

Section 1. Product and Company Identification

Product Name: HRP-Antibody All-in-One™ Conjugation Kit
Catalog No.: A-9002-001
Kit Component: 4FB-HRP

Manufacturer/Supplier USA:

Vector Laboratories, Inc.
30 Ingold Road
Burlingame, CA 94010
United States
Tel: (650) 697-3600 Fax: (650) 697-0339
Email: vector@vectorlabs.com

For Research Use Only.

Section 2. Hazards Identification

GHS Classification:

This product has been classified as non-hazardous based on the physical and/or chemical nature and/or concentration of ingredients.

GHS Label: Non-hazardous substance or mixture.

Hazards not otherwise classified (HNOC) or not covered by GHS: None

Section 3. Composition/Information on Ingredients

4FB-HRP is a horseradish derived oxidoreductase enzyme modified with succinimidyl 4-formylbenzoate in a pH 6.0 sodium phosphate buffered solution with preservatives.

| Component: | CAS#: | % by weight: |
|---|------------|--------------|
| Formylbenzamide-modified horseradish peroxidase | 9003-99-0 | <1% |
| Sodium Phosphate, Dibasic | 7558-79-4 | 1-5% |
| Sodium Chloride | 7647-14-5 | <1% |
| Sodium Phosphate, Monobasic | 10049-21-5 | <1% |

No ingredients are hazardous according to OSHA criteria.

No known hazard is associated with this compound.

Section 4. First Aid Measures

Inhalation: Move to fresh air. If not breathing, administer artificial respiration. If breathing is difficult, give oxygen or artificial respiration by qualified personnel. SEEK MEDICAL ATTENTION.

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Skin contact: Wash affected areas with soap and water. If irritation develops seek medical attention.

Eye Contact: Immediately flush eyes with copious amounts of water for at least 15 minutes. If irritation develops seek medical attention.

Ingestion: If a large amount is swallowed, rinse mouth out with water. Never give fluids or induce vomiting if the victim is unconscious or having convulsions. SEEK MEDICAL ATTENTION.

Section 5. Fire Fighting Measures

Suitable extinguishing media: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special protective equipment: Use extinguishing media appropriate for surrounding fire such as water spray, carbon dioxide, dry powder. Wear full protective clothing and NIOSH-approved self-contained breathing apparatus. Avoid inhalation of material or combustion by-products.

Section 6. Accidental Release Measures

Wear protective clothing to prevent contact with eyes and skin. Ensure adequate ventilation. Collect on absorbent material and dispose of according to federal, state and local environmental regulations.

Section 7. Handling and Storage

Handling: Use only with adequate ventilation. Wear eye protection and compatible chemical-resistant gloves. Handle in accordance with good industrial hygiene and safety practice.

Storage: Keep container tightly closed, store away from the light, and store according to product label.

Section 8. Exposure Controls/Personal Protection

Exposure limits: Contains no substances with occupational exposure limit values.

Engineering controls: Use enclosures, local exhaust ventilation or other engineering controls to keep airborne levels below recommended exposure limits.

Personal protection:

Hand protection - Compatible chemical-resistant gloves.

Eye protection - Chemical safety goggles.

Skin protection - Lab coat.

Section 9. Physical and Chemical Properties

Appearance: Brown translucent liquid

Percent Purity: Not available

Boiling Point: 212F, 100C

Melting Point: Not available

pH: 6.0

Solubility: Water

Specific Gravity: Not available

Freezing Point: Not available

Section 10. Stability and Reactivity

Chemical stability: Stable when stored under recommended storage conditions.

Conditions to Avoid:

No data available

Materials / Chemicals to Be Avoided:

Highly reactive with oxidizing agents. Reactive with acids.

Hazardous Decomposition Products:

Phosphorus oxides may form when heated to decomposition. Halogenated compound, hydrogen chloride.

Hazardous Polymerization:

Will not occur.

Section 11. Toxicological Information

Acute toxicity: Product does not present an acute toxicity hazard based on known or supplied information.

Chronic toxicity: No data available.

Section 12. Ecological Information

No data available.

Section 13. Disposal Considerations

Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

Observe all federal, state, and local environmental regulations.

Section 14. Transport Information

DOT (US): Not dangerous goods.

RID/ADR: Not regulated.

IMDG: Not dangerous goods.

IATA: Not dangerous goods.

Section 15. Regulatory Information

HCS Classification: Irritating material

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SARA Title III Hazard Classes:

SARA 302/304/312 extremely hazardous substances; no products were found

SARA 302/304 emergency planning and notification: No products found.

SARA 302/304/311/312 hazardous chemicals; sodium phosphate, dibasic; sodium chloride

SARA 311/312 MSDS distribution-chemical inventory-hazardous identification: sodium phosphate, dibasic; sodium chloride: immediate (Acute) health hazard, delayed (Chronic) health hazard

Clean Water Act (CWA) 307: no products were found

Clean Water Act (CWA) 311: Sodium phosphate, dibasic

Clean Water Act (CAA) 112 : accidental release prevention: No products were found

Clean Water Act (CAA) 112: Regulated flammable substances: No products were found

Clean Water Act (CAA) 112: Regulated toxic substances: No products were found

TSCA: TSCA 8(b) inventory; sodium phosphate, dibasic; sodium chloride

U.S. State Regulations:

Pennsylvania RTK: Sodium Phosphate, Dibasic

Massachusetts RTK: Sodium Phosphate, Dibasic

Massachusetts spill list: Sodium Phosphate, Dibasic

New Jersey: Sodium Phosphate, Dibasic

New Jersey spill list: Sodium Phosphate, Dibasic

New Jersey toxic catastrophe prevention act: Sodium Phosphate, Dibasic

WHMIS (Canada)

Class D-2A: Material causing other toxic effects (Very toxic)

Class D-2B: Material causing other toxic effects (Toxic)

DEPA DSL: Sodium Phosphate, Dibasic, Sodium Chloride

International Regulations:

EINECS: not available

DSCL (EEC): R36/37/38-Irritating to eyes, respiratory system and skin

European

EC Classification Xi: Irritant

EC Risk and Safety Phrases: R36 irritating to eyes
R37 irritating to respiratory system
R38 irritating to skin

Risk Phrases: None

Safety Phrases: S23 Keep out of reach of children
S24 Avoid skin contact.
S25 Avoid contact with eyes
S26 In case of contact with eyes, rinse immediately with water and seek medical advice
S46 If swallowed, see medical advice immediately and show this container to label

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Section 16. Other Information

Date of Issue or Revision: April 1, 2022

The information contained in this Safety Data Sheet is believed to be accurate, but it is the responsibility of the user to determine the applicability of this data to necessary safety precautions. Vector Laboratories, Inc. shall not be held responsible for any damage resulting from the use of the above product or the information contained in this Safety Data Sheet.

For Research Use Only

Section 1. Product and Company Identification

Product Name: HRP-Antibody All-in-One™ Conjugation Kit
Catalog No.: A-9002-001
Kit Component: S-HyNic Linker (DMF Soluble), S-1002

Manufacturer/Supplier USA:

Vector Laboratories, Inc.
30 Ingold Road
Burlingame, CA 94010
United States
Tel: (650) 697-3600 Fax: (650) 697-0339
Email: vector@vectorlabs.com

For Research Use Only.

Section 2. Hazards Identification

GHS Classification:

This product has been classified as non-hazardous based on the physical and/or chemical nature and/or concentration of ingredients.

GHS Label: Non-hazardous substance or mixture.

Hazards not otherwise classified (HNOC) or not covered by GHS: None

Section 3. Composition/Information on Ingredients

CAS Number: Custom synthesized compound. No CAS Number.

Components: Single compound.

No known hazard is associated with this compound.

Section 4. First Aid Measures

Inhalation: Remove to fresh air.

Skin contact: Wash thoroughly with soap and water.

Eye Contact: Flush eyes with water as a precaution.

Ingestion: Do not induce vomiting. Wash out mouth with water.

Section 5. Fire Fighting Measures

Suitable extinguishing media: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special protective equipment: Use respirator for firefighting if necessary.

Section 6. Accidental Release Measures

Wear protective clothing to prevent contact with eyes and skin. Ensure adequate ventilation. Collect on absorbent material and dispose of according to federal, state and local environmental regulations.

Section 7. Handling and Storage

Handling: Use only with adequate ventilation. Wear eye protection and compatible chemical-resistant gloves. Handle in accordance with good industrial hygiene and safety practice.

Storage: Keep container tightly closed and store according to product label.

Section 8. Exposure Controls/Personal Protection

Exposure limits: Contains no substances with occupational exposure limit values.

Engineering controls: Use enclosures, local exhaust ventilation or other engineering controls to keep airborne levels below recommended exposure limits.

Personal protection:

Hand protection - Compatible chemical-resistant gloves.

Eye protection - Chemical safety goggles.

Skin protection - Lab coat.

Section 9. Physical and Chemical Properties

Appearance: Slight yellowish-white residue

Percent Purity: >90%

Boiling Point: Not Available

Melting Point: Not Available

Freezing Point: Not Available

Specific Gravity: Not Available

Solubility: Slightly soluble in aqueous solutions, soluble in DMF and DMSO solvents.

Vapor Density: Not Available

Vapor Pressure: Not Available

Evaporation Rate: Not Available

Section 10. Stability and Reactivity

Chemical stability: Stable when stored under recommended storage conditions.

Conditions to Avoid: Susceptible to aqueous hydrolysis, avoid exposure to aqueous solutions before use.

Materials / Chemicals to Be Avoided: Aromatic hydrazines decompose on exposure to oxidizing agents and metals

Hazardous Decomposition Products: Carbon monoxide, carbon dioxide

Hazardous Polymerization: Unknown

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Section 11. Toxicological Information

Acute toxicity: Unknown.

Chronic toxicity: No data available.

Section 12. Ecological Information

No data available.

Section 13. Disposal Considerations

Discard any product, residue, disposable container or liner in full compliance with national regulations.

Observe all federal, state, and local environmental regulations.

Section 14. Transport Information

DOT (US): Not dangerous goods.

RID/ADR: Not regulated.

IMDG: Not dangerous goods.

IATA: Not dangerous goods.

Section 15. Regulatory Information

Substances of Very High Concern: None

SARA: Not Listed

TSCA All components in this product are not listed.

Other Regulations:

U.S. State: None

European/International Regulations

EC Classification: ND

EC Risk and Safety Phrases: ND

Risk Phrases: ND

Safety Phrases: ND

California Prop. 65 components: This product does not contain any chemicals known to the state of California to cause cancer, birth defects or other reproductive harm.

Section 16. Other Information

Date of Issue or Revision: April 1, 2022

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For Research Use Only.

Section 1. Product and Company Identification

Product Name: HRP-Antibody All-in-One™ Conjugation Kit
Catalog No.: A-9002-001
Kit Component: 1X Modification Buffer

Manufacturer/Supplier USA:

Vector Laboratories, Inc.
30 Ingold Road
Burlingame, CA 94010
United States
Tel: (650) 697-3600 Fax: (650) 697-0339
Email: vector@vectorlabs.com

For Research GUse Only.

Section 2. Hazards Identification

GHS Classification:

This product has been classified as non-hazardous based on the physical and/or chemical nature and/or concentration of ingredients.

GHS Label: Non-hazardous substance or mixture.

Hazards not otherwise classified (HNOC) or not covered by GHS: None

Section 3. Composition/Information on Ingredients

| Component: | CAS#: | % by weight: |
|-----------------------------|------------|--------------|
| Sodium Phosphate, Dibasic | 7558-79-4 | 25-45% |
| Sodium Chloride | 7647-14-5 | 25-45% |
| Sodium Phosphate, Monobasic | 10049-21-5 | 10-20% |

No ingredients are hazardous according to OSHA criteria.

Section 4. First Aid Measures

Inhalation: Remove to fresh air.

Skin contact: Wash thoroughly with soap and water.

Eye Contact: Flush eyes with water as a precaution.

Ingestion: Do not induce vomiting. Wash out mouth with water.

Section 5. Fire Fighting Measures

Suitable extinguishing media: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special protective equipment: Use respirator for firefighting if necessary.

Section 6. Accidental Release Measures

Wear protective clothing to prevent contact with eyes and skin. Ensure adequate ventilation. Collect on absorbent material and dispose of according to federal, state and local environmental regulations.

Section 7. Handling and Storage

Handling: Use only with adequate ventilation. Wear eye protection and compatible chemical-resistant gloves. Handle in accordance with good industrial hygiene and safety practice.

Storage: Keep container tightly closed and store according to product label.

Section 8. Exposure Controls/Personal Protection

Exposure limits: Contains no substances with occupational exposure limit values.

Engineering controls: Use enclosures, local exhaust ventilation or other engineering controls to keep airborne levels below recommended exposure limits.

Personal protection:

Hand protection - Compatible chemical-resistant gloves.

Eye protection - Chemical safety goggles.

Skin protection - Lab coat.

Section 9. Physical and Chemical Properties

Appearance: Clear liquid

Percent Purity: 100%

Boiling Point: 100°C

Freezing Point: 0°C

pH: 8.0 @ 1X

Solubility: Aqueous

Vapor Density: NA

Vapor Pressure: NA

Section 10. Stability and Reactivity

Chemical stability: Stable when stored under recommended storage conditions.

Section 11. Toxicological Information

Acute toxicity: Product does not present an acute toxicity hazard based on known or supplied information.

Chronic toxicity: None known.

Section 12. Ecological Information

No data available.

Section 13. Disposal Considerations

Observe all federal, state and local environmental regulations.

Section 14. Transport Information

DOT (US): Not dangerous goods.

RID/ADR: Not regulated.

IMDG: Not dangerous goods.

IATA: Not dangerous goods.

Section 15. Regulatory Information

SARA:

SARA 302 - No chemicals in this material are subject to the reporting requirements.

SARA 313 - No chemicals in this material with known CAS #s are subject to the reporting requirements.

SARA 311/312 Hazards - No SARA Hazards.

California Prop. 65 components:

This product does not contain any chemicals known to the state of California to cause cancer, birth defects or other reproductive harm.

Section 16. Other Information

Date of Issue or Revision: April 1, 2022

The information contained in this Safety Data Sheet is believed to be accurate, but it is the responsibility of the user to determine the applicability of this data to necessary safety precautions. Vector Laboratories, Inc. shall not be held responsible for any damage resulting from the use of the above product or the information contained in this Safety Data Sheet.

For Research Use Only.

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Previous Date of Issue: 04/15/21

Previous Version: 00

Section 1. Product and Company Identification

Product Name: HRP-Antibody All-in-One™ Conjugation Kit
Catalog No.: A-9002-001
Kit Component: Buffer A

Manufacturer/Supplier USA:

Vector Laboratories, Inc.
30 Ingold Road
Burlingame, CA 94010
United States
Tel: (650) 697-3600 Fax: (650) 697-0339
Email: vector@vectorlabs.com

For Research Use Only.

Section 2. Hazards Identification

GHS Classification:

This product has been classified as non-hazardous based on the physical and/or chemical nature and/or concentration of ingredients.

GHS Label: Non-hazardous substance or mixture.

Hazards not otherwise classified (HNOC) or not covered by GHS: None

Section 3. Composition/Information on Ingredients

| Component: | CAS#: | % by weight: |
|-----------------------------|------------|--------------|
| Sodium Phosphate, Dibasic | 7558-79-4 | 1-2% |
| Sodium Chloride | 7647-14-5 | <1% |
| Sodium Phosphate, Monobasic | 10049-21-5 | <1% |

No ingredients are hazardous according to OSHA criteria.

Section 4. First Aid Measures

Inhalation: Remove to fresh air.

Skin contact: Wash thoroughly with soap and water.

Eye Contact: Flush eyes with water as a precaution.

Ingestion: Do not induce vomiting. Wash out mouth with water.

Section 5. Fire Fighting Measures

Suitable extinguishing media: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special protective equipment: Use respirator for firefighting if necessary.

Section 6. Accidental Release Measures

Wear protective clothing to prevent contact with eyes and skin. Ensure adequate ventilation. Collect on absorbent material and dispose of according to federal, state and local environmental regulations.

Section 7. Handling and Storage

Handling: Use only with adequate ventilation. Wear eye protection and compatible chemical-resistant gloves. Handle in accordance with good industrial hygiene and safety practice.

Storage: Keep container tightly closed and store according to product label.

Section 8. Exposure Controls/Personal Protection

Exposure limits: Contains no substances with occupational exposure limit values.

Engineering controls: Use enclosures, local exhaust ventilation or other engineering controls to keep airborne levels below recommended exposure limits.

Personal protection:

Hand protection - Compatible chemical-resistant gloves.

Eye protection - Chemical safety goggles.

Skin protection - Lab coat.

Section 9. Physical and Chemical Properties

Appearance: Clear liquid

Percent Purity: 100%

Boiling Point: 212°F, 100°C

Melting Point: 1479.2 °C based on sodium chloride

Freezing Point: Not Available

Specific Gravity: Only known value is 1.5 (sodium phosphate, dibasic)

pH: 8.0

Solubility: Water, methanol

Section 10. Stability and Reactivity

Chemical stability: Stable when stored under recommended storage conditions.

Conditions to Avoid: No data available

Materials / Chemicals to Be Avoided: Highly reactive with oxidizing agents. Reactive with acids.

Hazardous Decomposition Products: Phosphorus oxides may form when heated to decomposition. Halogenated compound, hydrogen chloride.

Hazardous Polymerization: Will not occur.

Section 11. Toxicological Information

Carcinogenicity:

Carcinogenic effects: classified none by OSHA, none by NIOSH (sodium phosphate, dibasic), classified none by OSHA, none by NIOSH (sodium chloride), classified none by OSHA, none by NIOSH (sodium phosphate, monobasic)

Mutagenic effects: Classified Suspected for human (sodium chloride). Mutagenic for bacteria and or yeast (sodium chloride).

Teratogenic effects: Classified Suspected for human (sodium chloride).

Developmental toxicity: Classified reproductive system/toxi/female (proven) sodium chloride. Classified developmental toxin (possible) sodium chloride

Acute Toxicity:

Sodium phosphate, dibasic: Oral (LD50) acute: 17000 mg/kg rat

Sodium chloride: Oral (LD50) acute: 3000 mg/kg rat

Dermal (LD50) acute: 10000 mg/kg rabbit rat

Dust (LC50) acute: >42000 mg/m³/hr rat

Sodium phosphate, monobasic: LD50: not available, LC50: not available

Section 12. Ecological Information

No data available.

Section 13. Disposal Considerations

Observe all federal, state and local environmental regulations.

Section 14. Transport Information

DOT (US): Not regulated.

RID/ADR: Not regulated.

IMDG: Not regulated.

IATA: Not regulated.

Section 15. Regulatory Information

HCS Classification: Irritating material

SARA Title III Hazard Classes:

SARA 302/304/312 extremely hazardous substances; no products were found

Date of Issue: 04/01/22

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Previous Date of Issue: 04/15/21

Previous Version: 00

SARA 302/304 emergency planning and notification: No products found.
SARA 302/304/311/312 hazardous chemicals; sodium phosphate, dibasic; sodium chloride
SARA 311/312 MSDS distribution-chemical inventory-hazardous identification: sodium phosphate, dibasic; sodium chloride: immediate (Acute) health hazard, delayed (Chronic) health hazard

Clean Water Act (CWA) 307: no products were found
Clean Water Act (CWA) 311: Sodium phosphate, dibasic
Clean Water Act (CAA) 112 : accidental release prevention: No products were found
Clean Water Act (CAA) 112: Regulated flammable substances: No products were found
Clean Water Act (CAA) 112: Regulated toxic substances: No products were found

TSCA: TSCA 8(b) inventory; sodium phosphate, dibasic; sodium chloride

U.S. State Regulations:

Pennsylvania RTK: Sodium Phosphate, Dibasic
Massachusetts RTK: Sodium Phosphate, Dibasic
Massachusetts spill list: Sodium Phosphate, Dibasic
New Jersey: Sodium Phosphate, Dibasic
New Jersey spill list: Sodium Phosphate, Dibasic
New Jersey toxic catastrophe prevention act: Sodium Phosphate, Dibasic

WHMIS (Canada)

Class D-2A: Material causing other toxic effects (Very toxic)
Class D-2B: Material causing other toxic effects (Toxic)
DEPA DSL: Sodium Phosphate, Dibasic, Sodium Chloride

International Regulations:

EINECS: not available
DSCCL (EEC): R36/37/38-Irritating to eyes, respiratory system and skin

European

EC Classification Xi: Irritant
EC Risk and Safety Phrases: R36 irritating to eyes
R37 irritating to respiratory system
R38 irritating to skin
Risk Phrases: None
Safety Phrases: S23 Keep out of reach of children
S24 Avoid skin contact.
S25 Avoid contact with eyes
S26 In case of contact with eyes, rinse immediately with water and seek medical advice
S46 If swallowed, see medical advice immediately and show this container to label

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Previous Date of Issue: 04/15/21

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Section 16. Other Information

Date of Issue or Revision: April 1, 2022

The information contained in this Safety Data Sheet is believed to be accurate, but it is the responsibility of the user to determine the applicability of this data to necessary safety precautions. Vector Laboratories, Inc. shall not be held responsible for any damage resulting from the use of the above product or the information contained in this Safety Data Sheet.

For Research Use Only.

Section 1. Product and Company Identification

Product Name: HRP-Antibody All-in-One™ Conjugation Kit
Catalog No.: A-9002-001
Kit Component: Aniline Buffer (Buffer B)

Manufacturer/Supplier USA:

Vector Laboratories, Inc.
30 Ingold Road
Burlingame, CA 94010
United States
Tel: (650) 697-3600 Fax: (650) 697-0339
Email: vector@vectorlabs.com

For Research Use Only.

Section 2. Hazards Identification

GHS Classification:

This product has been classified as non-hazardous based on the physical and/or chemical nature and/or concentration of ingredients.

GHS Label: Non-hazardous substance or mixture.

Hazards not otherwise classified (HNOC) or not covered by GHS: Under normal use conditions, product as manufactured is not anticipated to cause major health hazards.

Information for Aniline

Potential Health Effects

Acute Eye: May cause irritation.

Acute Skin: May cause moderate skin irritation.

Acute Ingestion: Not considered a likely route of exposure under normal product use conditions. Harmful if swallowed. Causes gastrointestinal irritation with nausea, vomiting and diarrhea. May cause effects similar to those of acute inhalation.

Acute Inhalation: Effects may be delayed. May cause respiratory tract irritation.

Chronic: May cause liver and kidney damage. May cause fetal effects. Repeated exposure may cause sensitization dermatitis. Chronic exposure may cause hemolysis of the red blood cells followed by stimulation of the bone marrow. Laboratory experiments have resulted in mutagenic effects. May cause cyanosis - a blue-gray coloring of the skin and lips caused by a lack of oxygen. Animal studies have reported the development of tumors. May cause skin, eye and respiratory irritation from accidental exposure.

Section 3. Composition/Information on Ingredients

Aniline Buffer is supplied as a clear aqueous solution containing 50 mM sodium phosphate, 150 mM sodium chloride solution with less than 0.1% aniline, pH 6.0.

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| Component: | CAS#: | % by weight: |
|-----------------------------|------------|--------------|
| Sodium Phosphate, Dibasic | 7558-79-4 | <1% |
| Sodium Chloride | 7647-14-5 | <1% |
| Sodium Phosphate, Monobasic | 10049-21-5 | <1% |
| Aniline | 62-53-3 | <1% |

Section 4. First Aid Measures

Inhalation: Move to fresh air. Do NOT use mouth-to-mouth resuscitation. If breathing has ceased apply artificial respiration using oxygen and a suitable mechanical device such as a bag and a mask. SEEK MEDICAL ATTENTION.

Skin contact: Immediately wash affected areas with soap and water. If irritation develops seek medical attention. Wash clothing before reuse. Destroy contaminated shoes.

Eye Contact: Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid. Do NOT allow victim to rub or keep eyes closed. If irritation develops seek medical attention.

Ingestion: Never give fluids or induce vomiting if the victim is unconscious or having convulsions. Do NOT induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. SEEK MEDICAL ATTENTION.

Notes to Physician: Absorption of this product into the body may cause cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood). Moderate degrees of cyanosis need to be treated only by supportive measures: bed rest and oxygen inhalation. Cleansing of the entire contaminated area of the body is of utmost importance. Do not administer alcohol in any form. Individuals with liver or kidney disorders, impaired cardiovascular status, or a history of alcoholism may be more susceptible to the effects of this product. Effects may be delayed. If cyanosis is severe, intravenous injection of Methylene blue, 1mg/kg of body weight may be of value.

Antidote: Methylene blue, alone or in combination with oxygen is indicated as a treatment in nitrite induced methemoglobinemia.

Section 5. Fire Fighting Measures

Fire: materials contained in this product at the indicated concentration are not considered to be a fire hazard.

Autoignition: not applicable

Flash Point: not applicable

Flammability Limits (vol/vol%): not applicable **Lower:** **Upper:** not applicable

Extinguishing Media: Use extinguishing media appropriate for surrounding fire

Special Fire Fighting Procedures: Use extinguishing media appropriate for surrounding fire such as water spray, carbon dioxide, dry powder. Wear full protective clothing and NIOSH-approved self-contained breathing apparatus. Avoid inhalation of material or combustion by-products.

Unusual Fire and Explosion Hazards: None

Section 6. Accidental Release Measures

Wear protective clothing to prevent contact with eyes and skin. Ensure adequate ventilation. Collect on absorbent material and dispose of according to federal, state and local environmental regulations.

Section 7. Handling and Storage

Handling: Use only with adequate ventilation. Wear eye protection and compatible chemical-resistant gloves. Handle in accordance with good industrial hygiene and safety practice.

Storage: Keep container tightly closed and store according to product label.

Section 8. Exposure Controls/Personal Protection

Exposure limits: Contains no substances with occupational exposure limit values.

Engineering controls: Use enclosures, local exhaust ventilation or other engineering controls to keep airborne levels below recommended exposure limits.

Personal protection:

Hand protection - Compatible chemical-resistant gloves.

Eye protection - Chemical safety goggles.

Skin protection - Lab coat.

Section 9. Physical and Chemical Properties

Appearance: Clear liquid

Percent Purity: 100%

Boiling Point: Not Available

Melting Point: Not Available

pH: 6.0

Freezing Point: Not Available

Specific Gravity: Not Available

Section 10. Stability and Reactivity

Chemical stability: Stable, may be slightly hygroscopic.

Conditions to avoid: <0°C or >50°C

Materials to avoid: Reactive with strong oxidizing agents, metal, acids, alkali.

Hazardous reactions/decomposition products: Phosphorus oxides may form when heated to decomposition.

Hazardous Polymerization: Unknown

Section 11. Toxicological Information

Information for Aniline

Route of exposure:

Skin absorption: toxic if absorbed through skin. Readily absorbed through skin.

Eye contact: Causes severe eye irritation.

Ingestion: toxic if swallowed

Inhalation: Material is irritating to mucous membranes and upper respiratory tract. Toxic if inhaled.

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Sensitization;

Skin: May cause allergic skin reaction.

Target Organs:

Blood, bladder, kidneys, central nervous system.

Signs and symptoms of exposure:

Fatigue. Incoordination. Nausea. Vomiting. Headache. Dizziness. Symptoms may be delayed. Unconsciousness. Weakness. Confusion. Drowsiness. Absorption into body leads to methemoglobin which in sufficient concentration causes cyanosis. Onset may be delayed 2-4 hours.

Carcinogenicity:

ACGIH: Classified A3 (proven for animal)

IARC: (not classifiable for human)

OSHA: Not available

Mutagenic Effects:

Mutagenic for mammalian somatic cells. Species human, dose 300 umol.L, cell type lymphocyte, mutation test: sister chromatid exchange. Mutagenic for bacteria and or yeast.

Developmental toxicity: not available

Reproductive effects:

Chronic exposure to aniline (6-13 days, pregnant) poses reproductive hazard in mouse at 4.48 g/kg (oral)

Acute Oral Toxicity: Oral LD50; Acute: 250 mg/Kg (rat), 464 mg/Kg (mouse);

Acute Dermal Toxicity: Dermal (LD50): Acute: 820 mg/Kg (rabbit), 1400 mg/Kg (rat)

Acute Inhalation Toxicity: Mouse (LD50) 247.5 ppm

Section 12. Ecological Information

No data available.

Section 13. Disposal Considerations

Observe all federal, state and local environmental regulations.

Section 14. Transport Information

DOT (US): Not dangerous goods.

RID/ADR: Not regulated.

IMDG: Not dangerous goods.

IATA: Not dangerous goods.

Section 15. Regulatory Information

SARA:

SARA 302/304/311/312 extremely hazardous substances: aniline :5000 lbs

CERCLAL Hazardous substances: aniline: 5000 lbs (2268 kg)

California Prop. 65 components:

This product does not contain any chemicals known to the state of California to cause cancer, birth defects or other reproductive harm.

European/International Regulations**EC Classification T:** Toxic**EC Risk Phrases:**

R2: Keep out of reach of children
R23 Toxic by inhalation
R24 Toxic in contact with skin
R25 Toxic if swallowed
R40 Limited evidence of a carcinogenic effect

Safety Phrases:

S2 Keep out of reach of children
S28 After contact with skin, wash immediately with plenty of water
S45 In case of accident or if you feel unwell, seek medical advice immediately
(show label if possible)

WHMIS (Canada):

Class D-1A: Material causing immediate and serious toxic effects (Very toxic)

Class D-2B: Material causing other toxic effects (Toxic)

Section 16. Other Information

Date of Issue or Revision: April 1, 2022

The information contained in this Safety Data Sheet is believed to be accurate, but it is the responsibility of the user to determine the applicability of this data to necessary safety precautions. Vector Laboratories, Inc. shall not be held responsible for any damage resulting from the use of the above product or the information contained in this Safety Data Sheet.

For Research Use Only.

Section 1. Product and Company Identification

Product Name: HRP-Antibody All-in-One™ Conjugation Kit
Catalog No.: A-9002-001
Kit Component: Conjugate Spin Column

Manufacturer/Supplier USA:

Vector Laboratories, Inc.
30 Ingold Road
Burlingame, CA 94010
United States
Tel: (650) 697-3600 Fax: (650) 697-0339
Email: vector@vectorlabs.com

For Research Use Only.

Section 2. Hazards Identification

GHS Classification:

This product has been classified as non-hazardous based on the physical and/or chemical nature and/or concentration of ingredients.

GHS Label: Non-hazardous substance or mixture.

Hazards not otherwise classified (HNOC) or not covered by GHS: None

Section 3. Composition/Information on Ingredients

Conjugate spin columns contain a 50% aqueous slurry of cross-linked in a sodium phosphate buffer with preservative.

| Component: | CAS#: | % by weight: |
|-----------------------------|------------|--------------|
| Sodium Phosphate, Monobasic | 10049-21-5 | <1% |
| Sodium Phosphate, Dibasic | 7558-79-4 | 1-2% |
| Sodium Chloride | 7647-14-5 | <1% |
| Cellulose Matrix | 9004-34-6 | 50-75% |

Section 4. First Aid Measures

Eye Exposure:

Immediately flush eyes with copious amounts of water for at least 15 minutes. If irritation develops seek medical attention.

Skin Exposure: Wash affected areas with soap and water. If irritation develops seek medical attention.

Inhalation:

Move to fresh air. If not breathing, administer artificial respiration. If breathing is difficult, give oxygen or artificial respiration by qualified personnel. SEEK MEDICAL ATTENTION.

Ingestion:

If a large amount is swallowed, rinse mouth out with water. Never give fluids or induce vomiting if the victim is unconscious or having convulsions. SEEK MEDICAL ATTENTION.

Section 5. Fire Fighting Measures

Fire: Materials contained in this product are not considered to be a fire hazard.

Auto-ignition: not applicable

Flash Point: not applicable

Flammability Limits (vol/vol%): not applicable Lower: Upper: not applicable

Extinguishing Media: Use extinguishing media appropriate for surrounding fire

Special Fire Fighting Procedures: Use extinguishing media appropriate for surrounding fire such as water spray, carbon dioxide, dry powder. Wear full protective clothing and NIOSH-approved self-contained breathing apparatus. Avoid inhalation of material or combustion by-products.

Unusual Fire and Explosion Hazards: None

Section 6. Accidental Release Measures

Use standard lab personal protective equipment such as gloves, lab coat, and goggles and wipe spills with absorbent wipes and discard any product, residue, disposable container or liner in full compliance with national or international regulations. No special measures are indicated.

Section 7. Handling and Storage

Handling: Use only with adequate ventilation. Wear eye protection and compatible chemical-resistant gloves. Handle in accordance with good industrial hygiene and safety practice.

Storage: Keep container tightly closed and store according to product label.

Section 8. Exposure Controls/Personal Protection

Engineering Controls:

Ventilation must be adequate to maintain the ambient workplace atmosphere below the exposure limit(s) outlined in the MSDS. General room ventilation is satisfactory under anticipated use conditions.

Respiratory Protection:

Not required under anticipated use conditions.

Eye / Face Protection:

Wear appropriate safety glasses with side shields or chemical goggles as described by OSHA's eye and face protection regulations in 29CFR 1910.133 or European Standard EN166.

Skin Protection:

Wear chemical resistant gloves (such as latex or neoprene) and protective clothing to prevent skin contact.

Section 9. Physical and Chemical Properties

Appearance: Clear liquid

Percent Purity: 100%

Boiling Point: 100°C

Freezing Point: 0°C

pH: 6.0

Solubility: Aqueous

Vapor Density: NA

Vapor Pressure: NA

Section 10. Stability and Reactivity

Chemical stability: Stable when stored under recommended storage conditions.

Conditions to Avoid: No data available

Materials / Chemicals to Be Avoided: No information is available.

Hazardous Decomposition Products: Phosphorus oxides may form when heated to decomposition. Halogenated compound, hydrogen chloride.

Hazardous Polymerization: Will not occur.

Section 11. Toxicological Information

Carcinogenicity:

Carcinogenic effects: classified none by OSHA, none by NIOSH (sodium phosphate, dibasic), classified none by OSHA, none by NIOSH (sodium chloride), classified none by OSHA, none by NIOSH (sodium phosphate, monobasic)

Mutagenic effects: Classified Suspected for human (sodium chloride). Mutagenic for bacteria and or yeast (sodium chloride).

Teratogenic effects: Classified Suspected for human (sodium chloride).

Developmental toxicity: Classified reproductive system/toxi/female (proven) sodium chloride. Classified developmental toxin (possible) sodium chloride

Acute Toxicity:

Sodium phosphate, dibasic:

Oral (LD50) acute: 17000 mg/kg rat

Sodium chloride:

Oral (LD50) acute: 3000 mg/kg rat

Dermal (LD50) acute: 10000 mg/kg rabbit rat

Dust (LC50) acute: >42000 mg/m³/hr rat

Sodium phosphate, monobasic:

LD50: not available, LC50: not available

Section 12. Ecological Information

Ecotoxicological Information: No information available

Mobility: Not available

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Persistence/degradability: Degradable
Bioaccumulative potential; Not available
Ecotoxicity: Toxic to aquatic environment

Section 13. Disposal Considerations

Observe all federal, state and local environmental regulations.

Section 14. Transport Information

DOT (US): Not regulated.
RID/ADR: Not regulated.
IMDG: Not regulated.
IATA: Not regulated.

Section 15. Regulatory Information

SARA:

Fire Hazard: Not regulated
Reactive Hazard: Not regulated
Release of Pressure: Not regulated
Acute Health Hazard: Not regulated
Chronic Health Hazard: Not regulated

TSCA: All components of this product are on the TSCA inventory or are not listed.

Other Regulations:

U.S. State None

European/International Regulations

EC Classification: Xi - Irritant
EC Risk and Safety Phrases: R36 irritating to eyes
R37 irritating to respiratory system
R38 irritating to skin
Safety Phrases: S23 Keep out of reach of children
S24 Avoid skin contact.
S25 Avoid contact with eyes
S26 In case of contact with eyes, rinse immediately with water and seek medical advice
S46 If swallowed, see medical advice immediately and show this container to label

California Prop. 65 components:

This product does not contain any chemicals known to the state of California to cause cancer, birth defects or other reproductive harm.

Date of Issue: 04/01/22

Version 01

Previous Date of Issue: 04/15/21

Previous Version: 00

Section 16. Other Information

Date of Issue or Revision: April 1, 2022

The information contained in this Safety Data Sheet is believed to be accurate, but it is the responsibility of the user to determine the applicability of this data to necessary safety precautions. Vector Laboratories, Inc. shall not be held responsible for any damage resulting from the use of the above product or the information contained in this Safety Data Sheet.

For Research Use Only.

Date of Issue: 04/01/22

Version 01

Previous Date of Issue: 04/15/21

Previous Version: 00

Section 1. Product and Company Identification

Product Name: HRP-Antibody All-in-One™ Conjugation Kit
Catalog No.: A-9002-001
Kit Component: PBS (pH 6.5)

Manufacturer/Supplier USA:

Vector Laboratories, Inc.
30 Ingold Road
Burlingame, CA 94010
United States
Tel: (650) 697-3600 Fax: (650) 697-0339
Email: vector@vectorlabs.com

For Research Use Only.

Section 2. Hazards Identification

GHS Classification:

This product has been classified as non-hazardous based on the physical and/or chemical nature and/or concentration of ingredients.

GHS Label: Non-hazardous substance or mixture.

Hazards not otherwise classified (HNOC) or not covered by GHS: None

Section 3. Composition/Information on Ingredients

| Component: | CAS#: | % by weight: |
|-----------------------------|------------|--------------|
| Sodium Phosphate, Dibasic | 7558-79-4 | <1% |
| Sodium Chloride | 7647-14-5 | <1% |
| Sodium Phosphate, Monobasic | 10049-21-5 | <1% |

No ingredients are hazardous according to OSHA criteria.

Section 4. First Aid Measures

Eye Exposure:

Immediately flush eyes with copious amounts of water for at least 15 minutes. If irritation develops seek medical attention.

Skin Exposure:

Wash affected areas with soap and water. If irritation develops seek medical attention.

Inhalation:

Move to fresh air. If not breathing, administer artificial respiration. If breathing is difficult, give oxygen or artificial respiration by qualified personnel. SEEK MEDICAL ATTENTION.

Ingestion:

If a large amount is swallowed, rinse mouth out with water. Never give fluids or induce vomiting if the victim is unconscious or having convulsions. SEEK MEDICAL ATTENTION.

Section 5. Fire Fighting Measures

Fire: Materials contained in this product are not considered to be a fire hazard.

Auto-ignition: not applicable

Flash Point: not applicable

Flammability Limits (vol/vol%): not applicable Lower: Upper: not applicable

Extinguishing Media: Use extinguishing media appropriate for surrounding fire

Special Fire Fighting Procedures: Use extinguishing media appropriate for surrounding fire such as water spray, carbon dioxide, dry powder. Wear full protective clothing and NIOSH-approved self-contained breathing apparatus. Avoid inhalation of material or combustion by-products.

Unusual Fire and Explosion Hazards: None

Section 6. Accidental Release Measures

Use standard lab personal protective equipment such as gloves, lab coat, and goggles and wipe spills with absorbent wipes and discard any product, residue, disposable container or liner in full compliance with national or international regulations. No special measures are indicated.

Section 7. Handling and Storage

Handling: Use only with adequate ventilation. Wear eye protection and compatible chemical-resistant gloves. Handle in accordance with good industrial hygiene and safety practice.

Storage: Keep container tightly closed and store according to product label.

Section 8. Exposure Controls/Personal Protection

Exposure limits: Contains no substances with occupational exposure limit values.

Engineering controls: Use enclosures, local exhaust ventilation or other engineering controls to keep airborne levels below recommended exposure limits.

Personal protection:

Hand protection - Compatible chemical-resistant gloves.

Eye protection - Chemical safety goggles.

Skin protection - Lab coat.

Section 9. Physical and Chemical Properties

Appearance: Clear liquid

Percent Purity: 100% PBS

Boiling Point: 212°C, 100°C

pH: 6.5

Solubility in water: Aqueous suspension

Melting Point: Not Available

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Previous Version: 00

Freezing Point: Not Available

Specific Gravity: Not Available

Section 10. Stability and Reactivity

Chemical stability: Stable, may be slightly hygroscopic.

Conditions to avoid: Temperatures <0°C or > 104°C

Materials to avoid: No information is available.

Hazardous reactions/decomposition products: Phosphorus oxides may form when heated to decomposition.

Hazardous Polymerization: Will not occur.

Section 11. Toxicological Information

Acute toxicity: Product does not present an acute toxicity hazard based on known or supplied information.

Chronic toxicity: None known.

Section 12. Ecological Information

Ecotoxicological Information: Leaches through the soil or the sediment at a moderate rate. Accumulates very little in bodies of living organisms.

Mobility: No data available

Bioaccumulation: No data available

Ecotoxicity effects: No data available

Aquatic toxicity: May cause long-term adverse effects in the aquatic environment.

Section 13. Disposal Considerations

Observe all federal, state and local environmental regulations.

Section 14. Transport Information

DOT (US): Not dangerous goods.

RID/ADR: Not regulated.

IMDG: Not dangerous goods.

IATA: Not dangerous goods.

Section 15. Regulatory Information

SARA:

Fire Hazard: Not regulated

Reactive Hazard: Not regulated

Release of Pressure: Not regulated

Acute Health Hazard: Not regulated

Chronic Health Hazard: Not regulated

Date of Issue: 04/01/22

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Previous Date of Issue: 04/15/21

Previous Version: 00

TSCA: All components of this product are on the TSCA inventory or are not listed.

Other Regulations:

U.S. State None

European/International Regulations

EC Classification: Xi - Irritant

EC Risk and Safety Phrases: R36 irritating to eyes
R37 irritating to respiratory system
R38 irritating to skin

Safety Phrases: S23 Keep out of reach of children
S24 Avoid skin contact.
S25 Avoid contact with eyes
S26 In case of contact with eyes, rinse immediately with water and seek medical advice
S46 If swallowed, see medical advice immediately and show this container to label

California Prop. 65 components:

This product does not contain any chemicals known to the state of California to cause cancer, birth defects or other reproductive harm.

Section 16. Other Information

Date of Issue or Revision: April 1, 2022

The information contained in this Safety Data Sheet is believed to be accurate, but it is the responsibility of the user to determine the applicability of this data to necessary safety precautions. Vector Laboratories, Inc. shall not be held responsible for any damage resulting from the use of the above product or the information contained in this Safety Data Sheet.

For Research Use Only.

Section 1. Product and Company Identification

Product Name: HRP-Antibody All-in-One™ Conjugation Kit
Catalog No.: A-9002-001
Kit Component: DMF (N,N-Dimethylformamide), S-4001

Manufacturer/Supplier USA:

Vector Laboratories, Inc.
30 Ingold Road
Burlingame, CA 94010
United States
Tel: (650) 697-3600 Fax: (650) 697-0339
Email: vector@vectorlabs.com

For Research Use Only.

Section 2. Hazards Identification

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Flammable liquids (Category 3), H226
Acute toxicity, Inhalation (Category 4) H332
Acute toxicity, Dermal (Category 4), H312
Eye Irritation (Category 2A), H319
Reproductive toxicity (Category 1B), H360

2.2 GHS Label elements, including precautionary statements

Pictogram:



Signal word: Danger

Hazard statement(s)

H226 Flammable liquid and vapor.
H312 + H332 Harmful in contact with skin or if inhaled.
H319 Causes serious eye irritation.
H360 May damage fertility or the unborn child

Precautionary statement(s)

Prevention

Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Use personal protective equipment as required

Use only outdoors or in a well-ventilated area
Wash face, hands and any exposed skin thoroughly after handling
Wear eye/face protection
Do not breathe dust/fume/gas/mist/vapors/spray
Keep away from heat/sparks/open flames/hot surfaces. - No smoking
Keep container tightly closed
Ground/bond container and receiving equipment
Use explosion-proof electrical/ventilating/lighting/equipment
Use only non-sparking tools
Take precautionary measures against static discharge
Keep cool

Response

IF exposed or concerned: Get medical attention/advice

Inhalation

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

Skin

Call a POISON CENTER or doctor/physician if you feel unwell

Wash contaminated clothing before reuse

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower

Eyes

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing If eye irritation persists: Get medical advice/attention

Fire

In case of fire: Use CO₂, dry chemical, or foam for extinction

Storage

Store locked up

Store in a well-ventilated place. Keep container tightly closed

Disposal

Dispose of contents/container to an approved waste disposal plant

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS

Lachrymator (substance which increases the flow of tears). Rapidly absorbed through skin.

Section 3. Composition/Information on Ingredients

| Component: | CAS#: | Weight % |
|-------------------|--------------|-----------------|
| Dimethylformamide | 68-12-2 | >95% |

Section 4. First Aid Measures

Eye Contact: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Immediate medical attention is required.

Skin Contact: Wash off immediately with plenty of water for at least 15 minutes. Immediate medical attention is required.

Inhalation: Move to fresh air. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Immediate medical attention is required. If not breathing, give artificial respiration.

Ingestion: Do not induce vomiting. Call a physician or Poison Control Center immediately.

Most important symptoms and effects: Irritating to eyes. Breathing difficulties. May be harmful if absorbed through skin: Gastrointestinal discomfort: Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting

Notes to Physician: Treat symptomatically

Section 5. Fire Fighting Measures

Suitable extinguishing media: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Cool closed containers exposed to fire with water spray.

| | |
|---|--------------------------|
| Unsuitable Extinguishing Media: | No information available |
| Flash Point: | 58 °C / 136.4 °F |
| Method - | Abel-Pensky (DIN 51755) |
| Autoignition Temperature | 445 °C / 833 °F |
| Explosion Limits | |
| Upper | 15.2 vol % |
| Lower | 2.2 vol % |
| Sensitivity to Mechanical Impact | No information available |
| Sensitivity to Static Discharge | No information available |

Specific Hazards Arising from the Chemical

Flammable. Risk of ignition. Containers may explode when heated. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Vapors may form explosive mixtures with air.

Hazardous Combustion Products

Carbon monoxide (CO) Carbon dioxide (CO₂) Nitrogen oxides (NO_x)

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors.

Section 6. Accidental Release Measures

Personal Precautions: Ensure adequate ventilation. Use personal protective equipment. Keep people away from and upwind of spill/leak. Evacuate personnel to safe areas. Remove all sources of ignition.

Take precautionary measures against static discharges.

Environmental Precautions: Should not be released into the environment. See Section 12 for additional ecological information.

Methods for Containment and Clean up: Soak up with inert absorbent material. Keep in suitable, closed containers for disposal. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment.

Section 7. Handling and Storage

7.1 Precautions for safe handling

Use only under a chemical fume hood. Wear personal protective equipment. Do not get in eyes, on skin, or on clothing. Do not breathe vapors or spray mist. Keep away from open flames, hot surfaces and sources of ignition. Use only non-sparking tools. Use explosion-proof equipment. Take precautionary measures against static discharges. See Section 8 for personal protection.

7.2 Conditions for safe storage

Keep/store only in original container. Storage Temperature: Store at or below room temperature. Keep away from heat and sources of ignition.

7.3 Incompatibilities

Strong oxidizing agents, Halogens, Halogenated compounds, Reducing agents.

Section 8. Exposure Controls/Personal Protection

8.1 Control Parameters

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the work-station location.

8.2 Appropriate Engineering Controls

General industrial hygiene practices.

8.3 Individual Protection Measures

- | | |
|-------------------------|--|
| Eye/Face Protection: | Wear safety glasses with side shields (or goggles). |
| Skin/Body Protection: | Wear suitable protective clothing and gloves. |
| Respiratory Protection: | Use in well ventilated areas. |
| General: | Handle in accordance with good industrial hygiene and safety practice. |

Section 9. Physical and Chemical Properties

Physical State: Liquid

Appearance: Clear, colorless

Odor: Pungent, amine-like

pH: 6-8 @ 20°C 20% aq. sol

Melting Point: -61 °C / -77.8 °F

Boiling Point: 153 °C / 307.4 °F

Flash Point: 58 °C / 136.4 °F (Closed cup)

Evaporation Rate: 0.17

Flammability (solid, gas): Class II Combustible Liquid

Upper/Lower Flammability: Upper 15.2% (V) Lower 2.2% (V)

Vapor Pressure: 0.5 kPa (25°C)

Vapor Density: 2.51 AIR=1

Relative Density: 0.95 (20°C) 4°C

Specific Density: Miscible with water

Water Solubility: No information available

Partition Coefficient: -1.01 (n-octanol/water)

Autoignition temperature: 445°C

Decomposition Temperature: >350°C. May cause decomposition to form dimethylamine and carbon dioxide, with pressure dev

Viscosity: No information available

Section 10. Stability and Reactivity

10.1 Reactivity

No dangerous reaction known under conditions of normal use.

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

Can react briskly with oxidizers, danger of explosion.

10.4 Conditions to avoid

Ignition sources. Heat.

10.5 Incompatible materials

Strong acids. Strong alkalis. Strong oxidizing agents. Aluminum. Nitrates. Halogens. Phosphorus. Isocyanates.

10.6 Hazardous decomposition products

Thermal decomposition can lead to release of irritating and toxic gases and vapors such as dimethylamine and carbon dioxide.

Section 11. Toxicological Information

11.1 Information on likely routes of exposure

Inhalation: Avoid breathing vapors or mists. May cause irritation of respiratory tract.

Eye contact: Redness. Causes serious irritation.

Skin contact: Causes mild skin irritation.

Ingestion: May be harmful if swallowed.

11.2 Information on toxicological effects

Symptoms: No information available.

11.3 Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/Irritation: Mild

Serious Eye Damage/Eye Irritation: Serious

Skin or Respiratory Sensitization: No information available

Germ Cell Mutagenicity: No information available

Carcinogenicity: No information available

Reproductive Toxicity: No information available

Developmental Toxicity: No information available

Teratogenicity: Teratogenic effects have occurred in experimental animals.

STOT – Single Exposure: No information available

STOT – Repeated Exposure: No information available

Target Organs: Kidney, liver, spleen, eyes, skin, respiratory system

Chronic Toxicity: No information available

Subchronic Toxicity: No information available

Neurological Effects: No information available

Aspiration Hazard: No information available

Section 12. Ecological Information

12.1 Marine pollutant

No information available

12.2 Ecotoxicity

No information available

12.3 Persistence and degradability

No information available

12.4 Bioaccumulation

No information available

12.5 Mobility

No information available

12.6 Other adverse effects

Ozone: No information available

Ozone Depletion Potential: No information available

Section 13. Disposal Considerations

13.1 Waste treatment methods

Relevant Information: Keep out of drains, sewers, ditches and waterways.
 Disposal Method: Use a licensed professional waste disposal service to dispose of this product. Consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.
 Contaminated Packaging: Dispose of as unused product.

Observe all federal, state and local environmental regulations.

Section 14. Transport Information

DOT

| UN-No | Proper Shipping Name | Hazard Class | Packing Group |
|--------|-----------------------|--------------|---------------|
| UN2265 | N,N-DIMETHYLFORMAMIDE | 3 | III |

TDG

| UN-No | Proper Shipping Name | Hazard Class | Packing Group |
|--------|-----------------------|--------------|---------------|
| UN2265 | N,N-DIMETHYLFORMAMIDE | 3 | III |

IATA

| UN-No | Proper Shipping Name | Hazard Class | Packing Group |
|--------|-----------------------|--------------|---------------|
| UN2265 | N,N-DIMETHYLFORMAMIDE | 3 | III |

IMDG/IMO

| UN-No | Proper Shipping Name | Hazard Class | Packing Group |
|--------|-----------------------|--------------|---------------|
| UN2265 | N,N-DIMETHYLFORMAMIDE | 3 | III |

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Previous Version: 00

Section 15. Regulatory Information

SARA:

SARA 302 - No chemicals in this material are subject to the reporting requirements.

SARA 313 – Dimethylformamide, CAS# 68-12-2.

SARA 311/312 Hazards – See section 2 for more information.

CWA (Clean Water Act): Not applicable

CERCLA: This material, as supplied, contains one or more substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

California Prop. 65 components:

This product does not contain any chemicals known to the state of California to cause cancer, birth defects or other reproductive harm.

Section 16. Other Information

Date of Issue or Revision: April 1, 2022

The information contained in this Safety Data Sheet is believed to be accurate, but it is the responsibility of the user to determine the applicability of this data to necessary safety precautions. Vector Laboratories, Inc. shall not be held responsible for any damage resulting from the use of the above product or the information contained in this Safety Data Sheet.

For Research Use Only.

Section 1. Product and Company Identification

Product Name: HRP-Antibody All-in-One™ Conjugation Kit
Catalog No.: A-9002-001
Kit Component: Zeba™ Desalting Columns, S-4024-010

Supplier:

Vector Laboratories, Inc.
30 Ingold Road
Burlingame, CA 94010
United States
Tel: (650) 697-3600 Fax: (650) 697-0339
Email: vector@vectorlabs.com

Manufacturer:

Thermo Fisher Scientific / Pierce Biotechnology
P.O. Box 117
Rockland, IL 61105
United States
Tel: (815) 968-0747 or (800) 874-3723
Emergency Tel: (800) 424-9300

For Research Use Only.

Section 2. Hazards Identification

GHS Classification:

This product has been classified as non-hazardous based on the physical and/or chemical nature and/or concentration of ingredients.

GHS Label: Non-hazardous substance or mixture.

Hazards not otherwise classified (HNOC) or not covered by GHS: None

Section 3. Composition/Information on Ingredients

Component:

Zeba Desalt Columns

CAS#:

Not Applicable

EC#:

Not Applicable

No ingredients are hazardous according to OSHA criteria.

Section 4. First Aid Measures

Inhalation: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.

Skin contact: Immediately wash skin with soap and copious amounts of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

Eye Contact: Immediately flush eyes with copious amounts of water for at least 15 minutes. Check for and remove any contact lenses. Get medical attention if irritation occurs.

Ingestion: If swallowed, wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur. Do not induce vomiting unless directed to do so by medical personnel.

Section 5. Fire Fighting Measures

Suitable extinguishing media: Use an extinguishing agent suitable for the surrounding fire.

Special protective equipment: Use respirator for firefighting if necessary.

Section 6. Accidental Release Measures

Wear respirator, chemical safety goggles, rubber boots, and heavy rubber gloves. Sweep up, place in a bag, and hold for waste disposal. Avoid raising dust. Ventilate area and wash spill site after material pickup is complete.

Section 7. Handling and Storage

Handling: Use only with adequate ventilation. Wear eye protection and compatible chemical-resistant gloves. Handle in accordance with good industrial hygiene and safety practice.

Storage: Keep container tightly closed and store according to product label.

Section 8. Exposure Controls/Personal Protection

Exposure limits: Contains no substances with occupational exposure limit values.

Engineering controls: Use enclosures, local exhaust ventilation or other engineering controls to keep airborne levels below recommended exposure limits.

Personal protection:

Hand protection - Compatible chemical-resistant gloves.

Eye protection - Chemical safety goggles.

Skin protection - Lab coat.

Section 9. Physical and Chemical Properties

Physical State: Liquid (slurry gel)

Appearance: White

Odor: NA

Boiling Point: NA

Melting Point: NA

Freezing Point: NA

Flash Point: NA

Burning time: NA

Burning rate: NA

Evaporation Rate: NA

Flammability (solid, gas): NA

Lower & Upper Explosive limits: NA

Vapor Pressure: NA

Vapor Density: NA

Relative Density: 1.22

Solubility: NA

Solubility in water: NA

Partition coefficient (n-octanol/water): NA

Auto-ignition temperature: NA

Decomposition temperature: NA

SADT: NA

Viscosity: NA

Section 10. Stability and Reactivity

Reactivity: No specific test data related to reactivity available.

Chemical stability: Stable when stored under recommended storage conditions.

Possibility of hazardous reactions: Under normal conditions of storage and use, hazardous reactions will not occur.

Date of Issue: 04/01/22

Version 01

Previous Date of Issue: 04/15/21

Previous Version: 00

Conditions to avoid: No specific data.

Incompatible materials: No specific data.

Hazardous Decomposition Components: Under normal conditions of storage and use, hazardous decomposition should not be produced.

Section 11. Toxicological Information

Data unknown or not available

Conclusion/summary: To the best of our knowledge, the toxicological properties of this product have not been thoroughly investigated. There are no known significant health effects or critical hazards.

Section 12. Ecological Information

No data available.

Section 13. Disposal Considerations

Observe all federal, state and local environmental regulations.

Section 14. Transport Information

DOT (US): Not dangerous goods.

RID/ADR: Not regulated.

IMDG: Not dangerous goods.

IATA: Not dangerous goods.

Section 15. Regulatory Information

SARA:

SARA 302 - No chemicals in this material are subject to the reporting requirements.

SARA 313 - No chemicals in this material with known CAS #s are subject to the reporting requirements.

SARA 311/312 Hazards - No SARA Hazards.

California Prop. 65 components:

This product does not contain any chemicals known to the state of California to cause cancer, birth defects or other reproductive harm.

Section 16. Other Information

Date of Issue or Revision: April 1, 2022

The information contained in this Safety Data Sheet is believed to be accurate, but it is the responsibility of the user to determine the applicability of this data to necessary safety precautions. Vector Laboratories, Inc. shall not be held responsible for any damage resulting from the use of the above product or the information contained in this Safety Data Sheet.

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