

I. PRODUCT IDENTIFICATION: pH 4.01 Buffer

Orion 910104 & 910460 & 9104CB

PRODUCT USE: Buffer

NFPA RATINGS: HEALTH: 1 FLAMMABILITY: 0 REACTIVITY: 0

II. COMPOSITION/INFORMATION ON INGREDIENTS

COMPONENT		%	LD ₅₀ mg/kg
Potassium Hydrogen Phthalate (KHP)			
CAS NO.	877-24-7	1	None found
Amaranth Red Dye (C ₂₀ H ₁₁ N ₂ O ₁₀ S ₃ Na ₂)			
CAS NO.	915-67-3	<0.01	1000 (IRP-MUS)
Deionized Water			
CAS NO.	7732-18-5	99	190,000 (IPR-MUS)

III. HAZARDS IDENTIFICATION

Low hazard fro normal usage.

Harmful if swallowed. May irritate eyes and skin.

TARGET ORGANS: Skin.

ACUTE TOXICITY: Low hazards because of low concentration of salts.

CHRONIC TOXICITY: Possible skin irritation from prolonged exposure.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Disease of the skin.

IV. FIRST AID MEASURES

EYE AND SKIN CONTACT: Wash off with large amounts of water.

INGESTION: Give large amounts of water. Consult physician.

INHALATION: Not hazardous

V. FIRE FIGHTING MEASURES

FLASH POINT: NA AUTOIGNITION POINT: NA

FLAMMABILITY LIMITS: UPPER: NA LOWER: NA

EXTINGUISHING MEDIA: Water, CO₂, dry chemical or foam.

VI. ACCIDENTAL RELEASE MEASURES

Take up with absorbent materials. Place in small containers for disposal. Wash spill site after material pick up is complete.

VII. HANDLING AND STORAGE

Always wear eye protection and gloves when working with this product.

Avoid contact with eyes, skin or clothing. Avoid ingestion.

VIII. EXPOSURE CONTROLS/ PERSONAL PROTECTION

OSHA & ACGIH THRESHOLD LIMIT: None listed.

PROTECTIVE EQUIPMENT: Safety glasses, lab coat and gloves.

IX. PHYSICAL AND CHEMICAL PROPERTIES

STATE: Light red liquid ODOR THRESHOLD: None

SENSITIVITY TO MECHANICAL IMPACT: None

SENSITIVITY TO STATIC DISCHARGE: None

COEFFICIENT OF OIL/WATER DISTRIBUTION: None

SOLUBILITY IN WATER: Soluble pH: 4.01

SPECIFIC GRAVITY: 1.0

BOILING POINT: 100°C MELTING POINT: Not determined

VAPOR DENSITY: Not determined

X. STABILITY AND REACTIVITY

Product is stable. Hazardous polymerization will not occur.

Incompatibles: Nitric acid.

Hazardous decomposition product: None.

XI. TOXICOLOGICAL INFORMATION

Route of Exposure: May irritate skin. May be harmful if swallowed.

Teratogen Status: None

Mutagen Status: None

Reproductive Toxicity: None

Carcinogen Status: None

XII. ECOLOGICAL INFORMATION

None available.

XIII. DISPOSAL CONSIDERATIONS

Dispose of in a manner consistent with Federal, State and Local Regulations.

XIV. TRANSPORT INFORMATION

Product is not hazardous for transport.

XV. REGULATORY INFORMATION

EUROPEAN INFORMATION:

None

US/ CANADA INFORMATION

SARA/Title III: Not listed.

Cal. Proposition 65: Ingredients not listed.

US TSCA Inventory: Ingredients are listed

CPR Class: None.

TDG Class: None.

MSDS discloses elements required by the CPR.

XVI. OTHER INFORMATION

THE ABOVE INFORMATION IS BELIEVED TO BE ACCURATE AND REPRESENTS THE BEST INFORMATION CURRENTLY AVAILABLE TO US. ALL PRODUCTS ARE OFFERED IN ACCORDANCE WITH THE MANUFACTURER'S CURRENT PRODUCTION SPECIFICATIONS AND ARE INTENDED SOLELY FOR USE IN ANALYTICAL TESTING. THE MANUFACTURER SHALL IN NO EVENT BE LIABLE FOR ANY INJURY, LOSS OR DAMAGE RESULTING FROM THE HANDLING, USE OR MISUSE OF THESE PRODUCTS.

MSDS prepared by Quality Assurance Group.

I. PRODUCT IDENTIFICATION: pH 7.00 Buffer

Orion 910107 & 910760 & 9107CB

PRODUCT USE: Buffer

NFPA RATINGS: HEALTH: 0 FLAMMABILITY: 0 REACTIVITY: 0

II. COMPOSITION/INFORMATION ON INGREDIENTS

COMPONENT		%	LD ₅₀ mg/kg
Potassium Dihydrogen Phosphate (KH ₂ PO ₄)	CAS NO. 7778-77-0	<1	None found
Disodium Hydrogen Phosphate (Na ₂ HPO ₄)	CAS NO. 7558-79-4	<1	298 LD ₅₀ (INV-DOG)
5-Bromo-5-Nitro-1,3-Dioxane	CAS NO. 30007-47-7	<1	455 (ORL-RAT)
FD&C Yellow #5	CAS NO. 1934-21-0	<0.01	12,750 (ORL-MUS)
Deionized Water	CAS NO. 7732-18-5	99	190,000 (IPR-MUS)

III. HAZARDS IDENTIFICATION

Low hazard for normal usage.
Harmful if swallowed. May irritate eyes and skin.
TARGET ORGANS: Skin.
ACUTE TOXICITY: Low hazard.
CHRONIC TOXICITY: May irritate skin after prolonged exposure.
MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Disease of the skin.

IV. FIRST AID MEASURES

EYE AND SKIN CONTACT: Wash off with large amounts of water.
INGESTION: Give large amounts of water. Consult physician.
INHALATION: Not hazardous

V. FIRE FIGHTING MEASURES

FLASH POINT: NA AUTOIGNITION POINT: NA
FLAMMABILITY LIMITS: UPPER: NA LOWER: NA
EXTINGUISHING MEDIA: Water, CO₂, dry chemical or foam.

VI. ACCIDENTAL RELEASE MEASURES

Take up with absorbent materials. Place in small containers for disposal. Wash spill site after material pick up is complete.

VII. HANDLING AND STORAGE

Always wear eye protection and gloves when working with this product.
Avoid contact with eyes, skin or clothing. Avoid ingestion.

VIII. EXPOSURE CONTROLS/ PERSONAL PROTECTION

OSHA THRESHOLD LIMIT: NONE
ACGIH THRESHOLD LIMIT: NONE
PROTECTIVE EQUIPMENT: Safety glasses, lab coat and gloves.

IX. PHYSICAL AND CHEMICAL PROPERTIES

STATE: Light yellow liquid ODOR THRESHOLD: None
SENSITIVITY TO MECHANICAL IMPACT: None
SENSITIVITY TO STATIC DISCHARGE: None
COEFFICIENT OF OIL/WATER DISTRIBUTION: None
SOLUBILITY IN WATER: Soluble pH: 7.00
SPECIFIC GRAVITY: 1.0
BOILING POINT: 100°C MELTING POINT: Not determined
VAPOR DENSITY: Not determined

X. STABILITY AND REACTIVITY

Product is stable. Hazardous polymerization will not occur.
Incompatibles: Magnesium and sodium salts.
Hazardous decomposition product: Fumes from phosphates.

XI. TOXICOLOGICAL INFORMATION

Route of Exposure: May irritate skin. May be harmful if swallowed.
Teratogen Status: None
Mutagen Status: None
Reproductive Toxicity: None
Carcinogen Status: None

XII. ECOLOGICAL INFORMATION

None available.

XIII. DISPOSAL CONSIDERATIONS

Dispose of in a manner consistent with Federal, State and Local Regulations.

XIV. TRANSPORT INFORMATION

Product is not hazardous for transport.

XV. REGULATORY INFORMATION

EUROPEAN INFORMATION:

None

US/ CANADA INFORMATION

SARA/Title III: Regulated under Section 302.
Cal. Proposition 65: Ingredients not listed.
US TSCA Inventory: Ingredients are listed.
CPR Class: None.
TDG Class: None.
MSDS discloses elements required by the CPR.

XVI. OTHER INFORMATION

THE ABOVE INFORMATION IS BELIEVED TO BE ACCURATE AND REPRESENTS THE BEST INFORMATION CURRENTLY AVAILABLE TO US. ALL PRODUCTS ARE OFFERED IN ACCORDANCE WITH THE MANUFACTURER'S CURRENT PRODUCTION SPECIFICATIONS AND ARE INTENDED SOLELY FOR USE IN ANALYTICAL TESTING. THE MANUFACTURER SHALL IN NO EVENT BE LIABLE FOR ANY INJURY, LOSS OR DAMAGE RESULTING FROM THE HANDLING, USE OR MISUSE OF THESE PRODUCTS.

MSDS prepared by Quality Assurance Group.

I. PRODUCT IDENTIFICATION: pH Electrode Storage Solution

Orion 910001 & 910060 & 9100CB

PRODUCT USE: Reagent

NFPA RATINGS: HEALTH: 1 FLAMMABILITY: 0 REACTIVITY: 0

II. COMPOSITION/INFORMATION ON INGREDIENTS

COMPONENT		%	LD ₅₀ mg/kg
Potassium Phosphate Monobasic (KH ₂ PO ₄)			
CAS NO.	7778-77-0	<1	4,640 (SKN-RBT)
Potassium Chloride (KCl)			
CAS NO.	7447-40-7	11	2,500 (ORL-GPG)
Sodium Phosphate Dibasic (Na ₂ HPO ₄)			
CAS NO.	7558-79-4	<1	17,000 (ORL-RAT)
Deionized Water			
CAS NO.	7732-18-5	>88	190,000 (IPR-MUS)

III. HAZARDS IDENTIFICATION

TARGET ORGANS: Skin and eyes.

ACUTE TOXICITY: Not an acute hazard because of low concentration of phosphate salt. This composition is also used as a buffer in pharmaceuticals.

CHRONIC TOXICITY: Not a chronic hazard because of low concentration of phosphate salt. This composition is also used as a buffer in pharmaceuticals.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Could aggravate diseases of the skin.

IV. FIRST AID MEASURES

EYE AND SKIN CONTACT: Wash off contact area with soap and water.

INHALATION: Not hazardous.

INGESTION: Dilute with water and consult physician.

V. FIRE FIGHTING MEASURES

FLASH POINT: NA AUTOIGNITION POINT: NA
FLAMMABILITY LIMITS: UPPER: NA LOWER: NA
EXTINGUISHING MEDIA: Dry chemical, water, foam, or CO₂.

VI. ACCIDENTAL RELEASE MEASURES

Clean up and wash down drain if local law allows.

VII. HANDLING AND STORAGE

Always wear eye protection and gloves when working with this product.

Keep sealed and store at room temperature.

VIII. EXPOSURE CONTROLS/ PERSONAL PROTECTION

OSHA & ACGIH THRESHOLD LIMIT: None listed.

PROTECTIVE EQUIPMENT: Safety glasses, lab coat and gloves.

IX. PHYSICAL AND CHEMICAL PROPERTIES

STATE: Colorless liquid ODOR THRESHOLD: None

SENSITIVITY TO MECHANICAL IMPACT: None

SENSITIVITY TO STATIC DISCHARGE: None

COEFFICIENT OF OIL/WATER DISTRIBUTION: None

SOLUBILITY IN WATER: Soluble pH: 6.3 – 6.9

SPECIFIC GRAVITY: 1.05

BOILING POINT: 100°C MELTING POINT: Not determined

VAPOR DENSITY: Not determined

X. STABILITY AND REACTIVITY

Product is stable. Hazardous polymerization will not occur.

Incompatibles: Magnesium and Sodium metals.

Hazardous decomposition product: May emit toxic POx fumes if heated to decomposition.

XI. TOXICOLOGICAL INFORMATION

Route of Exposure: Irritation of skin.

Teratogen Status: None

Mutagen Status: None

Reproductive Toxicity: None

Carcinogen Status: None

XII. ECOLOGICAL INFORMATION

None available.

XIII. DISPOSAL CONSIDERATIONS

Dispose of in a manner consistent with Federal, State and Local Regulations.

XIV. TRANSPORT INFORMATION

Product is not hazardous for transport.

XV. REGULATORY INFORMATION

EUROPEAN INFORMATION:

None.

US/ CANADA INFORMATION

SARA/Title III: Na₂HPO₄ is a CERCLA hazard and regulated under Section 304.

Cal. Proposition 65: Ingredients not listed.

US TSCA Inventory: Ingredients are listed.

CPR Class: None.

TDG Class: None.

MSDS discloses elements required by the CPR.

XVI. OTHER INFORMATION

THE ABOVE INFORMATION IS BELIEVED TO BE ACCURATE AND REPRESENTS THE BEST INFORMATION CURRENTLY AVAILABLE TO US. ALL PRODUCTS ARE OFFERED IN ACCORDANCE WITH THE MANUFACTURER'S CURRENT PRODUCTION SPECIFICATIONS AND ARE INTENDED SOLELY FOR USE IN ANALYTICAL TESTING. THE MANUFACTURER SHALL IN NO EVENT BE LIABLE FOR ANY INJURY, LOSS OR DAMAGE RESULTING FROM THE HANDLING, USE OR MISUSE OF THESE PRODUCTS.

MSDS prepared by Quality Assurance Group.

ROSS Reference Electrode Filling Solution Material Safety Data Sheet

I. PRODUCT IDENTIFICATION:

ROSS Reference Electrode Filling Solution
810007

PRODUCT USE: Reagent

NFPA RATINGS: HEALTH: 0 FLAMMABILITY: 0 REACTIVITY: 0

II. COMPOSITION/INFORMATION ON INGREDIENTS

COMPONENT		%	LD ₅₀ mg/kg
COMPONENT	FD&C Yellow No. 5		
CAS NO.	1934-21-0	<0.1	12,750 (ORL-MUS)
COMPONENT	FD&C Red No. 40		
CAS NO.	25956-17-6	<0.1	None listed
COMPONENT	Potassium Chloride (KCl)		
CAS NO.	7447-40-7	<22	2,500 (ORL-GPG)
COMPONENT	Triton X-100 (C ₃₃ H ₅₅ O ₁₁)		
CAS NO.	9036-19-5	<0.1	1,800 (ORL-RAT)
COMPONENT	Water		
CAS NO.	7732-18-5	<78	190,000 (IPR-MUS)

III. HAZARDS IDENTIFICATION

None

IV. FIRST AID MEASURES

EYE AND SKIN CONTACT: Not hazardous

INGESTION: May cause an electrolyte imbalance if swallowed

INHALATION: Not hazardous

V. FIRE FIGHTING MEASURES

FLASH POINT: NOT APPLICABLE AUTOIGNITION POINT: NOT APPLICABLE
FLAMMABILITY LIMITS: UPPER: NOT APPLICABLE LOWER: NOT APPLICABLE
EXTINGUISHING MEDIA: Water, CO₂, dry chemical or water spray

VI. ACCIDENTAL RELEASE MEASURES

Take up with absorbent materials. Place in small containers for disposal. Wash spill site after material pick up is complete.

VII. HANDLING AND STORAGE

Always wear eye protection and gloves when working with this product.
Avoid ingestion. Keep container closed during storage.

VIII. EXPOSURE CONTROLS/ PERSONAL PROTECTION

OSHA THRESHOLD LIMIT: None listed
PROTECTIVE EQUIPMENT: Safety glasses

IX. PHYSICAL AND CHEMICAL PROPERTIES

STATE: Orange liquid ODOR THRESHOLD: None
SENSITIVITY TO MECHANICAL IMPACT: None
SENSITIVITY TO STATIC DISCHARGE: None
COEFFICIENT OF OIL/WATER DISTRIBUTION: None
SOLUBILITY IN WATER: Soluble pH: (5.5 – 8.0)
SPECIFIC GRAVITY: 1.11
BOILING POINT: 100°C MELTING POINT: Not determined
VAPOR DENSITY: Not determined

X. STABILITY AND REACTIVITY

Product is stable. Hazardous polymerization will not occur.

Incompatibles: None

Hazardous decomposition product: None

XI. TOXICOLOGICAL INFORMATION

Route of Exposure: May cause itching or stinging of cuts in skin. May be harmful if swallowed in large doses.

Teratogen Status: None

Mutagen Status: None

Reproductive Toxicity: None

Carcinogen Status: None

XII. ECOLOGICAL INFORMATION

Not an ecological hazard

XIII. DISPOSAL CONSIDERATIONS

Dispose of in a manner consistent with Federal, State and Local Regulations.

XIV. TRANSPORT INFORMATION

Product is not regulated for transport.

XV. REGULATORY INFORMATION

EUROPEAN INFORMATION:

None

US/ CANADA INFORMATION

SARA/Title III: Not on lists

Cal. Proposition 65: Ingredients not listed

US TSCA Inventory: Ingredients are listed

CPR Class: None

TDG Class: None

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

XVI. OTHER INFORMATION

THE ABOVE INFORMATION IS BELIEVED TO BE ACCURATE AND REPRESENTS THE BEST INFORMATION CURRENTLY AVAILABLE TO US. ALL PRODUCTS ARE OFFERED IN ACCORDANCE WITH THE MANUFACTURER'S CURRENT PRODUCTION SPECIFICATIONS AND ARE INTENDED SOLELY FOR USE IN ANALYTICAL TESTING. THE MANUFACTURER SHALL IN NO EVENT BE LIABLE FOR ANY INJURY, LOSS OR DAMAGE RESULTING FROM THE HANDLING, USE OR MISUSE OF THESE PRODUCTS.

MSDS prepared by John Meserve, Quality Assurance group.

I. PRODUCT IDENTIFICATION: pH 10.01 Buffer

Orion 910110 & 911060 & 9110CB

PRODUCT USE: Buffer

NFPA RATINGS: HEALTH: 1 FLAMMABILITY: 0 REACTIVITY: 0

II. COMPOSITION/INFORMATION ON INGREDIENTS

COMPONENT		%	LD ₅₀ mg/kg
Sodium Bicarbonate (NaHCO ₃)	CAS NO. 144-55-8	<1	4220 (ORL-RAT)
Sodium Carbonate (Na ₂ CO ₃)	CAS NO. 497-19-8	<1	117 (IPR-MUS)
Methyl Paraben (C ₈ H ₈ O ₃)	CAS NO. 99-76-3	<0.1	3000 (ORL-DOG)
FD&C Blue (C ₃₇ H ₃₄ N ₂ O ₉ S ₃ *2Na)	CAS NO. 3844-45-9	<0.01	5.5g/Kg (SEN-RAT) LD ₅₀
Deionized Water	CAS NO. 7732-18-5	99	190,000 (IPR-MUS)

III. HAZARDS IDENTIFICATION

Low hazard for normal usage.
Harmful if swallowed. May irritate eyes and skin.
TARGET ORGANS: Skin.
ACUTE TOXICITY: Low hazard.
CHRONIC TOXICITY: May irritate skin after prolonged exposure.
MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Disease of the skin.

IV. FIRST AID MEASURES

EYE AND SKIN CONTACT: Wash off with large amounts of water.
INGESTION: Give large amounts of water. Consult physician.
INHALATION: Not hazardous

V. FIRE FIGHTING MEASURES

FLASH POINT: NA AUTOIGNITION POINT: NA
FLAMMABILITY LIMITS: UPPER: NA LOWER: NA
EXTINGUISHING MEDIA: Water, CO₂, dry chemical or foam.

VI. ACCIDENTAL RELEASE MEASURES

Take up with absorbent materials. Place in small containers for disposal. Wash spill site after material pick up is complete.

VII. HANDLING AND STORAGE

Always wear eye protection and gloves when working with this product.
Avoid contact with eyes, skin or clothing. Avoid ingestion.

VIII. EXPOSURE CONTROLS/ PERSONAL PROTECTION

OSHA & ACGIH THRESHOLD LIMIT: None listed.
PROTECTIVE EQUIPMENT: Safety glasses, lab coat and gloves.

IX. PHYSICAL AND CHEMICAL PROPERTIES

STATE: Light blue liquid ODOR THRESHOLD: None
SENSITIVITY TO MECHANICAL IMPACT: None
SENSITIVITY TO STATIC DISCHARGE: None
COEFFICIENT OF OIL/WATER DISTRIBUTION: None
SOLUBILITY IN WATER: Soluble pH: 10.01
SPECIFIC GRAVITY: 1.0
BOILING POINT: 100°C MELTING POINT: Not determined
VAPOR DENSITY: Not determined

X. STABILITY AND REACTIVITY

Product is stable. Hazardous polymerization will not occur.
Incompatibles: NaK alloy, NH₄H₂PO₄, Al, P₂O₅, H₂SO₄.
Hazardous decomposition product: CO₂ upon heating.

XI. TOXICOLOGICAL INFORMATION

Route of Exposure: May irritate skin. May be harmful if swallowed.
Teratogen Status: None
Mutagen Status: None
Reproductive Toxicity: None
Carcinogen Status: None

XII. ECOLOGICAL INFORMATION

None available.

XIII. DISPOSAL CONSIDERATIONS

Dispose of in a manner consistent with Federal, State and Local Regulations.

XIV. TRANSPORT INFORMATION

Product is not hazardous for transport.

XV. REGULATORY INFORMATION

EUROPEAN INFORMATION:

None

US/ CANADA INFORMATION

SARA/Title III: Not on list.
Cal. Proposition 65: FD & C Blue is listed.
US TSCA Inventory: Ingredients are listed.
CPR Class: None.
TDG Class: None.
MSDS discloses elements required by the CPR.

XVI. OTHER INFORMATION

THE ABOVE INFORMATION IS BELIEVED TO BE ACCURATE AND REPRESENTS THE BEST INFORMATION CURRENTLY AVAILABLE TO US. ALL PRODUCTS ARE OFFERED IN ACCORDANCE WITH THE MANUFACTURER'S CURRENT PRODUCTION SPECIFICATIONS AND ARE INTENDED SOLELY FOR USE IN ANALYTICAL TESTING. THE MANUFACTURER SHALL IN NO EVENT BE LIABLE FOR ANY INJURY, LOSS OR DAMAGE RESULTING FROM THE HANDLING, USE OR MISUSE OF THESE PRODUCTS.

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