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: Not required.
- · 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. (Contd. on page 3)





Printing date 08/03/2020 Reviewed on 07/22/2020

Trade name: p-nitrophenyl-phosphate substrate tablets

(Contd. of page 2)

- · Protection of hands: Protective gloves.
- · Material of gloves Synthetic gloves
- · Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· Eye protection: Safety glasses

Information on basic physical and	chemical properties	
General Information		
Appearance:	Colid	
Form: Color:	Solid White	
Odor: Odor threshold:	Odorless Not determined.	
pH-value:	Not applicable.	
Change in condition		
Melting point/Melting range:	undetermined	
Boiling point/Boiling range:	undetermined	
Flash point:	Not applicable	
P • • • • • • • • • • • • • • • • • • •	Not determined.	
Flammability (solid, gaseous)	Product is not flammable.	
Decomposition temperature:	Not determined.	
Auto igniting:	Not determined.	
Danger of explosion:	Not determined.	
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:	Fully miscible	
Partition coefficient (n-octanol/wa	ter): Not determined.	
Viscosity:		
dynamic:	Not applicable.	
kinematic:	Not applicable.	
Solids content:	100.0 %	



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Safety Data Sheet according to HPR, Schedule 1

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Trade name: p-nitrophenyl-phosphate substrate tablets

(Contd. of page 3)

· 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 irritant effect.
- · Sensitization: No sensitizing effects known.
- · Additional toxicological information:

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.

The substance is not subject to classification according to the latest version of the EU lists.

- · Carcinogenic categories
- · IARC (International Agency for Research on Cancer)

Substance is not listed.

· NTP (National Toxicology Program)

Substance is not 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:

Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water.

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.

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Trade name: p-nitrophenyl-phosphate substrate tablets

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- · vPvB: Not applicable.
- · Other adverse effects No further relevant information available.

13 Disposal considerations

- · Waste treatment methods
- · Recommendation

Must not be disposed of together with household garbage. Do not allow product to reach sewage system. Dispose of waste in accordance to applicable national, regional, or local regulations.

- · Uncleaned packagings:
- · Recommendation: Disposal must be made according to official regulations.

UN-Number	
DN-Number DOT/TDG, ADR, ADN, IMDG, IATA	Not Regulated
UN proper shipping name	
DOT/TDG, ADN, IMDG, IATA	Not Regulated
ADR	Not Regulated
	Not Regulated
Transport hazard class(es)	
DOT, ADR, ADN, IMDG, IATA	
Class	Not Regulated
Packing group	
DOT/TĎĞ, ADR, IMDG, IATA	Not Regulated
Environmental hazards:	
Marine pollutant:	No
Special precautions for user	Not applicable.
Transport in bulk according to Annex II of MA	ARPOL73/78
and the IBC Code	Not applicable.
Transport/Additional information:	Not dangerous according to the above specifications.
UN "Model Regulation":	Not Regulated

15 Regulatory information

- · Safety, health and environmental regulations/legislation specific for the substance or mixture
- · SARA (Superfund Amendents and Reauthorization Act of 1986 USA)
- Section 302/304 (40CFR355.30 / 40CFR355.40):

Substance not listed.

(Contd. on page 6)





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Trade name: p-nitrophenyl-phosphate substrate tablets

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· Section 313 (40CFR372.65):

Substance is not listed.

· TSCA (Toxic Substances Control Act):

ACTIVE

· MAK (German Maximum Workplace Concentration)

Substance is not listed.

· National regulations

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those 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

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- · Department issuing SDS: Environmental Health and Safety.
- · Contact:

Life Science Group, Environmental Health and Safety, 2000 Alfred Nobel Drive, Hercules, California, 94547: 1(510) 741-1000

Diagnostic Group, Environmental Health and Safety, 4000 Alfred Nobel Drive, Hercules, California, 94547: 1(510) 724-7000

- · Date of the latest revision of the safety data sheet 08/03/2020 / -
- · Abbreviations and acronyms:

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

* * Data compared to the previous version altered.

CA





Printing date 08/03/2020 Reviewed on 07/22/2020

1 Identification

- · Product identifier
- · Trade name: 5X AP Diethanolamine Buffer
- · Catalog or product number: 9701861
- · Application of the substance / the mixture Laboratory chemicals
- · Details of the supplier of the safety data sheet
- · Manufacturer/Supplier:

Bio-Rad Laboratories (Canada) Ltd.

1329 Meyerside Drive Mississauga Ontario

Mississauga, Ontario L5T 1C9

Canada phone: 1-800-268-0213 Fax: 1-888-913-9779

- · Information department: sales_canada@bio-rad.com
- Emergency telephone number: 1-800-424-6723 option 2

2 Hazard identification

· Classification of the substance or mixture

Skin Irritation - Category 2 H315 Causes skin irritation.

Serious Eye Damage - Category 1 H318 Causes serious eye damage. Carcinogenicity – Category 2 H351 Suspected of causing cancer.

Specific Target Organ Toxicity - Repeated Exposure - H373 May cause damage to organs through prolonged or

Category 2 repeated exposure.

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





GHS05 GHS08

- · Signal word Danger
- · Hazard-determining components of labeling:

2,2'-iminodiethanol

· Hazard statements

H315 Causes skin irritation.

H318 Causes serious eye damage. H351 Suspected of causing cancer.

H373 May cause damage to organs through prolonged or repeated exposure.

· Precautionary statements

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).

P362+P364 Take off contaminated clothing and wash it before reuse.

P405 Store locked up.

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Trade name: 5X AP Diethanolamine Buffer

(Contd. of page 1)

P501

Dispose of contents/container in accordance with local/regional/national/international regulations.

3 Composition/Information on ingredients

- · Chemical characterization: Mixtures
- · Description: Mixture of the substances listed below with non-hazardous additions.
- · Listing of dangerous and non-hazardous components:

111-42-2 2,2'-iminodiethanol
Carcinogenicity – Category 2, H351; Specific Target Organ Toxicity - Repeated Exposure Category 2, H373

Serious Eye Damage - Category 1, H318

Acute Toxicity (Oral) - Category 4, H302; Skin Irritation - Category 2, H315

* Actual concentration ranges are withheld as a trade secret.

· Additional information For the wording of the listed hazard phrases refer to section 16.

4 First-aid measures

- · Description of first aid measures
- · General information Immediately remove any clothing soiled by the product.
- · After inhalation Supply fresh air; consult doctor in case of complaints.
- · After skin contact

Immediately wash with water and soap and rinse thoroughly.

Immediately rinse with water.

- · After eye contact Rinse opened eye for several minutes under running water. Then consult a doctor.
- · After swallowing Rinse mouth with water. Seek medical attention and appropriate follow-up.
- · Information for 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 During heating or in case of fire poisonous gases are produced.
- Advice for firefighters
- · Protective equipment:

Mount respiratory protective device.

Wear self-contained respiratory protective device.

6 Accidental release measures

· Personal precautions, protective equipment and emergency procedures Mount respiratory protective device.

Wear protective equipment (See section 8). Keep unprotected persons away.

(Contd. on page 3)



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Safety Data Sheet according to HPR, Schedule 1

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Trade name: 5X AP Diethanolamine Buffer

(Contd. of page 2)

Wear protective clothing.

Environmental precautions:

Dilute with plenty of water.

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).

Use neutralizing agent.

Dispose contaminated material as waste according to item 13.

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.

7 Handling and storage

- · Handling
- · Precautions for safe handling

Ensure good ventilation/exhaust at the workplace.

Open and handle receptacle with care.

Prevent formation of aerosols.

- · Information about protection against explosions and fires: Keep respiratory protective device available.
- · Conditions for safe storage, including any incompatibilities
- · Storage
- · Requirements to be met by storerooms and receptacles: According to product specification
- 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 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

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

Store protective clothing separately.

Avoid contact with the skin.

Avoid contact with the eyes.

(Contd. on page 4)





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Trade name: 5X AP Diethanolamine Buffer

(Contd. of page 3)

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.

Not necessary if room is well-ventilated. Adequate ventilation required.

- · Protection of hands: Protective gloves.
- · Material of gloves Synthetic gloves
- · Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

Eye protection:Safety glasses

Tightly sealed goggles.

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911	vəngal allı		Gal D	

· Information on basic physical and c · General Information	hemical properties
· Appearance: Form:	Liquid
Color:	Yellow
· Odor:	Amine-like
· Odor threshold:	Not determined.
· pH-value:	Not determined.
· Change in condition Melting point/Melting range: Boiling point/Boiling range:	undetermined undetermined
· Flash point:	Not applicable Not determined.
· Flammability (solid, gaseous)	Not applicable.
· Ignition temperature:	370 ℃
· Decomposition temperature:	Not determined.
· Auto igniting:	Product is not selfigniting.
· Danger of explosion:	Not determined.
· Explosion limits:	
Lower:	2.1 Vol %
Upper:	10.6 Vol %
· Vapor pressure at 20 °C:	23 hPa
· Density at 20 °C:	1.04535 g/cm³
· Relative density	Not determined.
Vapor density	Not determined.
· Evaporation rate	Not determined.

(Contd. on page 5)





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Trade name: 5X AP Diethanolamine Buffer

(Contd. of page 4)

· Solubility in / Miscibility with

Water: Fully miscible

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

· Viscosity:

dynamic: Not determined. kinematic: Not determined.

· Solvent content:

Organic solvents: 52.6 % Water: 47.4 %

· 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:
- · LD/LC50 values for hazardous components per OSHA criteria:

111-42-2 2,2'-iminodiethanol

Oral LD50 710 mg/kg (rat)
Dermal LD50 12,200 mg/kg (rbt)

- · Primary irritant effect:
- on the skin: Irritant to skin and mucous membranes.
- · on the eye:

Strong caustic effect.

Strong irritant with the danger of severe eye injury.

Irritant effect.

- · Sensitization: No sensitizing effects known.
- · Additional toxicological information:

The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:

Irritant

(Contd. on page 6)





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Trade name: 5X AP Diethanolamine Buffer

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- · Carcinogenic categories
- · IARC (International Agency for Research on Cancer)

111-42-2 2,2'-iminodiethanol

2B

· 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:

Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water.

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system. Must not reach bodies of water or drainage ditch undiluted or unneutralized.

· 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

Must not be disposed of together with household garbage. Do not allow product to reach sewage system. Dispose of waste in accordance to applicable national, regional, or local regulations.

Not Regulated

- · Uncleaned packagings:
- · Recommendation: Disposal must be made according to official regulations.
- · Recommended cleansing agent: Water, if necessary with cleansing agents.

14 Transport information

- · UN-Number
- · DOT/TDG, ADR, ADN, IMDG, IATA Not Regulated
- · UN proper shipping name
- · DOT/TDG, ADN, IMDG, IATA

ADR Not Regulated
Not Regulated

(Contd. on page 7)

- CA





Printing date 08/03/2020 Reviewed on 07/22/2020

Trade name: 5X AP Diethanolamine Buffer

	(Contd. of page 6)
· Transport hazard class(es)	
· DOT, ADR, ADN, IMDG, IATA · Class	Not Regulated
· Packing group · DOT/TDG, ADR, IMDG, IATA	Not Regulated
· Environmental hazards: · Marine pollutant:	No
· Special precautions for user	Not applicable.
· Transport in bulk according to Annex II of MARPOL73/7 and the IBC Code	78 Not applicable.
· UN "Model Regulation":	Not Regulated

15 Regulatory information

- · Safety, health and environmental regulations/legislation specific for the substance or mixture
- SARA (Superfund Amendents and Reauthorization Act of 1986 USA)
- · Section 302/304 (40CFR355.30 / 40CFR355.40):

None of the ingredients is listed.

- Section 313 (40CFR372.65):
- 111-42-2 2,2'-iminodiethanol
- · TSCA (Toxic Substances Control Act):

All components have the value ACTIVE.

· MAK (German Maximum Workplace Concentration)

111-42-2 2,2'-iminodiethanol

3B

· National regulations

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations

· Technical instructions (air):

Class	Share in %
NK	30-60

- · 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

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· Department issuing SDS: Environmental Health and Safety.

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Safety Data Sheet according to HPR, Schedule 1

Printing date 08/03/2020 Reviewed on 07/22/2020

Trade name: 5X AP Diethanolamine Buffer

(Contd. of page 7)

· Contact:

Life Science Group, Environmental Health and Safety, 2000 Alfred Nobel Drive, Hercules, California, 94547: 1(510) 741-1000

Diagnostic Group, Environmental Health and Safety, 4000 Alfred Nobel Drive, Hercules, California, 94547: 1(510) 724-7000

Date of the latest revision of the safety data sheet 08/03/2020 / -

· Abbreviations and acronyms:

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation IATA: International Air Transport Association

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)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic vPvB: very Persistent and very Bioaccumulative

· * Data compared to the previous version altered.

CA -