



VINTESENTIAL[®]
LABORATORIES

Vintessential Buffer Solution pH 4.0

Vintessential Laboratories

Chemwatch Hazard Alert Code: 0

Chemwatch: 5158-60

Version No: 3.1.1.1

Safety Data Sheet according to WHS and ADG requirements

Issue Date: 11/01/2019

Print Date: 11/22/2019

L.GHS.AUS.EN

SECTION 1 IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING

Product Identifier

| | |
|-------------------------------|--------------------------------------|
| Product name | Vintessential Buffer Solution pH 4.0 |
| Synonyms | Not Available |
| Other means of identification | Not Available |

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

| | |
|--------------------------|--|
| Relevant identified uses | Analytical reagents for calibrating pH meters. |
|--------------------------|--|

Details of the supplier of the safety data sheet

| | |
|-------------------------|--|
| Registered company name | Vintessential Laboratories |
| Address | 32 BRASSER AVENUE DROMANA VIC 3936 Australia |
| Telephone | +61 3 5987 2242 |
| Fax | +61 3 5987 3303 |
| Website | Not Available |
| Email | Not Available |

Emergency telephone number

| | |
|-----------------------------------|----------------------------|
| Association / Organisation | Poisons Information Centre |
| Emergency telephone numbers | 13 11 26 |
| Other emergency telephone numbers | Not Available |

SECTION 2 HAZARDS IDENTIFICATION

Classification of the substance or mixture

| | |
|--------------------|----------------|
| Poisons Schedule | Not Applicable |
| Classification [1] | Not Applicable |

Label elements

| | |
|---------------------|-----------------------|
| Hazard pictogram(s) | Not Applicable |
| SIGNAL WORD | NOT APPLICABLE |

Hazard statement(s)

Not Applicable

Precautionary statement(s) Prevention

Not Applicable

Precautionary statement(s) Response

Not Applicable

Precautionary statement(s) Storage

Not Applicable

Continued...

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Precautionary statement(s) Disposal

Not Applicable

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

Substances

See section below for composition of Mixtures

Mixtures

| CAS No | %[weight] | Name |
|-----------|-----------|-------------------------------------|
| 877-24-7 | 1 | <u>potassium hydrogen phthalate</u> |
| 7732-18-5 | 99 | <u>water</u> |

SECTION 4 FIRST AID MEASURES

Description of first aid measures

| | |
|---------------------|---|
| Eye Contact | If this product comes in contact with eyes: <ul style="list-style-type: none">▶ Wash out immediately with water.▶ If irritation continues, seek medical attention.▶ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel. |
| Skin Contact | If skin contact occurs: <ul style="list-style-type: none">▶ Immediately remove all contaminated clothing, including footwear.▶ Flush skin and hair with running water (and soap if available).▶ Seek medical attention in event of irritation. |
| Inhalation | <ul style="list-style-type: none">▶ If fumes, aerosols or combustion products are inhaled remove from contaminated area.▶ Other measures are usually unnecessary. |
| Ingestion | <ul style="list-style-type: none">▶ Immediately give a glass of water.▶ First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor. |

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5 FIREFIGHTING MEASURES

Extinguishing media

- ▶ There is no restriction on the type of extinguisher which may be used.
- ▶ Use extinguishing media suitable for surrounding area.

Special hazards arising from the substrate or mixture

| | |
|-----------------------------|-------------|
| Fire Incompatibility | None known. |
|-----------------------------|-------------|

Advice for firefighters

| | |
|------------------------------|--|
| Fire Fighting | <ul style="list-style-type: none">▶ Alert Fire Brigade and tell them location and nature of hazard.▶ Wear breathing apparatus plus protective gloves in the event of a fire.▶ Prevent, by any means available, spillage from entering drains or water courses.▶ Use fire fighting procedures suitable for surrounding area.▶ DO NOT approach containers suspected to be hot.▶ Cool fire exposed containers with water spray from a protected location.▶ If safe to do so, remove containers from path of fire.▶ Equipment should be thoroughly decontaminated after use. |
| Fire/Explosion Hazard | <ul style="list-style-type: none">▶ Non combustible.▶ Not considered a significant fire risk, however containers may burn. |
| HAZCHEM | Not Applicable |

SECTION 6 ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

See section 8

Environmental precautions

See section 12

Methods and material for containment and cleaning up

| | |
|---------------------|---|
| Minor Spills | <ul style="list-style-type: none">▶ Clean up all spills immediately.▶ Avoid breathing vapours and contact with skin and eyes.▶ Control personal contact with the substance, by using protective equipment.▶ Contain and absorb spill with sand, earth, inert material or vermiculite.▶ Wipe up.▶ Place in a suitable, labelled container for waste disposal. |
| Major Spills | Minor hazard. <ul style="list-style-type: none">▶ Clear area of personnel.▶ Alert Fire Brigade and tell them location and nature of hazard. |

Continued...

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- ▶ Control personal contact with the substance, by using protective equipment as required.
- ▶ Prevent spillage from entering drains or water ways.
- ▶ Contain spill with sand, earth or vermiculite.
- ▶ Collect recoverable product into labelled containers for recycling.
- ▶ Absorb remaining product with sand, earth or vermiculite and place in appropriate containers for disposal.
- ▶ Wash area and prevent runoff into drains or waterways.
- ▶ If contamination of drains or waterways occurs, advise emergency services.

Personal Protective Equipment advice is contained in Section 8 of the SDS.

SECTION 7 HANDLING AND STORAGE

Precautions for safe handling

| | |
|--------------------------|--|
| Safe handling | <ul style="list-style-type: none"> ▶ Limit all unnecessary personal contact. ▶ Wear protective clothing when risk of exposure occurs. ▶ Use in a well-ventilated area. ▶ When handling DO NOT eat, drink or smoke. ▶ Always wash hands with soap and water after handling. ▶ Avoid physical damage to containers. ▶ Use good occupational work practice. ▶ Observe manufacturer's storage and handling recommendations contained within this SDS. |
| Other information | <ul style="list-style-type: none"> ▶ Store in original containers. ▶ Keep containers securely sealed. ▶ Store in a cool, dry, well-ventilated area. ▶ Store away from incompatible materials and foodstuff containers. ▶ Protect containers against physical damage and check regularly for leaks. ▶ Observe manufacturer's storage and handling recommendations contained within this SDS. |

Conditions for safe storage, including any incompatibilities

| | |
|--------------------------------|--|
| Suitable container | <ul style="list-style-type: none"> ▶ Glass container is suitable for laboratory quantities ▶ Polyethylene or polypropylene container. ▶ Packing as recommended by manufacturer. ▶ Check all containers are clearly labelled and free from leaks. |
| Storage incompatibility | None known |

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters

OCCUPATIONAL EXPOSURE LIMITS (OEL)

INGREDIENT DATA

Not Available

EMERGENCY LIMITS

| Ingredient | Material name | TEEL-1 | TEEL-2 | TEEL-3 |
|------------------------------|--|-----------|-----------|-----------|
| potassium hydrogen phthalate | Hydrogen potassium phthalate; (Phthalic acid, monopotassium salt; Potassium acid phthalate; Potassium biphthalate) | 9.6 mg/m3 | 110 mg/m3 | 630 mg/m3 |

| Ingredient | Original IDLH | Revised IDLH |
|------------------------------|---------------|---------------|
| potassium hydrogen phthalate | Not Available | Not Available |
| water | Not Available | Not Available |

OCCUPATIONAL EXPOSURE BANDING


| Ingredient | Occupational Exposure Band Rating | Occupational Exposure Band Limit |
|------------------------------|-----------------------------------|----------------------------------|
| potassium hydrogen phthalate | E | ≤ 0.01 mg/m ³ |

Notes:

Occupational exposure banding is a process of assigning chemicals into specific categories or bands based on a chemical's potency and the adverse health outcomes associated with exposure. The output of this process is an occupational exposure band (OEB), which corresponds to a range of exposure concentrations that are expected to protect worker health.

MATERIAL DATA

Exposure controls

| | |
|---|---|
| Appropriate engineering controls | General exhaust is adequate under normal operating conditions. |
| Personal protection |  |
| Eye and face protection | <p>No special equipment for minor exposure i.e. when handling small quantities. OTHERWISE:</p> <ul style="list-style-type: none"> ▶ Safety glasses with side shields. ▶ Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in |

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| | |
|------------------------------|---|
| | a clean environment only after workers have washed hands thoroughly. [CDC NIOSH Current Intelligence Bulletin 59], [AS/NZS 1336 or national equivalent] |
| Skin protection | See Hand protection below |
| Hands/feet protection | No special equipment needed when handling small quantities. OTHERWISE: Wear chemical protective gloves, e.g. PVC. |
| Body protection | See Other protection below |
| Other protection | <ul style="list-style-type: none"> ▶ Overalls. ▶ Eyewash unit. |

Recommended material(s)**GLOVE SELECTION INDEX**

Glove selection is based on a modified presentation of the:

"Forsberg Clothing Performance Index".

The effect(s) of the following substance(s) are taken into account in the **computer-generated** selection:

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| Material | CPI |
|----------------|-----|
| BUTYL | A |
| NEOPRENE | A |
| VITON | A |
| NATURAL RUBBER | C |
| PVA | C |

* CPI - Chemwatch Performance Index

A: Best Selection

B: Satisfactory; may degrade after 4 hours continuous immersion

C: Poor to Dangerous Choice for other than short term immersion

NOTE: As a series of factors will influence the actual performance of the glove, a final selection must be based on detailed observation. -

* Where the glove is to be used on a short term, casual or infrequent basis, factors such as "feel" or convenience (e.g. disposability), may dictate a choice of gloves which might otherwise be unsuitable following long-term or frequent use. A qualified practitioner should be consulted.

Respiratory protection

Particulate. (AS/NZS 1716 & 1715, EN 143:2000 & 149:001, ANSI Z88 or national equivalent)

Selection of the Class and Type of respirator will depend upon the level of breathing zone contaminant and the chemical nature of the contaminant. Protection Factors (defined as the ratio of contaminant outside and inside the mask) may also be important.

| Required minimum protection factor | Maximum gas/vapour concentration present in air p.p.m. (by volume) | Half-face Respirator | Full-Face Respirator |
|------------------------------------|--|----------------------|----------------------|
| up to 10 | 1000 | -AUS / Class 1 P2 | - |
| up to 50 | 1000 | - | -AUS / Class 1 P2 |
| up to 50 | 5000 | Airline * | - |
| up to 100 | 5000 | - | -2 P2 |
| up to 100 | 10000 | - | -3 P2 |
| 100+ | | | Airline** |

* - Continuous Flow ** - Continuous-flow or positive pressure demand

A(All classes) = Organic vapours, B AUS or B1 = Acid gasses, B2 = Acid gas or hydrogen cyanide(HCN), B3 = Acid gas or hydrogen cyanide(HCN), E = Sulfur dioxide(SO₂), G = Agricultural chemicals, K = Ammonia(NH₃), Hg = Mercury, NO = Oxides of nitrogen, MB = Methyl bromide, AX = Low boiling point organic compounds(below 65 degC)

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES**Information on basic physical and chemical properties**

| | | | |
|---|---|--|----------------|
| Appearance | Clear red odourless liquid; mixes with water. | | |
| Physical state | Liquid | Relative density (Water = 1) | 1.0 |
| Odour | Not Available | Partition coefficient n-octanol / water | Not Available |
| Odour threshold | Not Available | Auto-ignition temperature (°C) | Not Available |
| pH (as supplied) | 4 | Decomposition temperature | Not Available |
| Melting point / freezing point (°C) | Not Available | Viscosity (cSt) | Not Available |
| Initial boiling point and boiling range (°C) | ~100 | Molecular weight (g/mol) | Not Applicable |
| Flash point (°C) | Not Applicable | Taste | Not Available |
| Evaporation rate | Not Available | Explosive properties | Not Available |
| Flammability | Not Applicable | Oxidising properties | Not Available |
| Upper Explosive Limit (%) | Not Applicable | Surface Tension (dyn/cm or mN/m) | Not Available |
| Lower Explosive Limit (%) | Not Applicable | Volatile Component (%vol) | Not Available |
| Vapour pressure (kPa) | ~3.3 @ 25C | Gas group | Not Available |
| Solubility in water | Miscible | pH as a solution (1%) | Not Available |
| Vapour density (Air = 1) | Not Available | VOC g/L | Not Available |

SECTION 10 STABILITY AND REACTIVITY

| | |
|---|---|
| Reactivity | See section 7 |
| Chemical stability | Product is considered stable and hazardous polymerisation will not occur. |
| Possibility of hazardous reactions | See section 7 |
| Conditions to avoid | See section 7 |
| Incompatible materials | See section 7 |
| Hazardous decomposition products | See section 5 |

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SECTION 11 TOXICOLOGICAL INFORMATION

Information on toxicological effects

| | | |
|---|--|--|
| Inhaled | Not normally a hazard due to non-volatile nature of product | |
| Ingestion | The material has NOT been classified by EC Directives or other classification systems as "harmful by ingestion". This is because of the lack of corroborating animal or human evidence. The material may still be damaging to the health of the individual, following ingestion, especially where pre-existing organ (e.g liver, kidney) damage is evident. Present definitions of harmful or toxic substances are generally based on doses producing mortality rather than those producing morbidity (disease, ill-health). Gastrointestinal tract discomfort may produce nausea and vomiting. In an occupational setting however, ingestion of insignificant quantities is not thought to be cause for concern. | |
| Skin Contact | The material is not thought to produce adverse health effects or skin irritation following contact (as classified by EC Directives using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable gloves be used in an occupational setting. | |
| Eye | Although the liquid is not thought to be an irritant (as classified by EC Directives), direct contact with the eye may produce transient discomfort characterised by tearing or conjunctival redness (as with windburn). | |
| Chronic | Long-term exposure to the product is not thought to produce chronic effects adverse to health (as classified by EC Directives using animal models); nevertheless exposure by all routes should be minimised as a matter of course. | |
| Vintessential Buffer Solution pH 4.0 | TOXICITY | IRRITATION |
| | Not Available | Not Available |
| potassium hydrogen phthalate | TOXICITY | IRRITATION |
| | dermal (guinea pig) LD50: >1000 mg/kg ^[2] | Eye: no adverse effect observed (not irritating) ^[1] |
| | Oral (rat) LD50: >3200 mg/kg ^[2] | Skin: no adverse effect observed (not irritating) ^[1] |
| water | TOXICITY | IRRITATION |
| | Oral (rat) LD50: >90000 mg/kg ^[2] | Not Available |
| Legend: | 1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2.* Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances | |

| | |
|-------------------------------------|--|
| POTASSIUM HYDROGEN PHTHALATE | Exposure to the material may result in a possible risk of irreversible effects. The material may produce mutagenic effects in man. This concern is raised, generally, on the basis of appropriate studies using mammalian somatic cells in vivo. Such findings are often supported by positive results from in vitro mutagenicity studies. |
| | Asthma-like symptoms may continue for months or even years after exposure to the material ceases. This may be due to a non-allergenic condition known as reactive airways dysfunction syndrome (RADS) which can occur following exposure to high levels of highly irritating compound. Key criteria for the diagnosis of RADS include the absence of preceding respiratory disease, in a non-atopic individual, with abrupt onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. A reversible airflow pattern, on spirometry, with the presence of moderate to severe bronchial hyperreactivity on methacholine challenge testing and the lack of minimal lymphocytic inflammation, without eosinophilia, have also been included in the criteria for diagnosis of RADS. RADS (or asthma) following an irritating inhalation is an infrequent disorder with rates related to the concentration of and duration of exposure to the irritating substance. Industrial bronchitis, on the other hand, is a disorder that occurs as result of exposure due to high concentrations of irritating substance (often particulate in nature) and is completely reversible after exposure ceases. The disorder is characterised by dyspnea, cough and mucus production. |
| WATER | No significant acute toxicological data identified in literature search. |

| | | | |
|--|----------|---------------------------------|----------|
| Acute Toxicity | × | Carcinogenicity | × |
| Skin Irritation/Corrosion | × | Reproductivity | × |
| Serious Eye Damage/Irritation | × | STOT - Single Exposure | × |
| Respiratory or Skin sensitisation | × | STOT - Repeated Exposure | × |
| Mutagenicity | × | Aspiration Hazard | × |

Legend: **×** – Data either not available or does not fill the criteria for classification
✓ – Data available to make classification

SECTION 12 ECOLOGICAL INFORMATION

Toxicity

| | | | | | |
|---|-----------------|---------------------------|-------------------------------|---------------|---------------|
| Vintessential Buffer Solution pH 4.0 | ENDPOINT | TEST DURATION (HR) | SPECIES | VALUE | SOURCE |
| | Not Available | Not Available | Not Available | Not Available | Not Available |
| potassium hydrogen phthalate | ENDPOINT | TEST DURATION (HR) | SPECIES | VALUE | SOURCE |
| | LC50 | 96 | Fish | >100mg/L | 2 |
| | EC50 | 72 | Algae or other aquatic plants | 19.885mg/L | 2 |
| | NOEC | 72 | Crustacea | 100mg/L | 2 |

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| water | ENDPOINT | TEST DURATION (HR) | SPECIES | VALUE | SOURCE |
|-------|----------|--------------------|-------------------------------|--------------|--------|
| | LC50 | 96 | Fish | 897.520mg/L | 3 |
| | EC50 | 96 | Algae or other aquatic plants | 8768.874mg/L | 3 |

Legend: Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 3. EPIWIN Suite V3.12 (QSAR) - Aquatic Toxicity Data (Estimated) 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data

DO NOT discharge into sewer or waterways.

Persistence and degradability

| Ingredient | Persistence: Water/Soil | Persistence: Air |
|------------|-------------------------|------------------|
| water | LOW | LOW |

Bioaccumulative potential

| Ingredient | Bioaccumulation |
|------------|----------------------|
| water | LOW (LogKOW = -1.38) |

Mobility in soil

| Ingredient | Mobility |
|------------|------------------|
| water | LOW (KOC = 14.3) |

SECTION 13 DISPOSAL CONSIDERATIONS

Waste treatment methods

| Product / Packaging disposal |
|--|
| <ul style="list-style-type: none"> ▶ Recycle wherever possible or consult manufacturer for recycling options. ▶ Consult State Land Waste Management Authority for disposal. ▶ Bury residue in an authorised landfill. ▶ Recycle containers if possible, or dispose of in an authorised landfill. |

SECTION 14 TRANSPORT INFORMATION

Labels Required

| | |
|------------------|----------------|
| Marine Pollutant | NO |
| HAZCHEM | Not Applicable |

Land transport (ADG): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Air transport (ICAO-IATA / DGR): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Sea transport (IMDG-Code / GGVSee): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Transport in bulk according to Annex II of MARPOL and the IBC code

Not Applicable

SECTION 15 REGULATORY INFORMATION

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

POTASSIUM HYDROGEN PHTHALATE IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Inventory of Chemical Substances (AICS)

WATER IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Inventory of Chemical Substances (AICS)

IMO IBC Code Chapter 18: List of products to which the Code does not apply

National Inventory Status

| National Inventory | Status |
|-------------------------------|--|
| Australia - AICS | Yes |
| Canada - DSL | Yes |
| Canada - NDSL | No (water; potassium hydrogen phthalate) |
| China - IECSC | Yes |
| Europe - EINEC / ELINCS / NLP | Yes |
| Japan - ENCS | Yes |
| Korea - KECI | Yes |
| New Zealand - NZIoC | Yes |
| Philippines - PICCS | Yes |
| USA - TSCA | Yes |

Continued...

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| | |
|----------------|--|
| Taiwan - TCSI | Yes |
| Mexico - INSQ | Yes |
| Vietnam - NCI | Yes |
| Russia - ARIPS | Yes |
| Legend: | Yes = All CAS declared ingredients are on the inventory No = One or more of the CAS listed ingredients are not on the inventory and are not exempt from listing(see specific ingredients in brackets) |

SECTION 16 OTHER INFORMATION

| | |
|----------------------|------------|
| Revision Date | 11/01/2019 |
| Initial Date | 12/02/2014 |

SDS Version Summary

| Version | Issue Date | Sections Updated |
|---------|------------|---|
| 2.1.1.1 | 12/02/2014 | Acute Health (eye), Acute Health (inhaled), Acute Health (skin), Disposal, Engineering Control, Environmental, First Aid (eye), Handling Procedure, Instability Condition, Personal Protection (other), Personal Protection (eye), Personal Protection (hands/feet), Spills (major), Storage (suitable container) |
| 3.1.1.1 | 11/01/2019 | One-off system update. NOTE: This may or may not change the GHS classification |

Other information

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

Definitions and abbreviations

PC—TWA: Permissible Concentration-Time Weighted Average
 PC—STEL: Permissible Concentration-Short Term Exposure Limit
 IARC: International Agency for Research on Cancer
 ACGIH: American Conference of Governmental Industrial Hygienists
 STEL: Short Term Exposure Limit
 TEEL: Temporary Emergency Exposure Limit.
 IDLH: Immediately Dangerous to Life or Health Concentrations
 OSF: Odour Safety Factor
 NOAEL :No Observed Adverse Effect Level
 LOAEL: Lowest Observed Adverse Effect Level
 TLV: Threshold Limit Value
 LOD: Limit Of Detection
 OTV: Odour Threshold Value
 BCF: BioConcentration Factors
 BEI: Biological Exposure Index

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